

MIRACLES

A Multigenerational Tapestry of Faith Program



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The Program

*Every day we are engaged in a miracle
which we don't even recognize: a blue sky,
white clouds, green leaves, the black,
curious eyes of a child—our own two eyes.*

All is a miracle. — Thich Nhat Hanh

A miracle: An unexpected event or revelation that brings an outcome one has hoped for, perhaps yearned for, perhaps despaired of, perhaps never even imagined. Whatever one believes about how or why it occurs, responding to a miracle with wonder and awe is entirely appropriate.

This eight-session program invites a prolonged encounter with awe and wonder. Stories from our Unitarian Universalist Sources and hands-on activities engage a wide age span of participants to discern miracles, experience and express awe and wonder, and discover their own agency for miracle-making. Participants make a uniquely Unitarian Universalist inquiry—a religious search which simultaneously embraces the awesome truth of a miracle's mystery and the “how and why” of rational explanation. Participants explore different kinds of miracles, from the awesome, ordered beauty of Earth and all life on it, to their own capacity to transform themselves and others to bring forth love and justice.

The wonder and awe inside most of us could use a wake-up call. Miracles surround us every day, yet often remain unnoticed in the hustle and bustle of our busy lives. We shovel snow, giving no thought to the singularity of snowflakes. We eat quickly, our minds on our next appointment, not life's natural processes nor the coordinated human effort that brings food to our tables. When we rush off to sleep in our beds, under a blanket of stars stretching impossibly far off into space, we rarely pause to

acknowledge the miracle of our small, unique place in the vastness of the universe.

Our age of science and innovation has bred a deeply rationalist culture. A child quickly learns that seemingly miraculous events such as remote control of a television, an elevator ride, or even the appearance of a rainbow all have physical explanations. While knowing how things work—from atom to machine to universe—is wonderful, we too often let knowledge turn our heads from wonder and awe.

In Miracles, participants create and observe physical transformations that, even when predictable, may strike us as miraculous. They explore miraculous, intangible transformations of human spirit. Over and over again, they experience first-hand the beautiful co-existence—even a synergy—of a rational explanation and a feeling of awe.

At this moment in human history, amid competing religious ideas, Unitarian Universalism has something important to say about miracles. This program affirms and nurtures our living, Unitarian Universalist legacy of scientists, celebrants of wonder, and truth-seekers of all ages, called to honor knowledge and mystery in tandem.

Goals

Miracles provides an encounter with direct experience of transcending mystery and wonder, one of the Sources of our Unitarian Universalist faith. The program will:

- Guide participants to explore a Unitarian Universalist definition of miracle
- Cultivate participants' ability to experience awe and wonder
- Teach skills of paying close attention

- Affirm curiosity and questioning as spiritual values
- Explore physical transformations through hands-on activities
- Lift up the idea of personal transformation, which is fundamental to our faith, and lift up the power of our own agency to effect miraculous changes in ourselves and others
- Introduce people in our faith heritage—May Sarton, Joseph Priestley—who embody the powerful entwining of awesome mystery with rational inquiry
- Inspire reflection about our planet, all life that shares it, and our own small place in the known and unknown universe
- Celebrate transformation and change as natural, welcome aspects of all life.

Leaders

Bring an open mind, eyes, ears, and heart.

Participants will respond to the sense of awe and wonder you embody. They will respond to your curiosity about science and your comfort with questions and answer-seeking about how the universe works and how we make sense of it.

Model openness, and you will help participants engage with the experiences in this program.

While leading the program requires no special training or experience, leaders should be willing and ready to delve into the program content, lead both hands-on and discussion-oriented activities, and connect with all members of the group.

Work as an organized team of leaders. Carve out specific time to prepare for each session to avoid last-minute scampering to find needed items; some activities' materials lists are extensive. Schedule some time to think about the session content during the prior week. Use the Spiritual Preparation

reflection exercises for each session. The more grounded you are in your own, relevant experiences, the stronger your leadership will be. Consider teams of adults and high school youth sharing leadership.

Participants

The program's subject matter and activities are suitable and valuable for children in or near second grade, and anyone older. You can use Miracles with a wide age span of children or with a multigenerational group. If whole families are participating, have parents play an active role. If parents are not joining the program, encourage them to join their children's exploration by accessing Miracles stories and activities online and by using Taking It Home handouts you will provide. Families can replicate experiments, retell stories, and continue exploring concepts at home.

Each session provides a Faith in Action activity that the group can do on their own or together with their families or a wider congregational group. When parents participate in Faith in Action, they enrich their own lifespan faith development, engage with their children's experience, and help children apply their insights and new skills in the wider world.

Integrating All Participants

In all sessions, experiential activities engage groups of varying ages. For some activities, an Including All Participants section offers specific adaptations to fully include participants with mobility, dexterity, or other limitations.

Program Structure

Miracles can be implemented in whole or in part, but we suggest you use the eight sessions in the order provided. The program's flow takes

participants from conversation about miracles to observation of miraculous moments, to a range of activities that engage them as agents of miraculous personal and social transformation with tools to be agents of miracle in the wider world.

In Session 1, Naming Miracles, participants begin to share their impressions and beliefs about miracles, and formulate ideas about miracles they might see in the world around them, particularly looking at our planet and solar system as miraculous. The session's Closing introduces two songs. We suggest leaders rotate one or both songs, perhaps with another song or unison reading of your choosing, as regular elements in this program's Closings.

In Session 2, The Miracle of Close Attention, participants hone their observation skills and seek the miraculous in the common. They look, as May Sarton wrote, "with absolute attention" at objects in nature and discover miraculous patterns which exist all around us. Alternate Activities guide hands-on investigation of the Fibonacci number sequence, a pattern found throughout nature.

Session 3, Miracles in Nature, makes participants agents of miraculous transformation. They perform three hands-on experiments to effect changes of state, using their close observation skills to witness the process of change.

Session 4, It's All in the Timing, invites participants to explore the miracle of serendipity by doing experiments. They will learn about Joseph Priestley, and his discovery of carbon dioxide.

Session 5, A Miracle Inside, explores the process of transformation as it applies to human beings. They identify people in their own lives—perhaps themselves—whose actions in the world would be more fair or just if they had a miraculous, inner

turnabout. They explore what helps a person change.

Session 6, The Miracle of Social Change, extends the conversation of personal transformation to imagine miracles that would help their community and the wider world. Participants explore how an individual can promote miraculous change.

Session 7, Miracles We Can Make, explores the possibility of creating miraculous change in terms of our world's climate crisis. Participants discuss concrete actions kids, families, and congregations can take.

Session 8, Still a Mystery, concludes the program, and explores some natural phenomena that remain wonderfully mysterious, even under the examination of the scientific community.

Session Structure

Each session provides an Opening, several activities, and a Closing which comprise the core, 60-minute session. One of the activities is a central story. A Faith in Action activity and one or more Alternate Activities are also included in each session; their time is not included in the 60-minute core session.

Taking It Home

The Taking It Home section in each session summarizes the session, and provides extension activities including conversation starters, games to play at home, and suggestions for family rituals and excursions. Download, adapt, and copy the Taking It Home section to hand out to all participants at the Closing or arrange to email it to families. Your team of leaders may decide to provide some Taking It Home resources to families before the program begins. Encourage families to preview the questions presented in Miracles and get their own creativity flowing. You can also give families a link

to the Miracles program on the UUA Tapestry of Faith website.

Implementation

The eight-week program invites you to creatively integrate Miracles into your congregation's religious education and programmatic calendar in a variety of ways, such as:

- Offer Miracles in summer, when weekly attendance tends to dip. The sessions would provide a vibrant, interesting experience for visitors who are congregation-shopping during the summer months.
- Offer the program for family-based or multigenerational groups as a supplement to regular religious education programming at an alternate time. If you typically provide religious education on Sunday mornings, experiment with a Thursday or Wednesday evening. Perhaps include a shared meal with one or more sessions. Miracles can be paired with a small group ministry or Evensong program for a great experiment in supplemental programming.
- Offer Miracles for elementary-age participants as part of your normal Sunday morning religious education program. Miracles can be an engaging fall opener, getting people excited and engaged for the year, or a fresh program to offset a springtime lag in attendance.
- Engage a multigenerational or wide age span group in the Miracles Faith in Action activities. Most of the Faith in Action projects suggested in the sessions can provide programming for several meetings linked to the Miracles program.

A blend of these ideas or your own adaptation of the program may fit your congregation perfectly. Use Miracles in the way that best optimizes the

talents, interests, and enthusiasm of your community.

Before You Start

Once you have chosen a leadership team, an age group, and a schedule for the program, sort out the program logistics and identify connections you can make with the wider congregation and community.

Meeting space and other requirements

While the Miracles program will work in any meeting space, Sessions 3 and 4 include hands-on experiments that may need easy-to-clean work tables, outdoor spaces if available, and extra, open space around work tables. Some experiments require access to running water and/or electricity. In some, you will ask participants to sketch the transformations they observe. Review both of these sessions carefully to ensure your meeting space provides adequate square footage and resources to accommodate these activities.

Engage your congregation

How can you connect the Miracles program with other efforts underway in your congregation? Examine the Faith in Action activities in each session. Does your congregation have a Green Sanctuary Task Force, an Environmental Committee, or other group already focused on a justice or service project that might dovetail with a Miracles project? Can you identify calendar dates where Miracles topics might coincide with worship themes or congregational traditions? Look for connections that can strengthen the impact of the Miracles program for all participants and your entire congregation.

Resources

[Sharing the Journey: Small Group Ministry with Youth](#) by Jessica York and Helen Zidowecki (Boston: Unitarian Universalist Association, 2009)

[Nurturing Children and Youth: A Developmental Guidebook](#) by Tracey L. Hurd (Boston: Unitarian Universalist Association, 2005)

[The Gift of Faith: Tending the Spiritual Lives of Children](#) by Jeanne Harrison Nieuwejaar, second edition (Boston: Skinner House Books, 2003)

[Welcoming Children with Special Needs: A Guidebook for Faith Communities](#) by Sally Patton (Boston: Unitarian Universalist Association, 2004)

Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder by Richard Louv (Chapel Hill, NC: Algonquin Books, 2005) describes why and how to engage children in experiences out of doors.

The Outrageous Outdoor Games Book by Bob Greyson (Torrance, CA: Frank Schaffer Publications, Inc., 2001) includes more than 100 group projects, games and activities. These include activities for multiple intelligences and a variety of learning styles. All games are easy to play, require little or no preparation, are adaptable to a variety of situations and skill levels, and provide step-by-step instructions.

Junkyard Sports by Bernie DeKoven (Champaign, IL: Human Kinetics Publishers, 2005) offers 75 innovative, creative demonstration games that foster leadership, compassion and cooperation as participants adapt games to suit a wide range of ages and abilities. Games are based on six traditional team sports, including soccer, baseball, and volleyball, yet use nontraditional approaches.

The Arts and Spirituality

Tapestry of Faith offers two multi-chapter guidance resources online. [Spirituality and the Arts in](#)

[Children's Programming](#) is by Dr. Nita Penfold, creator of the Spirit Play program. [Making Music Live](#), by Nick Page, provides guidance for incorporating music into religious education, including how to teach songs even if you are not a musician.

Scribble Art: Independent Creative Art Experiences for Children by Mary Ann F. Kohl, 2nd revised edition (Bellingham, WA: Bright Ring Publishing, 1994) includes many media: drawing, painting, assemblage, printmaking, collage, sculpture, and crafts. It contains open-ended projects that are suitable for almost any age. Each page presents one project and is illustrated with line drawings. Each project is coded to show at a glance how much time and preparation are needed and what age or experience levels are appropriate.

Unitarian Universalist Principles and Sources

There are seven [Principles](#) that Unitarian Universalist congregations affirm and promote:

- The inherent worth and dignity of every person;
- Justice, equity, and compassion in human relations;
- Acceptance of one another and encouragement to spiritual growth in our congregations;
- A free and responsible search for truth and meaning;
- The right of conscience and the use of the democratic process within our congregations and in society at large;
- The goal of world community with peace, liberty, and justice for all;
- Respect for the interdependent web of all existence of which we are a part.

Unitarian Universalism draws from many [Sources](#):

- Direct experience of that transcending mystery and wonder, affirmed in all cultures, which

moves us to a renewal of the spirit and an openness to the forces which create and uphold life;

- Words and deeds of prophetic women and men which challenge us to confront powers and structures of evil with justice, compassion, and the transforming power of love;
- Wisdom from the world's religions which inspires us in our ethical and spiritual life;
- Jewish and Christian teachings which call us to respond to God's love by loving our neighbors as ourselves;
- Humanist teachings which counsel us to heed the guidance of reason and the results of science, and warn us against idolatries of the mind and spirit.
- Spiritual teachings of earth-centered traditions which celebrate the sacred circle of life and instruct us to live in harmony with the rhythms of nature.

Facilitator Feedback Form

We welcome your critique of this program, as well as your suggestions. Thank you for your feedback! Your input improves programs for all of our congregations. Please forward your feedback to:

Faith Development Office
Ministries and Faith Development
Unitarian Universalist Association
24 Farnsworth Street
Boston, MA 02210-1409
religiouseducation@uua.org

Name of Program or Curriculum:

Congregation:

Number of Participants:

Age range:

Did you work with (a) co-facilitator(s)?

Your name:

Overall, what was your experience with this program?

What specifically did you find most helpful or useful about this program?

In what ways could this program be changed or improved (please be specific)?

Did you enrich the program with any resources that you would recommend to others?

What impact, if any, do you think this program will have on your life going forward?

What impact, if any, do you think this program will have on your congregation going forward?

Participant Feedback Form

We welcome your critique of this program, as well as your suggestions. Thank you for your feedback! Your input improves programs for all of our congregations. Please forward your feedback to:

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Name of Program or Curriculum:

Congregation or group:

Your name:

Overall, what was your experience with this program?

What specifically did you find most helpful or useful about this program?

In what ways could this program be changed or improved (please be specific)?

What impact, if any, do you think this program will have on your life going forward?

What impact, if any, do you think this program will have on your congregation going forward?

SESSION 1: Naming Miracles

Introduction

To me every hour of the light and dark is a miracle. Every cubic inch of space is a miracle. — Walt Whitman

Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted. — Albert Einstein

It is inherently Unitarian Universalist to explore the miraculous. Our first Source is the direct experience of that transcending mystery and wonder, affirmed in all cultures, which moves us to a renewal of the spirit and an openness to the forces which create and uphold life. The fifth Source, Humanist teachings, counsels us to heed the guidance of reason and the results of science, and warns us against idolatries of the mind and spirit. In this session, participants begin to explore miracles, to engage in the transcending mystery and wonder that surrounds us, and to use reason to find their own personal truth and meaning. Participants identify what they consider miraculous and investigate the miracle of life on Earth through story and play.

Goals

This session will:

- Help participants explore what they think constitutes a miracle
- Illustrate the subjective nature of miracles by sharing creation stories.

Learning Objectives

Participants will:

- Begin to define “miracle”

- Understand that defining the miraculous is a subjective activity
- Consider ideas of how the Earth came to be.

Session-at-a-Glance

ACTIVITY	MINUTES
Opening	10
Activity 1: It’s a Miracle	10
Activity 2: Our Own Definition	10
Activity 3: Story – Maui and Pele Make Hawai’i	5
Activity 4: Story: Grandmother Spider Brings The Light	5
Activity 5: Story – The Big Bang Theory	5
Activity 6: Conclusions	5
Faith In Action: Miracles Are All Around Us	
Closing	10
Alternate Activity 1: Universe on a Human Scale	10
Alternate Activity 2: Our Own Story	10
Alternate Activity 3: It’s a Draw	20

Spiritual Preparation

Try to leave yourself five minutes before the class in which you are not worried or preoccupied—five minutes to center yourself and sink into the topic of miracles.

Find a comfortable position. Take three deep breaths. Feel the details of your body—where it is touching the chair, how your feet feel on the floor, the sensations of your breathing.

Now think of something that you know as a miracle. It might be the birth of your child, the Earth and our place on it, a moment of connection with your favorite place in nature. Fill yourself with that memory. Think of the smallest details of it. What is it that makes this moment miraculous? Allow yourself to luxuriate in your memories. Then, gently

bring yourself back to yourself sitting. If you like, read today's quotes to yourself, savoring each

Opening (10 minutes)

Materials for Activity

- Chalice and LED battery-operated candle
- Bell or chime

Preparation for Activity

- Have name tag materials out for all participants to create a name tag.

Description of Activity

Briefly introduce the idea of miracles and the miraculous. Tell the group that in this program, they will explore what Unitarian Universalism, and each participant, finds miraculous.

Say that you will begin with a chalice lighting.

Light the chalice and invite participants to think quietly for a few moments on the following quote by Walt Whitman:

Seeing, hearing, feeling, are miracles, and each part and tag of me is a miracle.

After 30 seconds, ring the bell or chime. Invite participants to introduce themselves by stating their name and something about themselves that they find miraculous.

Activity 1: It's a Miracle (10 minutes)

Materials for Activity

- Leader Resource 1, It's a Miracle
- Basket
- Newsprint, markers, and tape

Preparation for Activity

- Print Leader Resource 1, It's a Miracle, and cut the phrases apart. Put the slips of paper into the basket. Make sure you have enough unique slips for all participants. Feel free to add your own ideas.

word. Once you are done, begin the rest of your preparation for the day.

- Write "YES" on one sheet of newsprint and "NOT SURE" on another sheet.

Description of Activity

Invite participants to play a game called "It's A Miracle!" This is not a winning and losing game; it is a thinking game. This game is intended to be played at a quick pace, as an introduction to the idea that different people in different time periods may see and define miracles differently. There are no rights and wrongs, just opinions and ideas.

Post the newsprint sheets "YES" and "NOT SURE" some distance apart in the room. Make sure everyone can move safely around the room.

Tell participants that they are going to hear some examples of what other people have believed are miracles, some are from long ago, some are from current times. Invite participants to take a one slip of paper you have cut from Leader Resource 1 from the basket and read it aloud. Instruct participants to listen and decide if they consider what they heard to be a miracle. If they do, they can move to stand beside the "YES" sign, if they don't (or aren't sure), they can move to stand beside the "NOT SURE" sign.

Invite other volunteers to choose and read slips of paper until your time or slips of paper run out. Keep track of which miracles seem most favored and least favored. Set this information aside to refer to in the next activity (Activity 2, Our Own Definition) and the Faith in Action activity for this session (Miracles Are All Around Us).

Including All Participants

This activity intentionally invites participants to move around a bit. However, be ready to modify as needed if a large, open space is not available, if

any participants may be physically unable to move rapidly between “Yes” and “Not Sure,” or if any participant is uncomfortable in crowds. For example, you can ask participants to stand up or raise a hand to indicate their opinion about each miracle.

Activity 2: Our Own Definition (10 minutes)

Materials for Activity

- Newsprint, markers, and tape

Preparation for Activity

- Post a sheet of newsprint.

Description of Activity

Ask participants to spend a few minutes thinking about the miracles they heard in the previous activity, paying particular attention to what they think connects all of the things they deemed to be miracles. Then solicit their ideas about “What is a miracle?” writing that question on newsprint. Next, discuss ideas about what the characteristics of a miracle might be. Affirm all answers. Ask for (or volunteer) a beginning “definition” of what this group believes constitutes the definition of a miracle and write it on newsprint. Assure participants that this will be an evolving definition and they can add ideas at any time during the program. Keep the newsprint posted or plan to re-post it at each meeting; let the definition of a miracle be a living document for the duration of the program. It is next used in Session 2, Activity 1, Sharing Miracle Moments.

Including All Participants

Not everyone in the group will speak up. Please ensure that everyone has been given a chance to speak. You might, for example, go around the room and let each person either speak or pass in turn.

Activity 3: Story — Maui and Pele Make Hawai’i (5 minutes)

Materials for Activity

- A copy of the story, “Maui and Pele Make Hawai’i”

Preparation for Activity

- Read through the story a few times, paying close attention to the Hawaiian pronunciations so you are ready to read the story aloud.

Description of Activity

Explain that each time they meet, the group will hear stories that will help everyone think about miracles. This session has three stories that all talk about creation. Each story demonstrates how a different culture has explained the beginnings of our planet and the life on it. Read the first story to the group, slowly. When you are finished, ask these questions:

- Why is it important that Maui did not create a whole continent, but only brought up the tops of mountains?
- Why is Pele so important to the Hawaiian culture?

Activity 4: Story — Grandmother Spider Brings the Light (5 minutes)

Materials for Activity

- A copy of the story, “Grandmother Spider Brings the Light”

Preparation for Activity

- Read the story a few times, so you will be comfortable reading or telling it.

Description of Activity

Our second story is about a much different culture and landscape. Read the story slowly to the group. At the conclusion, ask participants to think about why different cultures would create very distinct

creation stories. Compare the landscapes of Hawai'i to that of the Cherokee.

- Why would the Cherokee think a little spider would be capable of that kind of creative thinking?
- What happens to the other animals? Why is that important in the story?
- How many different mysterious experiences does this story explain to the Cherokee people?
- If we had told a story about snow, ice, and seals, what culture do you think that creation story would come from?

Activity 5: Story – The Big Bang Theory (8 minutes)

Materials for Activity

- A copy of the story, "The Big Bang Theory"

Preparation for Activity

- Read the story a few times, so you will be comfortable reading or telling it.

Description of Activity

Even in our modern times we are still searching for the answer to the miracle of life, and our place in the Universe. Science can propose a theory that seems logical and correct. It can be backed up by many years of research that proves more and more conclusively that the Big Bang theory may be the right answer, and yet, nobody knows how all of the matter in the Universe came to be. Read the story aloud slowly. Then, ask these questions:

- How did everything in the Universe come to be?
- What may there have been before the Big Bang?
- What does it mean that the Universe is expanding? Where is it expanding into?

Activity 6: Conclusions (5 minutes)

Description of Activity

Use these questions to elicit participants' conclusions from today's activities:

- Does everyone agree on what is a miracle and what is not? Must we agree in order to talk about miracles?
- Why do you think so many different stories about the creation of the Earth exist?
- Why do humans like to explain miracles? Does a good explanation mean there isn't really a miracle? Does a miracle need to be unexplainable to be a miracle?

Say that one of our Unitarian Universalist Sources of wisdom is "Direct experience of that transcending mystery and wonder, affirmed in all cultures, which moves us to a renewal of the spirit and an openness to the forces which create and uphold life." This means each of us can learn about ourselves, our world, and our purpose here through awesome experiences we have. [You may wish to explain "awe," if the group skews toward younger children: When something happens that amazes you and you want to say "Wow!" or ask "How?" we call that feeling "awe."]

Ask:

- Can we agree that a miracle is a direct experience of mystery and wonder?
- If each individual experiences "mystery and wonder" in their own way, are people likely to have different opinions about what is a miracle and what is not? How can we know which opinion is correct? Does it matter? Why, or why not?

Faith In Action: Miracles Are All Around Us (0 minutes)

Materials for Activity

- Poster board or large sheets of paper

- Art materials, including drawing paper and color markers or pencils
- List of miracles affirmed by the group in Activity 1, It's a Miracle

Preparation for Activity

- Gather poster board/paper and art materials.
- Identify wall space(s) where you can display the participants' posters.
- Optional: Gather photographs that depict potential miracles.

Description of Activity

Using the miracles participants agreed on in the "It's A Miracle!" game and their new ideas, make posters to place around the congregation reminding people of miraculous things.

For example, if participants thought that "the Universe" or "thinking" were miracles, they could make a poster that says: "Remember...the Universe is a miracle", or "Do you ever think about how THINKING is a MIRACLE?"

Encourage participants to use photographs in the posters or, alternatively, their own drawings.

Participants can sign the posters, "Brought to you by the Miracles Group." Display the posters on the wall spaces you have chosen.

Closing (5 minutes)

Materials for Activity

- Taking It Home
- Optional: Handout 1, Say "Yes" to a Miracle
- Optional: Handout 2, For the Beauty of the Earth
- Optional: Newsprint, markers, and tape

Preparation for Activity

- Review the two song suggestions (Handouts 1 and 2). Find lyrics for "Say 'Yes' to a Miracle" on Handout 1 and [listen to the song](#) online. "For the Beauty of the Earth" is Hymn 21 in *Singing the Living Tradition*, the Unitarian Universalist

hymnbook, and the lyrics are provided on Handout 2.

- Choose one of these, another song, or a unison reading. If you like, invite a musical volunteer to help lead a song. You may wish to help the group learn two or three closing songs/readings and alternate among these over the course of the program.
- Copy handouts to help participants learn the song you have chosen. You may also write song lyrics (or a unison reading) on newsprint, and post.
- Download the Taking It Home section and copy for all participants.

Description of Activity

Gather participants in a circle. Distribute handouts or indicate lyrics you have posted.

Lead the group in singing "Say 'Yes' to a Miracle" or "For the Beauty of the Earth," or lead another song or reading.

Compose together a spontaneous benediction by having each participant complete the phrase, "I am thankful for the miracle of _____."

Distribute the Taking It Home handout. Explain that the handout contains ideas for ways to continue engaging with today's topic at home with family and friends. Ask participants to pay careful attention and be open to miracles. You might say, "I wonder what miracles will be revealed to each of you before we meet again?" Tell them each session will have time dedicated to the sharing of miracles. Collect handouts for re-use, and say good-bye.

Including All Participants

You may wish to teach "Say 'Yes' to a Miracle" one phrase at a time before leading the song.

Leader Reflection and Planning

Briefly recap the central theme of this session—to consider miracles in the world around us. Say, “We have started with our own beginning definition and a series of images that take our very existence on Earth and in the Universe as a starting point for wonder.” Take ten minutes to share your own brief reflections on the activities, ideas, and images of this session.

Taking It Home

To me every hour of the light and dark is a miracle. Every cubic inch of space is a miracle. — Walt Whitman

Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted. — Albert Einstein

IN TODAY’S SESSION... we talked about miracles: what we consider miraculous and what we think is a definition of a miracle. We also talked about stories as a way to explain miracles, focusing on the miracle of creation. We discussed the god Maui fishing for the Hawaiian Islands, Grandmother Spider securing the “light” for all of the creatures to share and enjoy, and the Big Bang theory.

EXPLORE THE TOPIC TOGETHER: Talk about...

- What does each family member consider miraculous?
- Why is it important to have explanations for miracles?
- What do you believe is the story of creation?

A Family Ritual. Counting your blessings can be a very powerful family ritual. Each day, as a family, take some time to be thankful for the miracles that surround you. Have each member finish the sentence “I am thankful for the miracle of_____.”

A Family Game. Have everyone in the family participate in a creation story. You can create a miraculous world, or a plant, or a new animal. Play it as a round, or in popcorn style, letting everyone in the family contribute to the story. See where it takes you. You can start a new story every time you play, or continue to build on your story with every gathering.

Alternate Activity 1: The Universe on a Human Scale (10 minutes)

Materials for Activity

- Newsprint or a large roll of paper, and markers
- Leader Resource 2, You Are Here
- Leader Resource 3, The Atom

Preparation for Activity

- Print Leader Resource 2 and Leader Resource 3.

Description of Activity

Draw a large outline of a person on one sheet of newsprint. This is a person’s body, and represents the known universe. Then make a small dot anywhere on the drawing. Explain that the single dot represents one single galaxy in the universe, and in our relative scale, is the size of one cell in the human body.

On a second sheet of newsprint draw as large a circle as possible. Explain that the circle represents the cell that was the dot on the previous drawing. Remind the group that on our relative scale the cell represents a galaxy, like our galaxy, the Milky Way. Inside the cell place one tiny dot, as small as you can. Explain that the new dot represents an atom inside the cell, inside of our body.

On a new sheet of paper, as large as possible, draw a model of an atom (see Leader Resource 3), with a large nucleus, and a much smaller proton and electron. Explain that in our relative scale, this

drawing represents our solar system, and the nucleus is our sun. The proton and electron represent planets much like our Earth.

On a final piece of paper draw as large a circle as possible, and a tiny little speck-like dot anywhere in the circle. This represents the electron-sized planet that we will call Earth, and the speck is a person.

Explain that in reality, the scale of the circle and the dot is like one drop in all the oceans.

Show Leader Resource 2, a picture of our galaxy, The Milky Way, taken by NASA. Explain that the arrow, which points to the sun in our solar system, demonstrates the scale of our universe. Say:

If we looked at a picture of our own solar system, the sun would be enormous. But when we widen our view to include other solar systems, our own world seems smaller and smaller.

Alternate Activity 2: Our Own Story (10 minutes)

Preparation for Activity

- Choose one of the topics below or make up your own. Make sure the animal you choose for a topic is one everyone will be familiar with (or, bring an illustration or model to show the group).

Description of Activity

Explain that the group will make up the creation story for that animal and how it came to have its own unique trait. One by one, line by line, participants will tell the story of how that animal came to look the way it does. Have a leader start the story. Then let volunteers continue, one line at a time.

How Porcupine got its quills

How Turtle got its shell

How Alligator got its teeth

How Beaver got its tail

How Armadillo got its shell

How Fish got its scales

Alternate Activity 3: It's a Draw (20 minutes)

Materials for Activity

- Slips of paper, pencils, and a basket
- Newsprint, markers, and tape
- A timer

Description of Activity

Give each person a pencil and slip of paper and ask everyone to write something they think is miraculous. Have them fold the slips to hide their writing and place the slips in the basket.

Form two teams. Each team chooses a member to take a slip of paper from the basket and draw, on a large sheet of newsprint, on the miracle described on the slip of paper. Team members try to guess what the member is drawing. Sound the timer after two minutes (or whatever amount of time you choose). If they guess correctly, the team scores a point. Then, have the second team repeat the process with a new slip of paper chosen by one of their members.

Including All Participants

Allow team members to work with a partner so that anyone with a disability—for example, someone with a reading disability or limited mobility—can fully participate. Another way to include everyone is to give a participant the role of keeping score or collecting slips of paper and then holding the basket.

Story: Maui and Pele Create Hawai'i

A retelling of a Hawaiian legend.

The god Maui was the smallest but smartest of his brothers, who often made fun of him because he couldn't fish very well.

Sometimes Maui would go out on a boat with his brothers, distract them when they had a fish on the line, and steal it from them, claiming it as his own. But soon his brothers caught on, and wouldn't let Maui fish with them any longer.

Maui's mother, taking pity on him, told Maui to go and fetch a magical hook, fastened to the heavens. When the hook catches land, it will raise the land from the bottom of the sea floor.

When he got the hook, Maui begged his brothers to take him out just once more. He wanted to prove he was the best fisherman of all.

Maui cast his line into the sea, and soon enough, he hooked it on land. The sea began to move, and great waves rose all around them. Maui commanded his panicked brothers to paddle harder and harder, and not to look back. Maui pulled and pulled, and soon mountaintops began to rise from the ocean. But one of Maui's brothers was too curious, and he looked back in awe at what Maui had done.

The spell was broken, and the magical line broke, leaving only the mountaintops visible above the ocean.

And that is how the Hawaiian Islands were born. They were only mountains then, until Pele brought her fire to Hawai'i.

Pele was born from the supreme beings, Papa, or Earth Mother, and Wakea, (Wah-Kay-uh) Sky Father. Pele was among the first voyagers to sail to Hawai'i from her homeland Tahiti in a canoe guided by her shark-god brother. Pele saw a high mountain with a cloudy haze hiding its peak and knew she had found her new home. She named the island Hawai'i.

Pele, carrying her magic stick Pa'oa (pay-oh-uh), went up to the mountain where a part of the earth

collapsed into the ground. She placed the stick into the ground, and fire began to erupt from the mountain. Pele called this place Kilauea (kill-u-ay-uh). Inside the Kilauea crater was a large pit. She named it Halema'uma'u (halemma-uma-oo).

Halema'uma'u would be her new home.

A cliff on nearby Kilauea Mountain is sacred to her eldest brother, Ka-moho-ali'i (ka-moho-alee-he), king of the sharks and the keeper of the gourd that held the water of life. Out of respect for this brother, to this day, Pele never allows clouds of volcanic steam to touch his cliff.

Pele still lives on Hawai'i where she rules as the fire goddess of the volcanoes. The smell of sulfur reminds the natives that she is still there in her home, Halema'uma'u, her fiery lava building a new island to the south, still submerged, named Loahi (lo-uh-hi). Those present whisper in awe:

Ae aia [ay eye-ah] la o Pele, there is Pele.

Story: Grandmother Spider Brings the Light

A retelling of a story from Cherokee tradition.

When the earth was first made, it was very dark, and the animals were afraid. One day Bear said, "I have seen light on the other side of the world, but the people will not share. Perhaps we could steal some for ourselves."

The others thought this was a splendid idea, and started to discuss who should go first.

"I'll go," said fox.

Fox went, and stole a piece of light in his mouth, but it was so hot it burned his mouth and he dropped it, and the fox still has a black mouth to this day.

Possum tried next. He wrapped the light in his tail, and tried to drag it back, but it was too hot, and he

dropped it. That is why no possum has fur on its tail.

Crow said, "Let me try!" And he went off to steal the light, but when he got close, it singed all of his feathers, and he turned black. He was so afraid, he ran away.

Finally Grandmother Spider said, "I will go." When she reached the light, she was surprised by how hot it was. She thought of a plan, and began to spin and spin with her silky web. Soon she had enough for a bag. She approached the light, and quick as a flash, tucked the light into her bag.

When she got back, the animals were triumphant! "Hooray for Grandmother Spider!" They all shouted. Grandmother Spider was happy to give them the light. "We should hang the light in the sky, so all can be warmed by it," she said. The other animals thought that too was a good idea, but how to get it in the sky?

"I will go," said Vulture. He took the bag of light, and put it on his head. It was hot, but he could stand it. He flew higher and higher, and the bag got hotter and hotter. He climbed higher, and his feathers turned black. Still higher, and the feathers on his head burned off! Still higher, and his head turned red. At the last possible second, he threw the light into the sky as hard as he could, and the Sun hung bright and beautiful, warming all the land.

Story: The Big Bang Theory

In 1927 a Roman Catholic priest and scientist Georges Lemaitre proposed what later became known as the Big Bang theory of the origin of the Universe, based on work by Edwin Hubble who theorized and then proved that the Universe was getting bigger and bigger. Many scientists have discovered other evidence that confirms that the

theory might be correct. They think that the Big Bang happened 13 to 15 billion years ago.

Big Bang theorists are called cosmologists, because they study the cosmos. They tell us that before the big bang, the entire Universe fit into a space that would make a grain of sand absolutely colossal. Everything that exists, from a blade of grass to Sirius, the Dog Star, all fit into a very, very tiny space, all compacted together.

Suddenly there was an explosion, and the Universe began to spread out. Expanding at the speed of light, which is 186,000 miles per second, the Universe continues to expand today, and no one is sure when it might end, but it's estimated to be billions of years in the future.

The Big Bang theory does not explain how the Universe began, or where all of the "stuff" in it comes from, or how it was created. Scientists are certain that the Universe has a beginning, but are not certain what that was. Science does not and cannot explain or describe "the beginning," only the general evolution of our Universe from a possible point in time.

Handout 1: Say “Yes” to a Miracle

Words and [music](#) copyright Susan Dana Lawrence. Used with permission.

Verse 1:

The frost is losing its hold on the ground.

Buds are opening wide.

We till the earth, we plant some flowers.

The love starts deep inside.

Chorus:

Say “yes” to a miracle, say “yes” to a miracle.

Say “yes, yes, yes” to a miracle, to a miracle every day.

Verse 2:

The love is spreading, to me and to you

Hearts are opening wide.

Sun warms the earth, we all are flowers.

The love starts deep inside.

Chorus:

Say “yes” to a miracle, say “yes” to a miracle.

Say “yes, yes, yes” to a miracle, to a miracle every day.

Handout 2: For the Beauty of the Earth

Hymn 21 in *Singing the Living Tradition*. Words adapted by Follitt Sandford Pierpoint; music by Conrad Kocher (abridged). Public domain.

1.

For the beauty of the earth, for the splendor of the skies,
For the love which from our birth over and around us lies,

Chorus: Source of all, to thee we raise
this our hymn of grateful praise.

2.

For the joy of ear and eye, for the heart and mind's delight,
for the mystic harmony linking sense to sound and sight.

Chorus: Source of all, to thee we raise
this our hymn of grateful praise.

3.

For the wonder of each hour, of the day and of the night,
Hill and vale, and tree and flower, sun and moon, and stars of light.

Chorus: Source of all, to thee we raise
this our hymn of grateful praise.

4.

For the joy of human care, sister, brother, parent, child,
For the kinship we all share, for all gentle thoughts and mild.

Chorus: Source of all, to thee we raise
this our hymn of grateful praise.

Leader Resource 1: It's a Miracle

The Universe

The Sun

Stars

Earth

Seasons

Love

Snowflakes

Human hands

The brain

Fingerprints

A beating heart

Childbirth

Our senses

Growing

Breathing

Thinking

Healing

A stone statue crying real tears

A baby found alive five days after a tsunami

A mother chimpanzee caring for a baby tiger

One person surviving an airplane crash

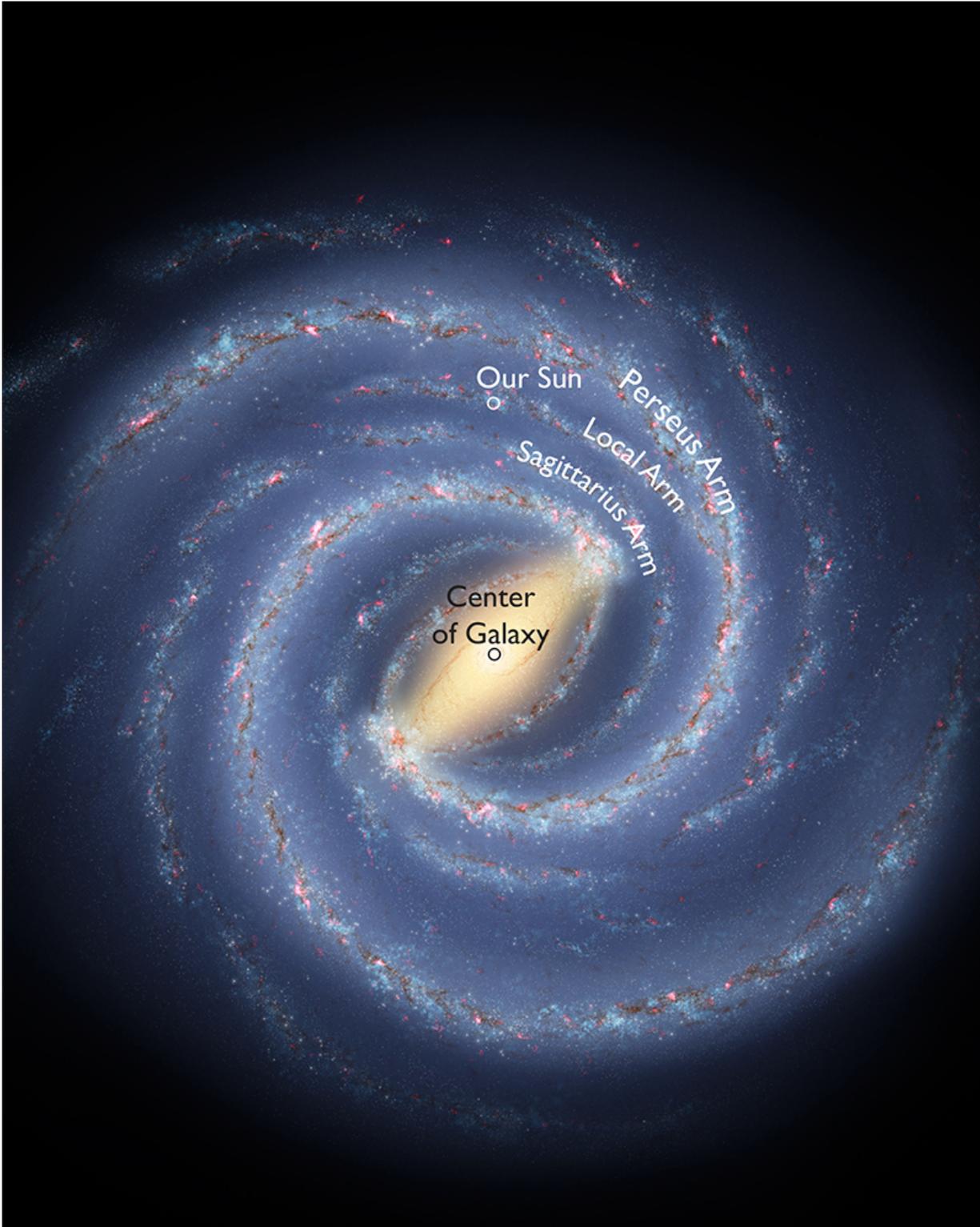
An emergency plane landing, in which everyone survives

A person whose cancer goes away

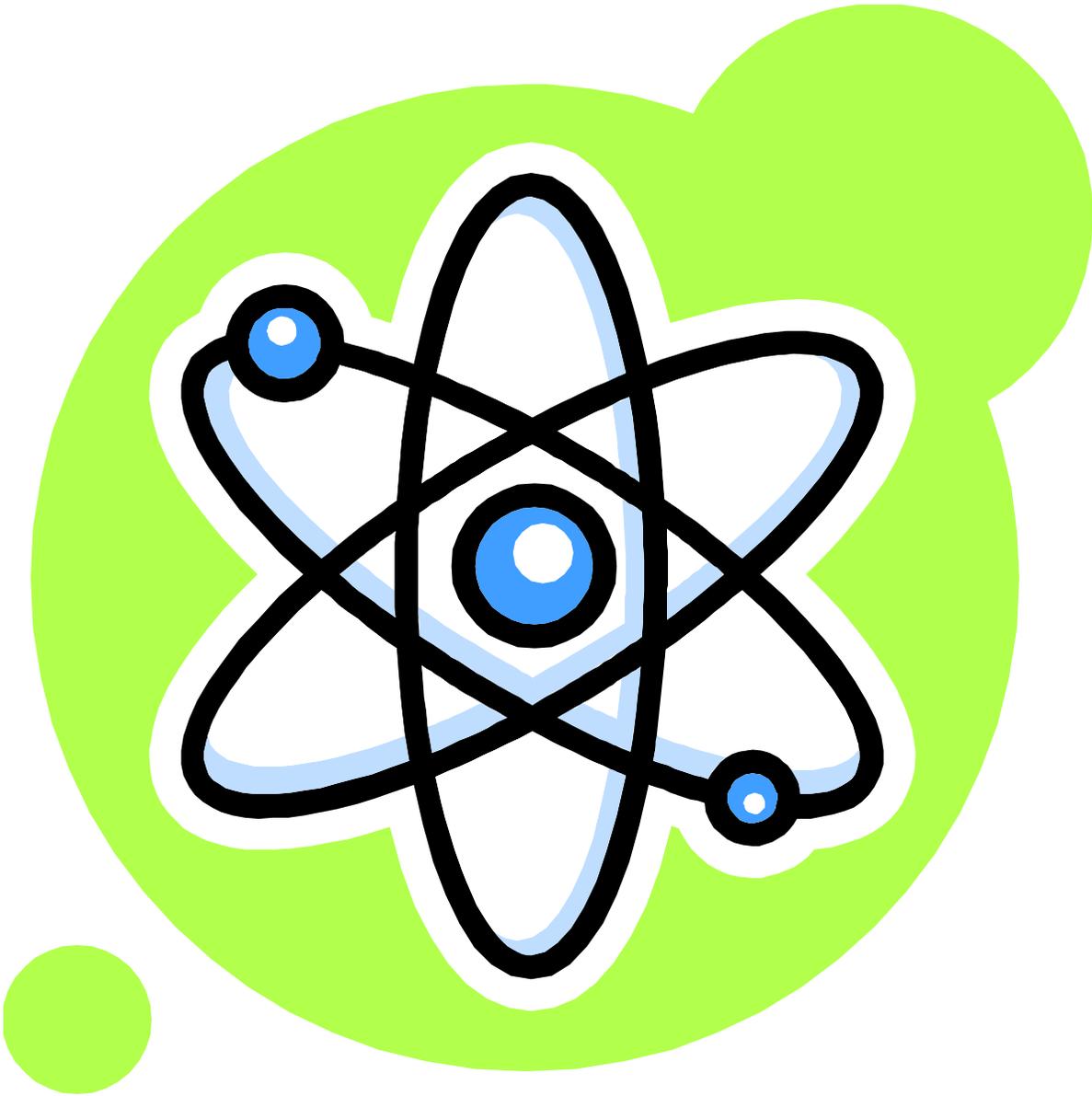
A flower pushing through an asphalt road

Leader Resource 2: You Are Here

Photo credit: Robert Hurt, IPAC; Bill Saxton, NRAO/AUI/NSF. From the website of the National Radio Astronomy Observatory, a facility of the National Science Foundation.



Leader Resource 3: The Atom



Find Out More

A vast array of photographic images of the universe are available to view on the Internet. To become familiar with the concept of an ever-expanding universe, search images for these terms, sequentially: the solar system, the Milky Way, star nebula, galaxies near the Milky Way. Or, go directly to the website of [Astrophotography by Takayuki Yoshida](#).

The solar system is the collection of eight planets and their moons in orbit around the sun, together with smaller bodies in the form of asteroids, meteoroids, and comets. Earth, our home, is the third planet from the sun.

The Milky Way is the galaxy in which we live. It is a spiral shaped galaxy that contains about 200 billion stars, including our sun.

A nebula is a massive cloud of gas and dust in outer space. A nebula is sometimes the birthplace of stars; in the Orion Nebula, new stars are still forming.

A galaxy is a system of millions or billions of stars, together with gas and dust, held together by gravitational attraction. There are a number of galaxies close to our own Milky Way galaxy and billions of galaxies beyond. We do not know how many billions, perhaps an infinite number. And, as is evident from the images, they are remarkably beautiful.

Investigate some of the many ways humans have explained the origins of the world and humankind to encounter examples of humanity's spirit, creativity, and pure imaginative power. One particularly useful book is *In the Beginning: Creation Stories from Around the World* by Virginia Hamilton, illustrated by Barry Moser (Houghton Mifflin, 1991), with twenty-five stories. You can also look at the [Creation Myths](#) website posted by the University of Georgia.

SESSION 2: The Miracle of Close Attention

Introduction

I think it pisses God off when you walk by the color purple in a field and don't notice it.

— Shug Avery, in Alice Walker's novel *The Color Purple*

The miracles of the church seem to me to rest not so much upon faces or voices or healing power coming suddenly near to us from afar off, but upon our perceptions being made finer, so that for a moment our eyes can see and our ears can hear what is there about us always. — Willa Cather, *20th-century American novelist*

This session cultivates participants' ability to notice the miraculous. They discover that "looking with absolute attention," a teaching of poet and novelist May Sarton (1912-1995), can bring them in touch with their own capacity for "direct experience of mystery and wonder."

Participants use their senses for careful observation of everyday items from nature, then draw or sculpt to attend still more closely and, through artistic expression, bear witness to "the miraculous in the common." (Incorporate Alternate Activity 5 to add observational writing as another creative option.)

In a wide age span or multigenerational group, remember to facilitate sharing and participation for the benefit of all. Be careful to affirm younger participants' contributions. Keep in mind, participants of any age who seems reluctant to speak may need more encouragement than others to find their voice.

Fibonacci Number Sequence

Alternate Activities in this session invite close attention to the Fibonacci number sequence, a mathematical structure that underlies much of nature's miraculous order and symmetry. For example, when the sequence of numbers Fibonacci discovered (1, 1, 2, 3, 5, 8, 13...) appears in the branching pattern of a tree, it is replicated in the veining of that tree's leaves. If you have time, lead visual (Alternate Activity 1) and hands-on (Alternate Activity 2) explorations of the miracle of natural patterns. These activities help to prepare participants for future sessions in which they analyze and reflect on the miracles in nature.

Goals

This session will:

- Encourage participants to recognize the miraculous in nature and everyday life
- Teach focused attention as a spiritual practice that helps us find miracles around us
- Cultivate skills of close attention
- Introduce poet May Sarton, a like-minded friend of Unitarian Universalism whose personal faith was grounded in direct experiences of awe and wonder.

Learning Objectives

Participants will:

- Share their own experiences of "miracle moments"
- Identify instances of the miraculous in the everyday, particularly miracles that occur continuously in nature
- Learn about the poet May Sarton and encounter her eloquent witness to miraculous moments in nature and human relations
- Practice skills of close attention and detailed observation

- Express their recognition of the miraculous in nature through drawing or writing their observations gained from close attention
- Optional: Explore patterns in nature that reflect a Fibonacci number sequence.

Session-at-a-Glance

Activity	Minutes
Opening	5
Activity 1: Sharing Miracle Moments	10
Activity 2: Story – May Sarton	10
Activity 3: To Look with Absolute Attention	15
Activity 4: Observational Drawing	15
Faith In Action: Plant Sale – Share the Miracle	
Closing	5
Alternate Activity 1: Fibonacci Numbers in Nature	10
Alternate Activity 2: Fun with Fibonacci – Art Collage	30
Alternate Activity 3: Fives and Eights – Coloring in Pinecones	15
Alternate Activity 4: Paying Close Attention Outdoors	40
Alternate Activity 5: Observational Writing	20

Spiritual Preparation

Set aside five minutes before the session.

Find a comfortable position, and take three deep breaths to center yourself. Feel the details of your body—where it is touching the chair, walls or ground, how your feet feel on the floor and the sensations of your breathing. What is miraculous about your ability to be alive, here, and present in this way? Take a moment to appreciate the miracle that is you.

Imagine yourself moving through your typical actions on a typical day, in slow motion. Then, imagine yourself coming to a stop. What do you notice around you? What makes this moment miraculous? Allow yourself to luxuriate in the “miracle moment” from your everyday life.

Gently come back to yourself sitting. Read this quote from Ralph Waldo Emerson, and reflect on its meaning for you:

The invariable mark of wisdom is to see the miraculous in the common.

Opening (5 minutes)

Materials for Activity

- Chalice and LED/battery-operated candle
- Optional: Newsprint, markers, and tape

Preparation for Activity

- Write the chalice lighting words on newsprint, and post.

Description of Activity

Gather participants in a circle around the chalice.

Welcome new participants, and welcome back participants from the previous session. Review names as appropriate.

Indicate the chalice-lighting words you have posted.

Light the chalice, or ask a volunteer to light it, and invite participants to join you in reciting the opening words:

*We light this chalice
Knowing we are surrounded by miracle,
Knowing we all,
And the world around us,
Are miracle upon miracle.
We gaze with awe,
Wonder seeing wonder.*

Extinguish the chalice.

Including All Participants

To include vision-impaired participants, lead the group to say the chalice-lighting words one line at a time in a call and response.

Activity 1: Sharing Miracle Moments (10 minutes)

Materials for Activity

- Newsprint, markers, and tape
- Newsprint with definition(s) of a miracle generated by the group in Session 1

Preparation for Activity

- Post the definition(s) of a miracle that the group generated in Session 1.
- Prepare to share, in a phrase or sentence, a “miracle moment” of your own.

Description of Activity

In Session 1, participants contributed examples of what they think is miraculous and crafted a working definition of “miracle.” Indicate where you have posted this definition. Read it aloud or have a volunteer read it.

Invite everyone, whether or not they were present for Session 1, to share a “miracle moment”—a time when they paid attention to something unexpected, awesome, and perhaps unexplained. To set the tone, share a recent miracle moment of your own.

You may wish to remind the group:

- Everyone’s ideas and experiences of miracles may be different.
- Participants may “pass.” Sharing a miracle is not required.

Thank each volunteer for their contribution. Be careful to respond to each contribution with the same level of enthusiasm.

Now reread or ask a volunteer to read the posted definition of a miracle. In light of the miracle moments participants have described, does the definition still capture the group’s understanding of miracles? Invite participants to rework the definition. Record their ideas on newsprint and save it for the next session.

Activity 2: Story – May Sarton (10 minutes)

Materials for Activity

- A copy of the story, “May Sarton”
- Newsprint, markers, and tape

Preparation for Activity

- Read the story, “May Sarton.” Prepare to read or tell it dramatically.
- Print on newsprint and post the following May Sarton quote: “If one looks long enough at almost anything, looks with absolute attention at a flower, a stone, the bark of a tree, grass, snow, a cloud, something like revelation takes place.”

Description of Activity

Tell the group May Sarton was a poet and journal writer of the 20th century whose personal religion shared much with Unitarian Universalism. Read the Mary Sarton story aloud.

When you are finished, invite participants to focus on May Sarton’s phrase “looks with absolute attention.” Say the phrase aloud. Pause, and then repeat the entire quotation from Sarton’s 1973 memoir *Journal of Solitude*, which appears in the story:

If one looks long enough at almost anything, looks with absolute attention at a flower, a stone, the bark of a tree, grass, snow, a cloud, something like revelation takes place.

Ask participants what they think the quote means; ask if anyone can explain the word “revelation.”

Affirm that a revelation is a piece of knowledge that comes to you suddenly—new learning that may seem to appear out of nowhere. Revelation may feel like a surprise, yet it comes after paying close attention, over time. With older children or adults, you might offer this dictionary definition:

“Something revealed, especially a dramatic disclosure of something not previously known or realized.”

Invite participants to suggest examples of revelations. With young children in the group,

prompt with examples such as “seeing a butterfly come out of a cocoon” / “realizing someone in another country sees the same stars at night that you do” / “realizing the cake you are eating used to be sticky batter in a bowl” / “learning that a chicken used to be an egg” / “finding out that babies are born from a mother’s body.”

Tell participants that today they will practice looking with absolute attention. Say:

That is what May Sarton did, and so she was ready to notice everyday miracles and experience revelation.

Activity 3: To Look with Absolute Attention (15 minutes)

Materials for Activity

- Everyday items from nature such as tree leaves or branches, a nautilus or other shell, potted plants, cut flowers, sunflower heads, pinecones, or a pineapple
- Tools participants can use to investigate the objects and pictures, such as a magnifying glass, microscope, tweezers, and toothpicks
- At least two trays (one or more to hold items for examination, one or more to hold the tools) and a cloth cover for every tray
- Newsprint, markers, and tape
- Optional: Pictures of natural scenes such as stars in a night sky, a colorful sunset or images of naturally occurring crystals (such as snowflakes) or fractal patterns
- Optional: A small, caged pet, e.g., a bird, reptile, or hamster

Preparation for Activity

- Obtain enough natural objects and tools for all participants to have the opportunity to examine an object on their own.
- Before participants arrive, prepare one or more trays with the natural objects, and one or more

trays with tools. Cover the tray(s) with cloth to maintain mystery.

- If you have brought large natural objects, large pictures, or a pet for this activity, set them out of sight for now.
- Set the trays on a table around which everyone can gather.
- Optional: If possible, along with the natural objects, provide images of natural phenomena you cannot bring into the room such as snow, sunsets or crystals. Look for images that will reward close examination.
- Optional: You might bring a small pet that lives in a portable cage/terrarium, for participants to observe. However, first ask the adult owner whether it would be safe, appropriate, and humane for participants to observe the pet closely in this setting. Check with all participants' parents to ensure no one has an allergy, fear, or other issue that makes this a bad idea.

Description of Activity

This activity invites participants to pay close attention. The skill of looking closely leads them to find their own capacity for experiencing the mysterious and the wonderful, and develops their sense of awe.

If participants have been sitting in a circle for a while, a quick stretching activity may be a good idea. Then gather the group around the table where you have placed the trays. Invite participants to get ready to “look with absolute attention.” You may want to explain that “absolute attention” means we are doing nothing but paying attention; say that “careful attention” and “close attention” are expressions that mean almost the same thing.

Remove the cloth cover(s) to reveal the natural objects. Say, in your own words:

A jumble of items can be difficult to observe with care. Each of you will have a chance to look with close attention at a single item, using some tools that may help.

Uncover the tools. Briefly name the tools and say they are tools scientists use to observe the natural world. Ask participants for their ideas about how they might use the tools for close observation. Mention any concerns or rules you have. You may want to set limits on tactile, “invasive” observation that could damage an item.

If you have concealed a live pet or large natural objects or pictures for observation, present them now. Set them carefully where you want participants to observe them. Share any rules for observing a live pet or any fragile objects.

Carefully distribute objects and tools from the trays to a few tabletop stations. Form small groups at the stations. Invite participants to spend the next few minutes carefully and closely investigating, without harming, one or two objects. Encourage participants to select a single object and spend their time observing it on their own. Ask those observing in groups to keep conversation at whisper-level.

With five minutes left in this activity, ask participants to replace the items and tools on the trays. Gather the group. Invite individuals to report on what they observed, how they observed it, and what they noticed. Now ask:

- What is different about looking at a common, everyday item with close attention? Did anything surprise you?

- When you see more detail, does it make you feel more or less of a sense that something is miraculous? Why?

Affirm all responses. Thank the participants for practicing the skill of looking with close attention.

Including All Participants

Encourage use of multiple senses—sound, touch, and smell as well as vision. Especially if the group includes visually impaired people, avoid implying that “observing” can only be accomplished by literally “looking,” “seeing,” etc. Place items and tools for tactile observation directly into a non-sighted person’s hand.

Activity 4: Observational Drawing (15 minutes)

Materials for Activity

- Items and tools for observation, from Activity 3, To Look with Absolute Attention
- Drawing paper and pencils, color pencils, pastels, and crayons
- Optional: Slow- or non-hardening modeling clay
- Optional: Clipboards if table space is limited

Preparation for Activity

- Obtain drawing paper. Artist’s quality, textured paper may be a worthwhile investment to encourage participants to honor their observations in this exercise.
- Prepare open containers of pencils, colored pencils, crayons, or pastels for sharing.

Description of Activity

Explain that participants now have an opportunity to create their own works of art by making an observational drawing of one or more of the natural objects they have been investigating.

Invite participants to choose an object or grouping of objects to draw (or sculpt). Point out the art materials. Explain that while this activity’s goal is to

look with care at the object and draw what one sees, the drawings may look very different from the objects themselves. Affirm that this is absolutely fine! Creating an exact representation of an object does not matter. This is particularly important because children, and many adults, sometimes perceive more “accurate” artwork as better. Such a perception may interfere with participants’ engagement in this activity.

Optional: If you have modeling clay, offer participants the option of sculpting.

After participants have had sufficient time to draw, gather the group together and invite volunteers to share their drawings. Elicit responses to the exercise using questions that suit the age make-up and other attributes of the group:

- How did creating a drawing (or sculpture) help you notice the object more fully?
- Was there any moment when you felt you were truly “looking with absolute attention?”
- What revelations did you have about the object you were drawing? What did you notice about the object you drew, that you had never noticed before?
- Has this experience changed your awareness of everyday miracles?

Including All Participants

Non-sighted people can participate meaningfully by using tactile observation and a textured drawing medium, such as pastel. They (and others in the group) can create three-dimensionally with modeling clay.

Faith In Action: Plant Sale – Share the Miracle (0 minutes)

Materials for Activity

- Seasonal, fruit- or vegetable-bearing potted plants or seedlings to sell

- Tables and chairs; container(s) to hold money; pens/pencils and paper to record sales and/or provide receipts
- Poster board, color markers, and tape
- Information about the organization or cause that will receive funds

Preparation for Activity

Engage the group in the preparation, as well as the culmination, of the plant sale:

- Research an organization or a community effort for which a plant sale can raise funds. Choose a cause that puts your donation to work supporting the miracle of agriculture, life-giving vegetation cultivated for our survival. The [Global Crop Diversity Trust](#) works in many nations giving farmers knowledge and tools to cope with local effects of global warming and climate change. You might also raise money to purchase [Community-Supported Agriculture shares](#) for individuals in your congregation, people in your larger community who are in need, or for a local food pantry.
- Obtain information about the organization to display at the plant sale table.
- Plan a date, time, and place for the plant sale. Publicize through congregational and community media.
- Obtain potted herbs and vegetable seedlings. Ask a local garden shop for a donation or discount. You can increase earnings by starting seedlings yourself weeks ahead of the plant sale. Arrange a time for participants to help transfer small seedlings to individual pots.
- Prepare information about proper care of each item you will sell.
- Designate an adult to be responsible for money.

Description of Activity

Engage the group to honor the miracles of nature's vegetation and human cultivation with a sale of fruit and vegetable plants. Raise money for an organization or a local effort that promotes small-scale, local agricultural farming for sustenance. Consider expanding this project from a one-time fundraiser to a congregational commitment to a community garden plot, participation in a community-supported agriculture co-op, or ongoing support to bring locally raised crops to a local hunger relief organization.

Closing (5 minutes)

Materials for Activity

- Taking It Home
- Optional: Session 1, Handout 1, Say "Yes" to a Miracle
- Optional: Session 1, Handout 2, For the Beauty of the Earth
- Optional: Newsprint, markers, and tape

Preparation for Activity

- Review the two song suggestions (Handouts 1 and 2). Find lyrics for "Say 'Yes' to a Miracle" on Handout 1 and [listen to the song](#) online. "For the Beauty of the Earth" is Hymn 21 in *Singing the Living Tradition*, the Unitarian Universalist hymnbook, and the lyrics are provided on Handout 2.
- Choose one of these, another song, or a unison reading. If you like, invite a musical volunteer to help lead a song.
- Copy handouts to help participants learn the song you have chosen. You may also write song lyrics (or a unison reading) on newsprint, and post.
- Download the Taking It Home section and copy for all participants.

Description of Activity

Gather participants in a circle. Distribute song handouts or indicate lyrics you have posted.

Lead the group in singing “Say ‘Yes’ to a Miracle” or “For the Beauty of the Earth,” or lead another song or reading.

Compose together a spontaneous benediction by having each participant complete the phrase “I will look with absolute attention when I _____.”

Distribute the Taking It Home handout. Explain that the handout has ideas for continuing to engage with today’s topic at home with family and friends.

Ask participants to use close attention and see what miracles are revealed to them before the next Miracles meeting. Remind them you will dedicate time each session for the sharing of miracles.

Collect handouts for re-use, and say goodbye.

Including All Participants

You may wish to teach “Say ‘Yes’ to a Miracle” one phrase at a time before leading the song.

Leader Reflection and Planning

To reflect together after each session, you may wish to use these questions:

- How was our mix of discussion and action?
- How well did the timing of this session work?
- How well did participants understand and engage with spiritual concepts? How can we tell?
- Does the group include youngsters who have trouble focusing? Might they have a special role next time—maybe helping co-leaders?
- Were activities and discussions appropriate for the ages of participants? What could we do differently at the next session?
- Did anything come up today that we might like to discuss with our director of religious education, minister, parents or lay leaders?

Look ahead to the next few sessions and decide how you will share leadership responsibilities, including preparations.

Taking It Home

I think it pisses God off when you walk by the color purple in a field and don't notice it.

— Shug Avery, in Alice Walker's novel *The Color Purple*

The miracles of the church seem to me to rest not so much upon faces or voices or healing power coming suddenly near to us from afar off, but upon our perceptions being made finer, so that for a moment our eyes can see and our ears can hear what is there about us always. — Willa Cather, 20th-century American novelist

IN TODAY'S SESSION... we cultivated our skills for “looking with absolute attention,” a teaching of Unitarian poet and novelist May Sarton (1912-1995). Sarton wrote:

If one looks long enough at almost anything, looks with absolute attention at a flower, a stone, the bark of a tree, grass, snow, a cloud, something like revelation takes place.

Participants discovered how paying close attention to nature’s everyday miracles can bring them in touch with their own capacity for “direct experience of mystery and wonder.”

Participants observed everyday items from nature, then drew or sculpted to attend still more closely and, through artistic expression, bear witness to “the miraculous in the common.”

EXPLORE THE TOPIC TOGETHER. Talk about...

the 13th-century Italian mathematician Leonardo de Pisa, better known as Fibonacci, a contraction of *filii Bonaccio* (son of Bonaccio). He discovered that many life forms and processes in nature—

including the reproductive patterns of rabbits—follow a number sequence first identified by Indian mathematicians: 1, 1, 2, 3, 5, 8, 13... (To continue the sequence, add the last two numbers together to find the next number.) A good place for all ages to explore Fibonacci numbers is the website [Math is Fun](#).

EXTEND THE TOPIC TOGETHER. Examine broccoli, cauliflower, a pineapple, a pinecone and other plants and vegetables in or around your home. See if you can identify a Fibonacci sequence. For example, a stalk of broccoli splits into two, then three, then five, and then eight branches, a pattern that repeats in each broccoli floret cluster. What else do you notice about the item?

Family Adventure. Make a date together to catch a miracle in motion. Get up and get outdoors before sunrise, or find out where and when you can go for a wide view of a sunset. See who can be first to see the sun peek over the horizon, or disappear below it. Share opinions: Which strikes you as more miraculous, the fact of sunrise and sunset, or the moment you witness day begin or end?

A Family Ritual. Observation is a skill that can be honed with practice. Plan several sessions for practicing together. Each time, place a potted plant, a bouquet of cut flowers, or a bowl of fruit on a table and arrange yourselves around it with paper and pencils for each family member. Take five minutes for everyone to observe and draw the still life in front of them, or to list adjectives or phrases to document their observations. Then, compare your observations. Talk about how it is hard or easy, challenging or rewarding to pay such close attention. Share any revelations that come about the items and how they or nature itself are

miraculous, or perhaps about the miracle of our ability to observe, or the miracle of sharing an intentional spiritual time with family.

Alternate Activity 1: Fibonacci Numbers in Nature (10 minutes)

Materials for Activity

- Newsprint, markers, and tape
- A whole pineapple, a pinecone or another object with a natural pattern that reflects the Fibonacci number sequence
- Leader Resource 1, Fibonacci Images
- Optional: Computer, preferably with Internet access and projector

Preparation for Activity

- On a sheet of newsprint, write the number sequence 1, 1, 2, 3, 5, 8, 13, 21, 34, 55...
- Print out Leader Resource 1, Fibonacci Images. You may wish to make a few copies.
- Optional: Obtain additional Fibonacci images from nature, art, and architecture from books and online sources. A Google Images search for “Fibonacci images” will generate at least a dozen; make sure each truly exhibits the Fibonacci number sequence before including it in this activity. Find [Fibonacci-based spiral images](#) from nature, including a photo of a nautilus shell, on the website of the Australian Broadcasting Corporation.
- Optional: Download Leader Resource 1 to your computer, along with other Fibonacci images you can find online. Arrange to use a computer and a monitor or projector to share the images with the group.

Description of Activity

Show a natural object, such as a pinecone or a pineapple, that exhibits a pattern based on the Fibonacci number sequence. Tell the group you will

pass it around and invite each participant to make one observation about the object's apparent design.

Collect the object. Tell the group, in your own words:

In the 13th century, a mathematician named Leonardo di Pisa, later nicknamed Fibonacci, looked at lots of natural objects like this, and observed natural processes such as the number of babies rabbits had. He noticed the frequent appearance of a particular sequence of numbers.

Post the newsprint that shows a Fibonacci sequence. Point out that $1+1=2$, $1+2=3$, $2+3=5$, and $3+5=8$. Invite participants to continue building the sequence.

Pass the object again, and invite observations. See if anyone can identify the number sequence in the object. Explain:

- When you measure length or count seeds/petals in nature's spiraling items, such as pinecones, pineapples, sunflowers, and certain sea shells (e.g., a nautilus), you will find Fibonacci numbers.
- On a stalk of broccoli, a head of cauliflower, and certain trees, if you begin at the stem and track upward, you will see the plant first branches in two, then in three, then in five, then in eight, etc.—the Fibonacci sequence.

Say, in your own words:

Many scientists and theologians believe that much of the natural world can be understood mathematically. Today we will look at the pattern of numbers Fibonacci examined, and see if we think the recurrence of this pattern in the world around us is something miraculous.

Display the images of Fibonacci sequences evidenced in nature, art, and architecture (Leader Resource 1 or your own). Invite participants to comment on the images and discover mathematical and structural patterns. Ask:

- What strikes you as awesome, beautiful, even miraculous, to contemplate?
- Do you think the order of nature is truly a miracle? Maybe some of us find nature's disorder, its apparent randomness, also miraculous?
- Is math itself a miracle?
- If beauty can be explained by a mathematical equation, is it still beautiful? Is beauty a miracle?

Invite participants to name additional, everyday miracles of beauty for which a scientific explanation is known. Prompt, if needed:

- The colors of a sunrise or sunset
- The blossoming of a flower
- The surface tension of water
- A rainbow

Affirm that while an unexplained event may strike us as especially "miraculous," someday even the most awesome events we can imagine in life or nature might have a scientific explanation. Unitarian Universalists believe that the explainable can still be miraculous.

Including All Participants

Adult participants may have comments on their own experiences with Fibonacci numbers. Affirm all contributions. Yet, be mindful that adult sharing that becomes too academic can alienate younger participants. If needed, gently return the conversation to a level that includes everyone.

Alternate Activity 2: Fun with Fibonacci – Art Collage (30 minutes)

Materials for Activity

- Large sheets of paper for all participants
- Fibonacci plants and vegetables, e.g., several stalks of broccoli or cauliflower tree, a pineapple, a pinecone, plant leaves with raised veins, a tree branch with sub-branches, flowers in bloom, a banana (inside the peel, the fruit grows in three parallel sections; three is a Fibonacci number)
- For ink stamping: Paper, and ink pads—as large as possible—in a variety of colors
- For pattern rubbing: Lightweight tracing paper; pastels, chalk or crayons; scissors (including left-handed scissors); and tape and glue sticks to share
- Drawing paper and pencils
- Optional: Painter's tape or push pins to display finished artwork

Preparation for Activity

- Obtain Fibonacci plants and vegetables: broccoli, blossomed flowers, tree leaves, tree branches. You will need enough for four work stations. Designate the more hardy items to be ink-stamped or used as a texture for rubbing on paper. A fragile tree branch or a bouquet of tulips, for example, belongs at the “drawing from observation” station. To avoid food waste, acquire items past their prime.
- Set materials at work tables to create four stations: one for ink-stamping with plants, one for rubbing patterns on paper, one for drawing from observation, and one for assembling a final artwork (provide large sheets of paper, scissors, markers, tape or glue sticks).
- Identify a large tabletop or a wall space to display finished artwork.

Description of Activity

Participants make a hands-on, artistic exploration of patterns in nature using items with Fibonacci properties.

Ask the group how they think Fibonacci discovered so many natural processes follow the same pattern. Affirm that he had to pay close attention to a variety of plants and animals, observe details over time, and open his mind to revelation—the surprises of understanding that can come from paying close attention, making connections, and noticing patterns.

Invite participants to look for patterns as they make artwork with natural items. Tell them all the items you have provided have a Fibonacci pattern. Challenge them to seek patterns of shapes as they work. Allow participants at least 10 minutes to work at one or more stations. With 10 minutes remaining, encourage all participants to gather their artwork onto one large sheet of paper. Invite them to write their name and add any notes, calculations, or drawings to indicate patterns they found. With five minutes remaining, display participants' artwork. Invite volunteers to share any revelations that may have come during this activity.

Including All Participants

Encourage and help a non-sighted participant to observe in a tactile way and make a tactile representation of their observations. As appropriate, invite non-sighted participants to touch as well as hear detailed descriptions of the natural items as well as others' artwork.

Alternate Activity 3: Fives and Eights – The Numbers in Pinecones (15 minutes)

Materials for Activity

- Handout 1, Fibonacci-by-Numbers Pinecone 1

- Handout 2, Fibonacci-by-Numbers Pinecone 2
- Color pencils to share
- Optional: Painter's tape or push pins to display finished artwork

Preparation for Activity

- Copy Handouts 1 and 2 for all participants.
- Identify a large tabletop or wall space to display finished artwork.

Description of Activity

This activity reveals the Fibonacci patterns of 5 and 8 in the pinecone.

On Handout 1 you will notice that the scales that form the pinecone's spiral pattern are numbered 1 through 5. Ask participants to color in all the scales, by number—i.e., color every scale numbered with a 1 in one color, all the scales numbered with a 2 in a different color, etc.) They will see a spiral pattern emerging.

Next, ask participants to color the pinecone on Handout 2, also by numbers (in this case, some scales are numbered with a 1, the rest are numbered with a 2). Coloring will reveal there are eight spiral paths.

Point out that the two colored-in drawings demonstrate that a single pinecone image can be observed different ways. Yet, it's obvious that the Fibonacci numbers are represented.

Alternate Activity 4: Paying Close

Attention Outdoors (40 minutes)

Materials for Activity

- Paper for drawing and writing, clipboards, and pens/pencils for all participants
- Optional: Blankets to sit on and snacks, including water

Preparation for Activity

- Identify an outdoor location where you can walk with the group and spend undisturbed time observing your natural surroundings. Obtain

necessary permission from parents, your director of religious education, and/or the owners of the outdoor location you have chosen. Make sure you have enough adults for appropriate supervision; if needed, invite additional adult volunteers.

- Optional: Prepare snacks and water to bring along.

Description of Activity

Tell participants they will exercise their ability to look with close attention in the outdoors. Explain where you are going, how you will walk there and which adults are responsible for which children (and vice versa). Invite participants to choose a notebook and pen/pencil and put on appropriate outdoorwear. Lead the group outdoors.

At the outdoor location, gather the group. Invite participants to take a few minutes to walk around and find a spot to sit and spend some time in close observation. Ask them to leave space between themselves and others, and refrain from talking. Tell them they may draw or write their observations. Suggest it is perfectly appropriate for written observations to take the form of questions, or if a drawing begins to transform into something quite different from the original object of focus—as long as the expression is part of an effort to pay close attention.

After 10 minutes, re-gather the group. You may like to share about the experience here, or return to the indoor meeting space first. Invite participants to respond to these questions and, if they wish, to share their drawing or writing:

- Was it easy or hard to keep absolute attention on one object in this outdoor setting? Why?

- What did you observe that was surprising about the object of your focus? Did you experience anything you might call “revelation”?
- Where else did your mind go during this exercise?
- What did you learn about the nature of miracles?

Including All Participants

Make sure the route you will take and the location itself are accessible to all participants, co-leaders, and volunteers.

Non-sighted participants can pay close attention to sound, smell, and feel. A co-leader can guide and sit with a non-sighted participant. Ask the participant how they would like to record their observations.

Alternate Activity 5: Observational Writing (20 minutes)

Materials for Activity

- Items and tools for observation from Activity 3, To Look with Absolute Attention
- Writing paper and pencils/pens for all participants
- Optional: Clipboards for all participants

Description of Activity

This activity is designed to follow Activity 3, To Look with Absolute Attention. You might offer it concurrently with Activity 4, Observational Drawing, and give participants a choice of how to express their observations.

As participants complete their close observations (Activity 3), invite them to comment on what they have seen. What details have they noticed?

Explain that they will now have an opportunity to express their observations in words.

Hand out writing paper, pens/pencils (and clipboards, if you are using them). Invite participants to focus on one item or grouping of

items. Suggest they look with care and write adjectives—for younger children, “describing words” —to record what they notice.

Encourage the group to maintain silence as they observe and write for at least five minutes. Then, gather the group together. Invite volunteers to share some of the words they wrote.

Elicit responses to the exercise using questions that suit the age make-up and other attributes of the group:

- How did writing help you notice the object more fully?
- Was there any way writing interfered with your ability to pay close attention?
- Was there a moment when you felt you were truly “looking with absolute attention?”
- What revelations did you have about the object you were drawing? (What did you notice about the object you drew, that you had never noticed before?)
- Has this experience changed your awareness of everyday miracles?

Including All Participants

Non-sighted people can participate by using tactile observation and a textured drawing medium, such as pastel. They—and others in the group—may also like to create three-dimensionally with modeling clay.

Story: May Sarton

There once was an inquisitive, thoughtful girl named May. She was born in Belgium, about 100 years ago. She lived there only a few years until the German invasion in 1914. Fleeing Europe, May Sarton and her family came to live in Cambridge, Massachusetts, where May’s father became a professor.

When she was ten, May's friend Barbara brought her to a Unitarian church. She liked the minister very much. She liked listening to his sermons. One day she heard him say something that would stay with her for the rest of her life: "Go into the inner chamber of your soul—and shut the door." These words would be with her always.

As May grew older, her love of poetry and writing grew. She also loved acting in the theater. Once her poetry was known, she began to tour the country doing poetry readings and lectures all around the country. She traveled to Santa Fe, New Mexico, where she met and fell in love with a woman named Judith.

Judith and May loved one another. With Judith, May felt for the first time what it meant to be home with someone. But May also felt a need to be by herself, too. After the death of her parents she went to be alone to contemplate and write in a house in New Hampshire. And this is why we are talking about her now.

It was there in the solitude of that house that she could do what the Unitarian minister so long ago told her to do. She could go into the inner chamber of her soul. And go she did. Her book, *Journal of Solitude*, which she wrote there begins, "I am here alone for the first time in weeks, to take up my 'real' life again at last...Without the interruptions, nourishing and maddening, this life would become arid. Yet I taste it fully only when I am alone."

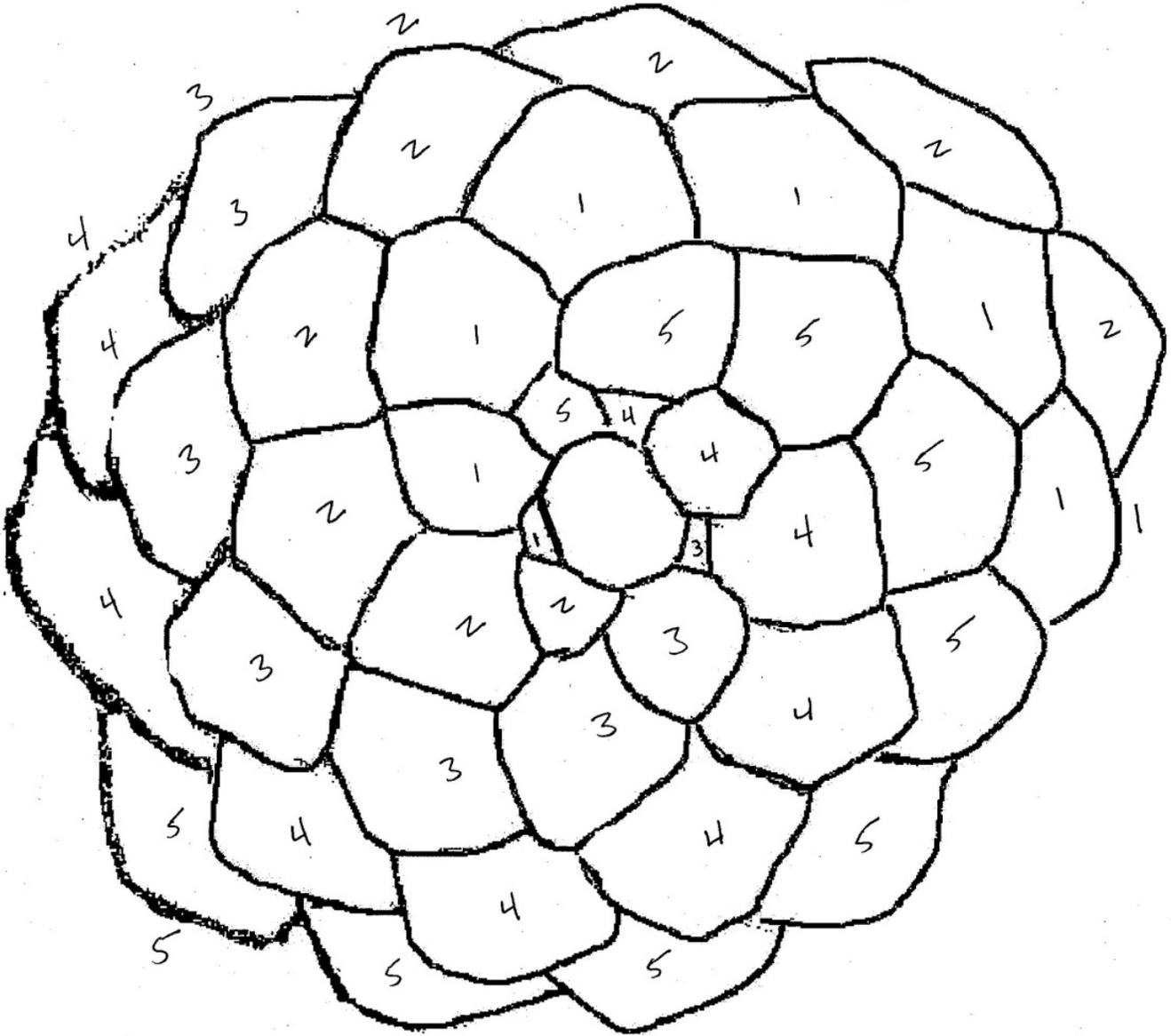
Alone, she was free to look deeply into her life. She explored inside herself. She paid close attention to what she was thinking and feeling. Her quiet noticing brought her to joyful understanding—revelations about herself, her life, and life itself. May wrote, "If one looks long enough at almost anything, looks with absolute attention at a flower, a

stone, the bark of a tree, grass, snow, a cloud, something like revelation takes place." It is these words, in which she directs us to look with absolute attention, that we focus on today. As we look deeply at anything in nature, any part of life, we can see within it a miracle unfolding or the whisper of a miracle already unfolded.

Like May Sarton, by paying close attention, we may find miracles. They are all around us, waiting to be revealed. Will we draw the miracles we see? Write about them, like May Sarton, perhaps to share with others? It may be enough simply to know miracles. Let them feed our awe and wonder at the universe and our place in it.

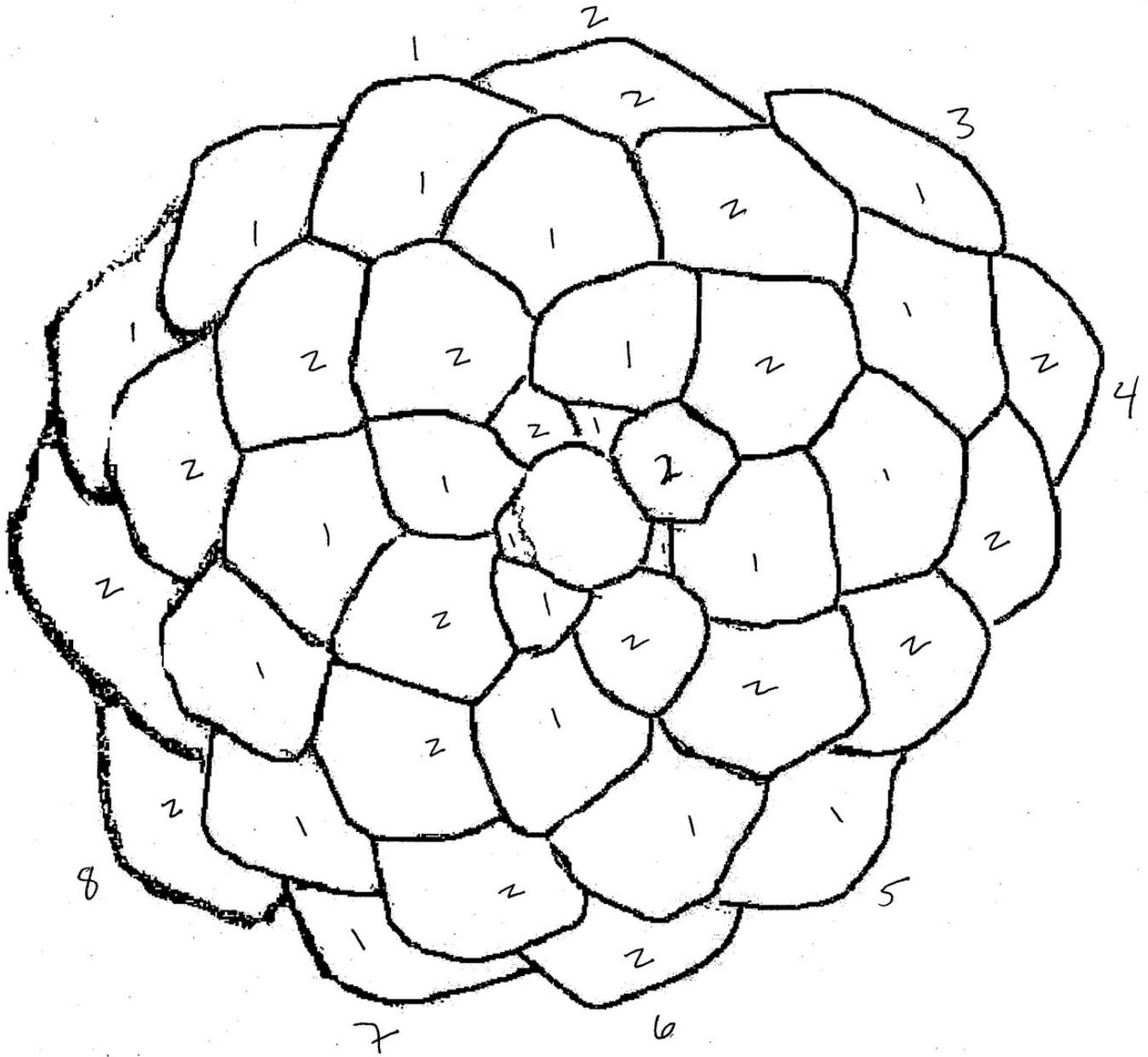
Handout 1: Fibonacci-by-Numbers Pinecone 1

Artwork adapted by permission from Dr. Ron Knott's [Fibonacci webpage](#).



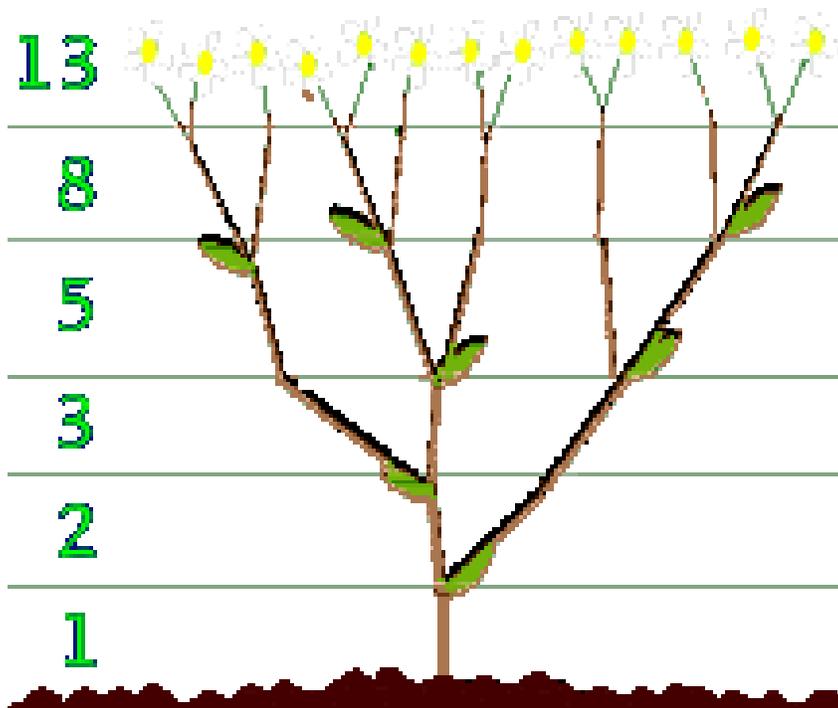
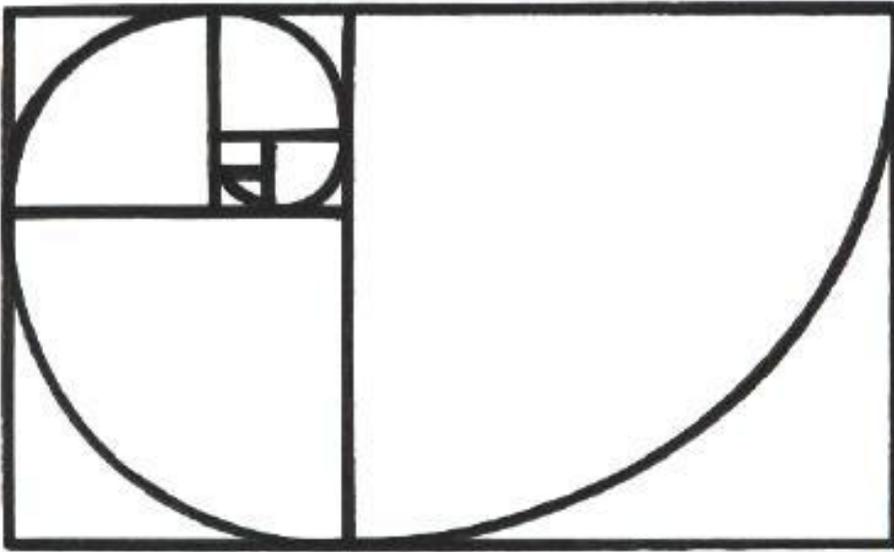
Handout 2: Fibonacci-by-Numbers Pinecone 2

Artwork adapted by permission from Dr. Ron Knott's [Fibonacci webpage](#).



Leader Resource 1: Fibonacci Images

Tree and pinecone illustrations show Fibonacci patterns in nature, courtesy of the [Fractal Foundation](#).



Fibonacci patterns in the number of branches a tree generates with each year of life



©iStock.com/MarcinHaber



Find Out More

May Sarton

Find a [biography of the poet, novelist and memoirist May Sarton](#) in the online Dictionary of Unitarian and Universalist Biography. Sarton was drawn to Unitarianism throughout her life. The DUUB article reads, in part, “(Sarton’s) appeal lay in her ability to ‘sacramentalize the ordinary’ by probing everyday subjects such as flowers, gardens, animals, changing sunlight and personal relationships in order to find deeper, universal truths.”

In *Journal of Solitude* (1973), Sarton writes:

*There is really only one possible prayer:
Give me to do everything I do in the day
with a sense of the sacredness of life.*

Fibonacci Images

On Weed’s website line, see [images of vegetables](#) which exhibit patterns based on the Fibonacci sequence.

Find [Fibonacci-based spiral images](#) from nature, including a photo of a nautilus shell, on the website of the Australian Broadcasting Corporation. The site explains the Fibonacci spiral:

If you construct a series of squares with lengths equal to the Fibonacci numbers (1, 1, 2, 3, 5, etc.) and trace a line through the diagonals of each square, it forms a Fibonacci spiral. Many examples of the Fibonacci spiral can be seen in nature, including in the chambers of a nautilus shell.

SESSION 3: The Miracle of Transformation

Introduction

Everything in nature contains all the power of nature. Everything is made of one hidden stuff. — Ralph Waldo Emerson

Participants do simple science experiments in this session to create and observe transformations of state. Hands-on engagement with visible, physical transformations based on scientifically explainable processes demonstrates a key Unitarian Universalist tenet: reason and awe are not mutually exclusive. This session provides an experiential grounding to help participants understand the metaphor of transformation in later sessions when they look for miraculous transformations not only in nature but inside the individual human spirit and collectively in human communities.

A folk tale from Korea, “The Snake Husband,” highlights the mystery of transformation and prompts discussion about the natural changes all life forms undergo. Participants consider whether and how there is miracle in human birth, life, and death.

Note: The three experiments in Activity 3 require sources of water and electricity, access to a freezer to store ice cubes, and a variety of materials. Plan to set up the experiment stations before participants arrive.

Goals

This session will:

- Cultivate experiences of wonder and awe in playful appreciation
- Engage participants as agents of observable physical transformation through science experiments

- Demonstrate that both human-made and natural transformations can appear miraculous, regardless of whether they are scientifically explainable
- Teach that Unitarian Universalism finds no contradiction between miracles and science.

Learning Objectives

Participants will:

- Practice discernment as to what they believe is a “miracle” as they share their own experiences of “miracle moments”
- Create and observe changes of state (gas, liquid, solid) through a number of experiments
- Identify and consider the variety of transformations—some magical, some natural, and some by human agency—in a folk tale from Korea
- Appreciate the miracle of transformation and life cycles in the natural, physical world
- Optional: Share the miracle of transformation with the congregation by planning and implementing a Transformation Station project.

Session-at-a-Glance

Activity	Minutes
Opening	5
Activity 1: Sharing Miracle Moments	5
Activity 2: Story – The Snake Husband	10
Activity 3: Three “Aha!” Transformations	35
Faith In Action: Transformation Stations for the Congregation	
Closing	5
Alternate Activity 1: Picture Book Story – Seasonal Transformations	10

Spiritual Preparation

Set aside five minutes before the session. Sit comfortably and take three deep breaths to center

yourself. Feel the details of your body—where it touches the chair, walls or ground; how your feet feel on the floor; the sensations of your breathing. What is miraculous about your ability to be alive and present in this way? Take a moment to appreciate the miracle that is you. Now, feel that moment change.

Transformation is constant in life. Physical transformations occur continually, all around us and within us. Some are human-made. Some are visible or tangible. Think about how you recognize physical transformation. When you can touch or see a transformation, is it any less a miracle?

Reflect on this quote from Emerson:

Everything in nature contains all the power of nature. Everything is made of one hidden stuff.

As you guide today's participants to create and consider different kinds of physical transformation, stay in tune with your own sense of what is miraculous.

Opening (5 minutes)

Materials for Activity

- Chalice and LED/battery-operated candle
- Newsprint, markers, and tape

Preparation for Activity

- Write the chalice-lighting words on newsprint, and post.

Description of Activity

Gather participants in a circle around the chalice. Welcome new participants. Welcome back those from previous sessions. Review names as appropriate. Light the chalice, or ask a volunteer to light it. Invite participants to join you in reciting the opening words:

We light this chalice

As we are change, changing.

*We know that we and the whole world
around us*

Are growth and flux and flow,

Always.

Extinguish the chalice.

Including All Participants

To include vision-impaired participants, lead the group through the opening words as a responsive reading, one line at a time, and have the group repeat each line after you.

Activity 1: Sharing Miracle Moments (5 minutes)

Materials for Activity

- Newsprint, markers, and tape
- Newsprint with definition(s) of a miracle generated by the group in Session 1

Preparation for Activity

- Post the group's definition(s) of a miracle the group generated in Session 1 along with any revisions made in subsequent sessions.
- Prepare to share, in a phrase or sentence, a "miracle moment" of your own.

Description of Activity

In Session 1, participants contributed examples of what they think is miraculous and crafted a working definition of "miracle." In subsequent sessions, participants may have amended their definition. Indicate where you have posted this definition. Read it aloud or have a volunteer read it. Invite everyone, whether or not this is their first session, to share a "miracle moment"—a time when they paid attention to something unexpected, awesome, and perhaps unexplained. To set the tone, briefly share a recent miracle moment of your own. You may wish to remind the group:

- Everyone's ideas and experiences of miracles may be different.
- Participants may "pass." Sharing a miracle is not required.

Thank each volunteer for their contribution. Be careful to respond to each contribution with the same level of enthusiasm.

Now reread or ask a volunteer to read the posted definition of a miracle. In light of the miracle moments participants have described, does the definition still capture the group's understanding of miracles? Record their ideas on newsprint and save.

Activity 2: Story – The Snake Husband (10 minutes)

Materials for Activity

- A copy of the story, "The Snake Husband"
- Newsprint, markers, and tape

- Optional: Simple dramatic props

Preparation for Activity

- Read the story “The Snake Husband.” The story is relatively long. Prepare to tell it dramatically, using different voices for the snake’s mother, the three sisters, and the snake, or, even better, plan ahead for volunteers to read and/or act out these roles: Make additional copies of the story and provide these to readers and/or actors ahead of time.
- Post blank newsprint.

Description of Activity

Gather the group. Ask participants if anyone knows what “transformation” means. Affirm that

“transformation” is another way to say “change.”

Say you will share a folk tale from Korea that includes a few different kinds of transformation.

Invite them, as they listen to the story, to notice anything that changes and be ready to share what they noticed when the story is done.

If you have invited volunteers to read parts, gather them alongside you. Suggest simple props if you have brought some. Tell/read/perform the story.

After the story, invite participants to call out transformations, or changes, they noticed. Write them on newsprint. If no one mentions these events in the story, add them yourself:

- The snake turning into a human
- The youngest sister breaking a promise
- The snake leaving his wife (the youngest sister)
- The wife turning into a beggar.

Ask:

- Do you think any of these transformations was a miracle? Why or why not?
- Do any of the transformations have realistic explanations? Does that matter, when deciding whether an event is a miracle?

- Does an event have to be good, or have a good result, to be a miracle?

Activity 3: Three “Aha!”

Transformations (35 minutes)

Materials for Activity

- Leader Resource 1, Transformation Station Instructions
- Timepieces (minutes); one for each Transformation Station
- A chime, bell or other sound-maker
- Paper and pencils for all participants and (optional) clipboards
- Optional: Tablecloths to cover experiment stations

For Changing States of Water station

- Tray to hold experiment materials
- Printed instructions (Leader Resource 1)
- Ice cubes (one bowl full for each group)
- Plates or bowls for melted ice
- Clear, heat-resistant container, such as a Pyrex(R) bowl
- Electric or battery-operated hot pot or tea kettle to heat water
- Optional: Electric frying pan

For Blech station

- Tray to hold experiment materials
- Printed instructions (Leader Resource 1)
- Corn starch (one or two boxes)
- Water
- Shallow trays such as recyclable aluminum pans
- Optional: Small, sealable plastic bags for participants to bring home some blech

For Solubility station

- Tray to hold experiment materials
- Printed instructions (from Leader Resource 1)
- Three clear, heat-resistant glasses for each group
- Ice cubes (a bowl full for each group)
- Liquid food coloring and an eye-dropper

- ☐ Sugar and teaspoons
- ☐ Electric or battery-operated hot pot or tea kettle to heat water
- ☐ Optional: Thermometer

Preparation for Activity

Read instructions for all three stations (Leader Resource 1) and take careful note of the materials lists. Plan where to set up Transformation Stations.

Access to a kitchen is ideal, but experiments can be conducted with optional equipment such as an electric or battery-operated hot pot or tea kettle. All the experiments use water.

Changing States of Water and Solubility both use ice cubes. Plan how to keep ice cubes frozen until each group needs them.

Changing States of Water requires an electrical appliance to generate heat.

For Solubility, each group needs to start with water at three temperatures: hot, room temperature, and ice cold.

Safety is all-important. All stations must have adequate adult supervision.

- Estimate how many participants will be in the session. Decide how to form groups and structure their rotation among the Transformation Stations so every participant can have a role in each of the three experiments. The ideal group size is three to six. (If the group has more than 20, prepare multiple stations for each experiment to keep within the estimated time frame.) Note: Changing States of Water offers the most time for observation. Solubility has the most structure, with more hands-on tasks to engage everyone in a small group.

- Print and cut out the Transformation Station instructions from Leader Resource 1 for each station.
- Arrange adult supervision. Adults could be assigned to each station, or adults could be assigned to each small group to move with them. Tell adults they will read aloud the printed instructions, facilitate turn-taking, assist participants in using appliances, and prompt their group's observations. If you expect to bring the Transformation Stations to the broader congregational community (see Faith in Action), invite your religious educator to join you to become familiar with the requirements and purpose of this activity.
- Prepare the Transformation Stations. Leave room between stations to keep the entire space accessible and the noise level manageable. If possible, keep the stations covered with large cloths or otherwise out of view for the first part of the session.

Description of Activity

Participants transform everyday materials in three simple science experiments, and then discuss their observations.

With the Transformation Stations covered (out of view), gather the group. Introduce the concepts of transformation and changes of state. You might say:

Some transformations happen quickly, right in front of us—like a snake turning into a human in the story. Or, like a sudden rainstorm on a clear, dry day in real life. Some transformations are slow, like an ocean tide going out and coming back in twice a day, a baby growing into a toddler,

or leaves changing color over several autumn months.

Today we will do some experiments with everyday materials and see some real, rapid transformations right here. In science, physical transformations like these are sometimes called “changes of state.”

Explain that the “states” you mean are liquid, solid, and gas. Ask participants for examples of a change of state. Affirm or suggest examples: a melting popsicle; dry flour and solid butter becoming pasty batter when mixed together; a rain puddle evaporating into mist or freezing into ice. But, do not take a long time explaining—save time for everyone to have a hands-on experience.

Say that everyone will have a chance to do three experiments today in which they will create and observe three changes of state. Distribute paper and pencils (and clipboards, if you have them). Form three smaller groups, each with an adult. Indicate the Transformation Stations. Tell the participants their group will have about six minutes to try each experiment, and you will ring the chime (or other sound-maker) when it is time for groups to clean up and move to the next station. Ask the participants to take turns at each station so everyone has both a hands-on role and a chance to sketch or write notes about their observations. Assign each group a station and ring the chime. Watch the time carefully, now and throughout the activity; it is important to leave five minutes for the group to re-gather and process their observations. After about six minutes, ring the chime. Ask the groups to clean up, replace the items on the trays, and move to the next Transformation Station. Allow groups six minutes at their second Transformation Station; then, ring the chime again

and remind groups to clean up and then move to the third station. With about five minutes left, ring the chime again to re-gather the entire group.

Process the Experiments

Invite participants to share their visual, tactile, and other observations, taking the experiments one at a time: Changing States of Water, Blech, and then Solubility. You can lead the sharing in several ways, including those suggested below. Be mindful of how much time you have for sharing and make sure your process invites all ages to share. Articulating and sharing one’s personal observation is part of the learning process for individuals at every age and stage.

- Prompt with questions about how substances felt, looked, smelled both before and after the experiment.
 - Ask participants what they did, saw or felt that surprised them.
 - Ask participants to show their sketches or read aloud their notes.
 - If you have done Session 2, The Miracle of Close Attention, you might invite participants to comment on how they paid close attention.
- Now, focus the group on their understanding of a physical transformation with these questions:
- Did anyone witness an exact moment of transformation? When was it? What was it like?
 - In any of the experiments, was there a time when something was in two states at once? For example, was the water ever liquid and solid at the same moment? How is this possible?
 - What are some words to describe the transformations you saw?
 - Which did you like the most: doing the experiments, finding out scientific explanations,

paying close attention, or drawing and/or writing about what you observed?

- What did it feel like to be the agent of transformation—the person who made everyday materials change into something else? Did you feel you had some power? Did you feel as if you had made a miracle? Why, or why not?

Including All Participants

Adult participants are likely to volunteer comments from their own knowledge or prior experiences.

Children are likely to report quite literally what they observed. Affirm all contributions; yet, be mindful that too much adult explaining can pre-empt a child's experience of discovery. Set a tone that values questions at least as much as answers.

Faith In Action: Transformation Stations for the Congregation (0 minutes)

Materials for Activity

- Materials to replicate experiments in Activity 3
- Poster board, markers, and tape to make signs

Preparation for Activity

- Arrange a time and place to engage the broader congregation in hands-on transformation activities.
- Invite participants and their families to help set up and staff the Transformation Stations. Make sure you have enough adult volunteers to bring materials, set up the stations, lead experiments, and clean up.
- Announce the Transformation Stations via website, newsletter, pulpit, and/or order of service. Here is an example:

Please join participants in the Miracles program at coffee hour today. We invite everyone to try an experiment at one of our

Transformation Stations. Using simple everyday items, you can make change right before your eyes, and possibly observe a miracle.

- Use Activity 3, Three “Aha!” Transformations, to plan how you will set up the stations in the congregational space.
- Make signs for the Transformation Stations, or set out poster board, markers, and tape for participants to do it.

Description of Activity

Participants share their exploration of transformations and the miraculous with the wider congregational community.

Arrange to engage the broader congregation in hands-on exploration of physical transformation and changes of state. The ideal time might be a coffee hour following a worship service, a week after participants have done these experiments themselves.

On the appointed day, gather participants at least one hour before visitors are expected. Tell participants:

By inviting others in the congregation to look with absolute attention, we are opening a window into the faith we share. By demonstrating the changes of state experiments, we are giving others a chance to create and experience a miraculous transformation.

Form teams of participants to help adult volunteers set up one or more Transformation Stations to replicate the Activity 3 experiments and post signs to label the stations. Another sign may show the words of May Sarton:

If one looks with absolute attention...something like revelation takes place.

As congregants observe or conduct experiments, you and participants can invite them to look with absolute attention, and observe the miracle of transformation.

Including All Participants

Make sure all stations are accessible and safe. Make sure all participants who want to have a role in the experiments do have a role. Adult participants may wish to share their scientific knowledge, which is appropriate. Be mindful that too much adult knowledge-sharing may dampen young children's exploration. Uphold the message that Unitarian Universalism honors both reason and awe.

Closing (5 minutes)

Materials for Activity

- Taking It Home
- Optional: Session 1, Handout 1, Say "Yes" to a Miracle
- Optional: Session 1, Handout 2, For the Beauty of the Earth
- Optional: Newsprint, markers, and tape

Preparation for Activity

- Review the two song suggestions. Find lyrics for "Say 'Yes' to a Miracle" on Session 1, Handout 1 and [listen to the song](#) online. "For the Beauty of the Earth" is Hymn 21 in *Singing the Living Tradition*, the Unitarian Universalist hymnbook, and the lyrics are provided on Session 1, Handout 2.
- Choose one of these, another song, or a unison reading. If you like, invite a musical volunteer to help lead a song.
- Copy handouts to help participants learn the song you have chosen. You may also write

song lyrics (or a unison reading) on newsprint, and post.

- Download the Taking It Home section and copy for all participants.

Description of Activity

Gather participants in a circle. Distribute song handouts or indicate lyrics you have posted. Lead the group in singing "Say 'Yes' to a Miracle" or "For the Beauty of the Earth," or lead another song or reading.

Compose together a spontaneous benediction by inviting each participant who wishes to complete the phrase "I am thankful for the miracle of transformation seen in ____."

Distribute the Taking It Home handout. Explain that the handout has ideas for continuing to engage with today's topic at home with family and friends.

Ask participants to use close attention and see what miracles are revealed to them before the next Miracles meeting. Remind them you will dedicate time each session for the sharing of miracles. Collect handouts for re-use, and say goodbye.

Including All Participants

You may wish to teach "Say 'Yes' to a Miracle" one phrase at a time before leading the song.

Leader Reflection and Planning

Co-leaders should reflect together after each session. You may wish to use these questions:

- How was our mix of discussion and action?
- How well did the timing of this session work out?
- How well did participants understand and engage with spiritual concepts? How can we tell?
- Does the group include youngsters who have trouble focusing? Might they have a special role next time—maybe helping co-leaders?

- Were activities and discussions appropriate for the ages of participants? What could we do differently in the next session?
- Did anything come up today that we might like to discuss with the religious educator, minister, congregational leaders, or participants' parents?

Look ahead to the next few sessions. Decide who will lead which activities and who is responsible for preparations, including supplies.

Taking It Home

Everything in nature contains all the power of nature. Everything is made of one hidden stuff. — Ralph Waldo Emerson

IN TODAY'S SESSION... we conducted experiments to create and observe transformations of state—liquid to gas to solid. We talked about the scientific explanations for the transformations we created. We highlighted that our Unitarian Universalists faith allows us to view transformations as both science and miracle at the same time.

EXPLORE THE TOPIC TOGETHER. Talk about... the physical transformations occurring in your family all the time. If you have a height chart or a photo collection that spans a few years, look at it together. Identify the slow transformations related to growth and aging. Talk about whether you believe growth and aging are miraculous. Why, or why not?

EXTEND THE TOPIC TOGETHER. Go out and see—or learn how to do—some sleight-of-hand magic. Focus on the tricks that involve transformations such as objects or live animals seeming to appear or disappear. Who enjoys the mystery of a clever magic trick? Who feels eager to know how the magic trick is done? What, if anything, do family members think a magic trick

and a miracle have in common? Why are they not the same?

Family Discovery. Place an ice cube on a plate, set it on a table and simply watch it melt. How long does it take? Does the melting ice cube strike you as miraculous? If it melted more quickly, or instantly, would you feel more awe? Does understanding why the ice turns into water completely prevent a feeling of miracle?

Family Adventure. Obtain a copy of *The Everything Kids' Easy Science Experiments Book* by J. Elizabeth Mills, or another book of easy science experiments, either online or from a bookstore or library.

Read together *The Fall of Freddie the Leaf: The Story of Life for All Ages* by Leo Buscaglia.

Alternate Activity 1: Picture Book Story – Seasonal Transformations (10 minutes)

Materials for Activity

- The picture book *The Fall of Freddie the Leaf* by Leo Buscaglia (Slack Incorporated, 1982)
- Be ready to process feelings or questions that may surface, particularly if you are aware that a participant has recently experienced a loved one's death, a life-threatening illness, or another serious loss
- Optional: A different picture book about seasonal change, such as *Fletcher and the Falling Leaves* by Julia Rawlinson, illustrated by Tiphonie Beeke (Greenwillow Books, 2006); or *Leaves* by David Ezra Stein (Putnam, 2007)

Preparation for Activity

- Obtain *The Fall of Freddie the Leaf* from your local library or another source. Or, choose another picture book about seasonal transformation, perhaps a more upbeat one. In *Fletcher and the Falling Leaves* by Julia

Rawlinson, Fletcher is a young fox concerned about his best friend, a tree, as autumn comes. Ultimately, Fletcher experiences the awesomeness of the season's change. In *Leaves*, by David Ezra Stein, a very young bear is upset by autumn's transformations, then uses fallen leaves as a bed to hibernate. In spring, the bear awakens and greets the new leaves.

- Read the story and prepare to read it aloud to the group. If you are using a book other than *The Fall of Freddie the Leaf*, adapt the questions provided.

Description of Activity

The Fall of Freddie the Leaf is told from the perspective of a young leaf experiencing the transformation autumn brings. Appropriate for a wide age range of children to engage on their own levels, this picture book presents a natural, seasonal life cycle change, softly making the point that life is all about transformation; death is inherent in life.

Gather the group to sit comfortably for a picture-book story.

After reading the story, lead a discussion.

Encourage participants to share their observations about natural life-cycle transformations. Engage very young children to talk about the seasonal changes that occur in your geographical region.

You might invite older participants to talk about the cycle of birth, life and death of all living things, including humans.

Draw themes from *The Fall of Freddie the Leaf* with these questions:

- What caused Freddie and his friends to change?

- What was it like as he noticed his own transformation? Was Freddie afraid, excited, both, some other feeling?
- Have you experienced any transformations like Freddie? How do you feel about transformations that are natural, ones you know are coming?
- What do you think has become of Freddie? Is there still a Freddie? Has he turned into something that is still Freddie—yet different?

Including All Participants

There are many picture-book stories about seasonal transformation. Choose one that strikes the right level of depth for your group.

The Fall of Freddie the Leaf uses the fall of a leaf in autumn to illustrate, metaphorically, that death is a natural transformation. If any participants have recently experienced a loved one's death, a life-threatening illness, or another serious loss, anticipate feelings or questions and be ready to process them. Avoid describing the natural transformation of death as "a miracle." You may decide to use another book.

Story: The Snake Husband

This Korean folk tale, translated by Heinz Insu Fenkl, is similar to the European folk tale "The Frog Prince." Used with the translator's permission.

Once there was a woman who had a son late in life, and much to her surprise, he was born as a snake. She covered him with the bamboo hat she wore to work out in the fields, but rumors spread quickly. There were three sisters in the same village, and when they heard that the old woman had had a baby, the oldest went for a visit and asked to see it. "Grandma, grandma," she said, "they say you had a baby, but where did you hide it?"

“Go over to that corner and lift up the bamboo hat,” said the old woman.

So the girl went and lifted the hat and saw a snake under it flicking its tongue. “Grandma,” she said, “How can you say you had a baby? This is a snake!” And she ran away.

Now the second daughter came to see the old woman's baby. “They say you had a baby, but where did you hide him?” she asked. The old woman told her to go over to the corner and lift up the bamboo hat. The girl saw the snake and was frightened away just like her sister.

Finally, the youngest daughter came and said, “Grandma, grandma, they say you had a baby, but where is it?”

“Go over to that corner and lift up the bamboo hat,” said the old woman.

So she went and lifted up the bamboo hat, and the youngest daughter said, “Oh, grandma, you've given birth to a fine gentleman snake.”

From that day on, the snake took a liking to the youngest sister, but when he was grown and of an age to be married, his parents asked the oldest sister, as was the custom, to marry him. She replied, “Even if it means I will never get married, I refuse to marry a snake!”

So they went and asked the second sister, and she also refused in disgust. Finally, when they asked the youngest, she said, “You'll have to get my mother's permission since I cannot agree to it myself.”

When they had permission from the girl's mother, their son the snake came out and said, “Mother, mother, fetch me some water. Warm it up and add a cup of flour.” When she had heated the water, the snake took a bath, covered himself with the flour, and put on his clothes. Suddenly he was

transformed into a handsome young man all dressed up to be a bridegroom.

And so he got married.

During the wedding ceremony he told his bride to put his cast-off snake skin inside the collar of her wedding dress and wear it there. She was never to let anyone touch it. She did as he asked, and he was a perfectly proper husband after they were married.

Now the other daughters were jealous of their sister, and when her husband had gone away to Seoul to take the *kwago*, the government examinations, they came for a visit. The youngest sister saw that they were carrying something suspicious. She hid behind the locked gate, but when she finally went out into the courtyard, they saw her and said, “Little sister, we brought you something tasty to eat.” They asked her to open the gate, but she would not. The oldest sister said she was carrying a pot of black bean soup and her hands were getting burned. “Hurry up and open the gate!” she demanded, and the youngest had no choice but to let them in.

Her sisters said they wanted to groom her head for lice. The youngest tried not to let them pick through her hair, but they were so insistent that, once again, she had no choice. And then, before she knew it, they had taken the snake skin from her collar and thrown it into the fire. In an instant it was consumed in the flame.

When it came time for the husband to return from Seoul, he did not come, for he sensed that his wife had lost his molted snake skin. And so the young wife set off on a long journey in search of her husband. Though her clothes were tattered and her face was smudged and dirty. She traveled near and far, making inquiries: where people were planting

crops she stayed and helped with the planting, where they were doing laundry at the river bank, she stayed and helped pound their clothes against the rocks; and if they were making winter preserves she stayed to help with the pickling. And so, by and by, she slowly made her way to Seoul.

When the wife finally reached the capital, she went to a straw-roofed house to beg for alms and she was given some money and some millet. She tried to take the millet in a sack, but the grain poured out through a hole in the bottom. The young wife started picking up the spilt millet with chopsticks, one grain at a time. She was still picking up the millet grains when the sun went down.

"Please let me sleep here for the night," she asked. "There's no place here for you to sleep," said the owners of the house. But she pleaded and pleaded and they finally allowed her to sleep in the cow shed.

Though she did not know it, the young wife had come to the very house where her husband was staying. That night the moon was full, and the wife was unable to sleep. She sang this sad song.

*O moon so bright, o moon so bright
Is my husband in your sight?
Though I, myself, have eyes to see,
I cannot see where he may be.*

The husband was still up poring over his books, and he heard the plaintive song. He paused his studying. "I've heard that voice somewhere before," he said, but thinking that his ears must be deceiving him, he went back to his reading. But then he heard the song again, and once again, with sadness in his heart, he endured the melody, but when he heard it for the third time, he sent his personal servant outside to find out who was singing.

The servant went out into the courtyard and saw the sad creature singing in the moonlight. He went back to the husband and explained who she was. "She's just a beggar," he said. "We gave her a handout during the day. She lingered here picking up millet with chopsticks, and when the sun went down she asked for a place to sleep, so we said she could sleep in the cow shed. She's the one singing that pathetic song."

The husband went outside to see for himself. He pretended not to notice her, and the wife sang the sad song once again.

"You!" said the husband, "Who are you? Show yourself."

The wife was too embarrassed to show herself, looking like a common beggar. She sang the song again.

*O moon so bright, o moon so bright
Is my husband in your sight?
Though I, myself, have eyes to see,
I cannot see where he may be.*

She sang the song again and again.

"You! Old woman! Where are you from?" said the husband.

Finally, the wife told her long tale of woe, describing how her sisters had tricked her, how she had endured great hardships on her way to Seoul.

"Since you did not return, I traveled far and wide looking for you, and I have finally found you here," she said.

"Now I understand what has happened," said the husband. They were together again at last. He dressed his wife in clean new clothes. They say he passed the civil examinations and the two of them lived happily.

Leader Resource 1: Transformation

Station Instructions Changing States of Water Experiment

In this experiment, you will change the state of water.

1. Look closely at ice. Look inside it. Draw a picture of any lines or shapes you see in the ice.
2. Next, observe the ice melting. What can you do to make it melt quickly? It is fine to touch the ice, or, try something else. Experiment. What seems to make it melt? Why?
3. Now, with adult help, heat the ice. Watch carefully as ice changes to water and then to vapor. Draw the transformation you have seen.
4. When you are done, place your used materials back on the tray.

Bleach Experiment

Welcome to the Bleach Experiment. You are going to make some Bleach.

1. Explore the cornstarch. Notice how it looks, feels, and smells. By the way, cornstarch is actually something made out of corn, transformed.
2. Add water. When you combine the cornstarch with the water, what happens? Is it a liquid? Is it solid? Explore!
3. When you are done, pack your Bleach in a plastic bag, seal the bag, and put the used materials back on the tray.

Solubility Experiment

What does it mean when something dissolves? It merges with a liquid. If it's not already a liquid, by the time it dissolves it is transformed to liquid.

Not everything can dissolve. A rock cannot. Do you know some things that can? What about adding sugar to lemonade, or chocolate powder to milk? Let's do some dissolving.

1. Do you think cold water or hot water works better for dissolving? Fill the three clear glasses with water. Use icy cold water in one glass, room temperature water in another glass, and very hot water in the third. Have an adult help with the hot water. If you have a thermometer, take the temperature of the water in each glass. Write the temperatures down.
2. Drop one drop of food coloring into each jar. What happens?
3. Now rinse out the clear glasses. Refill them with water: icy cold in one, room temperature in another, and very hot water in the third. Take the temperatures again, if you have a thermometer.
4. Drop a teaspoon of sugar into each glass. Watch how the sugar dissolves.
5. Is the sugar taking an extra long time to dissolve, in any of the glasses? Stir it, and see what happens now. Do you think stirring makes the water colder, hotter or neither?
5. When you are done, rinse out the glasses for the next group. Place the materials back on the tray.

Find Out More

Seasonal Transformations around the United States

In northern States, especially in New England, the mid-Atlantic and the Midwest, autumn landscapes stunningly illustrate transformation in the natural world. Learn about seasonal transformations in other regions of the United States online.

Snake Husbands and Frog Princes

The story “The Snake Husband” from Korea has elements in common with the frog prince tales found throughout Europe and parts of Asia. Find a [collection of frog prince folk tales](#) gathered by D.L. Ashliman on a website of the University of Pittsburgh.

SESSION 4: It's All in the Timing Introduction

It may be said with a degree of assurance that not everything that meets the eye is as it appears. — Rod Serling

I have always been delighted at the prospect of a new day, a fresh try, one more start, with perhaps a bit of magic waiting somewhere behind the morning. — Joseph Priestley, chemist, minister, Unitarian

As Unitarian Universalists affirm the compatibility of religion and science today, our religious forebears celebrated both faith and reason. Joseph Priestley, 18th-century chemist and Unitarian minister, believed that it was deeply religious to seek the truth, both natural and spiritual. In Unitarian Universalism, critical questioning can be a religious experience; we support one another to search for personal truths and come to our own conclusions. This session looks at Priestley, known for serendipitous scientific discoveries, because sometimes a miracle appears while we are searching for something else.

Goals

This session will:

- Encourage exploration of the natural world
- Explore the miraculous nature of scientific discovery
- Engage participants in experiments inspired by Priestley's work
- Cultivate wonder and awe in playful appreciation.

Learning Objectives

Participants will:

- Share miracle moments

- Practice curiosity and questioning as spiritual values, through engaging in simple scientific experiments
- Consider the concept of "serendipity"
- Learn about Unitarian Universalist heritage and history through a story about Joseph Priestley.

Session-at-a-Glance

Activity	Minutes
Opening	5
Activity 1: Sharing Miracle Moments	5
Activity 2: Serendipity	7
Activity 3: Story – Joseph Priestley	10
Activity 4: It's in the Air! Preparing to See Priestley's Experiments	3
Activity 5: Inflated Balloon Experiment	7
Activity 6: Heavier-than-Air Experiment	8
Activity 7: Extinguished Flame Experiment	5
Activity 8: Reflection on Experiments	5
Faith In Action: Plant a Tree	
Closing	5
Alternative Activity 1: Raisin Lava Lamp	7

Spiritual Preparation

Set aside five minutes to prepare spiritually for leading the session. Center and focus on miracles, in particular the miracle of serendipity—when one accidentally stumbles on something fortunate, *especially* while looking for something entirely unrelated.

Find a comfortable position and take three deep breaths. Feel the details of your body—where it is touching the chair, how your feet feel on the floor and the sensations of your breathing.

Take a few moments to notice what is happening right now. What do you hear? What kinds of sensations do you feel? Think about miracles.

Consider miracles that involve timing that could be coincidental or moments of serendipity. When have been times you felt yourself somewhat magically in the flow of life? Think of a time when a frustration evaporated, when parking spaces opened, when you made it just in time, when you said perfect words at the perfect time, or someone said the perfect words to you.

These are moments of serendipity. Sink into these memories. Fill yourself with the feeling of connectedness, of life opening to you, of it unfolding. Reflect on these words from Joseph Priestley: "I have always been delighted at the prospect of a new day, a fresh try, one more start, with perhaps a bit of magic waiting somewhere behind the morning."

Opening (5 minutes)

Materials for Activity

- Chalice and LED/battery-operated candle
- Newsprint, markers, and tape

Preparation for Activity

- Write the opening words on newsprint, and post.

Description of Activity

Gather participants in a circle. Welcome new participants and welcome back participants from the previous session. Review names as appropriate. Invite participants to join you in saying the opening words:

As we light this chalice

We look with new eyes

To the science of the flame

The heat, the light,

The gasses released.

Churning and burning

Here before us

We light a miracle.

Amen.

Activity 1: Sharing Miracle Moments (5 minutes)

Materials for Activity

- Newsprint, markers, and tape
- Sheets of newsprint with definition(s) of a miracle generated by the group.

Preparation for Activity

- Post the definition(s) of a miracle that the group has generated.
- Prepare to share, in a phrase or sentence, a “miracle moment” of your own.

Description of Activity

In Session 1, participants contributed examples of what they think is miraculous and crafted a working

definition of “miracle.” Indicate where you have posted their definition. Read it aloud or have a volunteer read it.

Invite everyone, whether or not they were present for Session 1, to share a “miracle moment”—a time when they noticed something unexpected, awesome, and perhaps unexplained. To set the tone, share a recent miracle moment of your own. You may wish to remind the group:

- Everyone’s ideas and experiences of miracles may be different.
- Participants may “pass.” They are not required to share a miracle.

In light of the miracle moments participants have shared, does the definition still capture the group’s understanding of miracles? Invite participants to rework the definition. Record their ideas on the newsprint and save it.

Activity 2: Serendipity (7 minutes)

Materials for Activity

- Newsprint, markers, and tape

Preparation for Activity

- Post blank newsprint.

Description of Activity

Miracles and science are not incompatible.

Sometimes the unexplained is simply the unexplored. Many expeditions taken in the name of science have ended some very unexpected results. Explore the concept of serendipity with participants, of being in the right place at the right time, of accidentally stumbling on something fortunate, *especially* while looking for something entirely unrelated. Share an example or two from this list:

- The first European to see the coast of North America was reputedly an Icelander, Bjarni Herjolfsson, who was blown off course by a

storm in the year 985 or 986 CE while trying to reach Greenland.

- The Slinky was invented by US Navy engineer Richard T. James after he accidentally knocked a torsion spring off his worktable and observed its unique motion.
- Chocolate chip cookies were invented by Ruth Wakefield when she attempted to make chocolate drop cookies. She did not have the required chocolate so she broke up a candy bar and placed the chunks into the cookie mix. These chunks later became the candy we now know as chocolate chips.
- Pluto's moon, Charon, was discovered by US astronomer James Christy in 1978. He was going to discard what he thought was a defective photographic plate of Pluto, but his Star Scan machine broke down. While it was being repaired, he had time to study the plate again and discovered others in the archives with the same "defect" (a bulge in the planet's image, which was actually a large moon).

Write the word "serendipity" on newsprint. Ask participants for ideas about or definitions of the word. Use it in a sentence, such as: "Just as the funeral ended, the serendipitous appearance of a rainbow soothed the sad family." Invite them to share examples from their own experiences. Say that you will share a story about another serendipitous discovery.

Activity 3: Story – Joseph Priestley (10 minutes)

Materials for Activity

- A copy of the story, "Joseph Priestley"

Preparation for Activity

- Read the story and plan how you will tell it to the group.

Description of Activity

This activity explores the serendipitous events leading to the discovery of carbon dioxide.

Introduce Joseph Priestley as a famous Unitarian minister who was also a scientist. Both roles demand close attention and reflection on observations.

This story addresses his process of discovery.

Read the story. Then, invite reactions with these questions:

- What are your thoughts about serendipity in the story?
- What most interests you about Joseph Priestley?
- Have you ever experienced a process of discovery like Priestley's?
- Do you think that Priestley's work as a scientist and his work as a minister go together? Why or why not?

Activity 4: It's in the Air! Preparing to See Priestley's Experiments (3 minutes)

Materials for Activity

- Large note cards and markers (for Station Model)
- Trays for experiment materials

Preparation for Activity

- Review experiments (Activities 5, 6, and 7).
- Decide whether you will use the Station Model or have the whole group do the experiments together, in sequence.
- Prepare experiments.

Description of Activity

In Activities 5 through 7, participants explore Joseph Priestley's discoveries through scientific experiments inspired by his work.

There are two ways to structure the experience:

1. The Station Model. The three experiments can be done concurrently as three science stations around the room. This set-up will work particularly well for wide age span groupings.

2. Alternatively, the activities can be done in sequence with the whole group engaging together in one, two, or three of the experiments.

The Station Model

- If you choose the Station Model, have enough material for all participants to have hands-on experiences and have adult supervision at every station.
- If you are using three stations, divide participants into three groups. At least one adult is needed in each group, as Activity 7 requires lit matches and flames.
- Assign one group to each of the three stations. Allow about five minutes at each station, then direct groups to put the materials they have used back on their tray before rotating to the next station.
- Provide printed directions for conducting the experiment at each station.

Introduce the activities by explaining that participants will now have a chance to try out some of Priestley's experiments. You might remind them that his process was a combination of trying things out, paying close attention, reflecting on observations, and experiencing some serendipity. Priestley discovered carbon dioxide, invented the process to create carbonated beverages such as soda, and identified the process of plant photosynthesis. Priestley did all this by watching inquisitively; he noticed the transformation and tried to identify causation. Invite participants to do the same as they replicate some of Priestley's processes.

Activity 5: Inflated Balloon

Experiment (7 minutes)

Materials for Activity

- Tray to hold experiment materials
- One- or two-liter bottles, one bottle for each group
- Balloons that will fit over tops of the bottles, one per group
- Vinegar
- Baking soda
- Two 1/4 cup measuring cups
- Funnel (can be made from a sheet of paper) or eyedropper
- Optional: Two additional trays for materials, if using Station Model
- Optional: Written instructions, if using Station Model

Preparation for Activity

- Gather materials.
- Review directions.
- Prepare tray(s) with materials for experiment.
- Optional: If participants will rotate from experiment station to experiment station in groups (Station Model), print or write the instructions for this experiment and set at this station.

Description of Activity

Give these instructions while a co-leader or volunteer performs this experiment:

In this experiment, carbon dioxide blows up a balloon. Gather a small jar or container, a balloon, 1/4 cup of baking soda, an eyedropper or funnel, and 1/4 cup of vinegar. Pour the baking soda carefully into the bottom of the container. Next, use a funnel or eyedropper to pour the vinegar into the balloon. Carefully making sure the vinegar stays in the balloon, fit the end of the balloon tightly over the jar. Now, for the

miracle—cautiously, tip the balloon up so the vinegar and baking soda mix, and watch what happens to the balloon!

Note: The procedure for this experiment is relatively simple, but the trick is to make sure the balloon fully covers the jar opening so that the carbon dioxide is trapped when it is created.

What did Priestley realize from this experiment? Chemical opposites react in this experiment: An acid (vinegar) reacts with a base (baking soda) and creates several byproducts. One of the byproducts is the gas, carbon dioxide. Carbon dioxide is heavier than oxygen, so it sinks to the bottom of the bottle, forcing the oxygen-rich air up and into the balloon and causing the balloon to expand.

Activity 6: Heavier-than-Air

Experiment (8 minutes)

Materials for Activity

- Tray to hold experiment materials
- Wide-top glass jar or large clear plastic cups, one per participant or work group
- Baking soda
- Vinegar
- Two 1/4 cup measuring cups
- Children's bubble soap with wand, enough for participants to share
- Optional: Two additional trays for materials, if using Station Model
- Optional: Written instructions, if using Station Model

Preparation for Activity

- Gather materials.
- Review directions.
- Prepare trays with materials for experiment.

- Optional: If participants will rotate from experiment to experiment in groups (Station Model), print or write the instructions for this experiment and set at this station.

Description of Activity

Give these instructions while a co-leader or volunteer performs this experiment:

This experiment, inspired by Joseph Priestley's work, demonstrates that carbon dioxide is heavier than air.

Put 1/2 cup of vinegar in the bottom of a clear, plastic cup. Next, use the bubble wand, and the bubble solution to gently blow some bubbles into the cup, observe what happens. Measure 1/4 cup of baking soda; ready the bubbles and bubble wand. Pour the baking soda into the cup of vinegar and then quickly and gently blow a few bubbles into the cup. What happens to the bubbles now?

What did Priestley realize from this experiment? In an empty container, or on top of water, bubbles will sink because the air within them is the same density as the air that surrounds them. In a container with carbon dioxide, the bubbles will "float" because the denser carbon dioxide sinks to the bottom of the container and pushes the oxygen-rich air and air bubbles up and out.

Activity 7: Extinguished Flame

Experiment (5 minutes)

Materials for Activity

- Tray to hold materials
- A tall, transparent glass
- Candles, a flat (not walled) candleholder such as a plate, and matches or a lighter (three sets of candle, candleholder, and matches, if using Station Model)

- Vinegar, and a 1/4 cup measuring scoop
- Baking soda, and a tablespoon for measuring
- A tablespoon and a 1/4 cup scoop, for measuring
- Optional: Written instructions, if using Station Model

Preparation for Activity

- Gather materials.
- Review directions.
- Prepare tray with materials for experiment.
- If participants will rotate from experiment to experiment in groups (Station Model), print or write the instructions for this experiment and set at this station.

Description of Activity

This experiment requires adult supervision. It demonstrates that carbon dioxide, discovered by Priestley, snuffs the flame.

Give these instructions:

An adult lights the candle and sets it aside. Pour about 1/4 cup of vinegar into a tall glass. Measure a tablespoon of baking soda, and add it to the vinegar. It will react with bubbles. Wait for the bubbles to calm down. The glass will have a layer of liquid at the bottom and a layer of gas on top. Very slowly and carefully, without pouring the liquid, pour just the gas from the glass over the candle. What did Priestley realize in this experiment? Fire requires oxygen in order to burn. When the chemical reaction of baking soda with vinegar produces carbon dioxide (which is heavier than air), the air (oxygen-rich) leaves the glass. The candle, overwhelmed by the carbon dioxide, can no longer burn.

Activity 8: Reflection on Experiments (5 minutes)

Materials for Activity

- Newsprint, markers, and tape

Description of Activity

At the conclusion of the rotation, bring the group back together and prompt for their reflections on the experiments. Ask them to describe the transformations they observed. Ask if any of the transformations seemed miraculous. If we did not know what air is made of—that is, if we had no understanding of oxygen or carbon dioxide—would the transformations seem miraculous? How do you think people explained the effects of various gases before those gases were known?

Point out the simplicity of the experiments and the complexity of the concepts that explain them.

Remind them of the serendipitous nature of Joseph Priestley's discoveries about carbon dioxide. Affirm that open-minded inquiry and close attention can lead to discovery. Miracles are more than cause and effect; they can be about our ability to notice carefully what is happening.

Invite final reflections on the activities, ideas, and images of the experiments.

Faith In Action: Plant a Tree (0 minutes)

Materials for Activity

- Computer with Internet access

Description of Activity

Trees are the longest living organisms on earth and supply us with the oxygen we need to live. One acre of trees can eliminate the carbon dioxide that 87,000 miles worth of driving can produce.

There are many, many ways to plant, or support planting, new trees. For example:

You can buy a tree from [The Arbor Day Foundation](#), support the One Dollar, One Tree campaign of [One Tree Planted](#), or donate to the

The Nature Conservancy's [Plant a Billion Trees campaign](#).

Engaging the entire congregation in the fundraising for one tree, or the One Dollar, One Tree movement can be as simple as a one-time collection, or a several weeks-long campaign. Provide information before fundraising on the importance of trees and celebrate your successful campaign afterwards.

Closing (5 minutes)

Materials for Activity

- Taking It Home
- Optional: Session 1, Handout 1, Say “Yes” to a Miracle
- Optional: Session 1, Handout 2, For the Beauty of the Earth
- Optional: Newsprint, markers, and tape

Preparation for Activity

- Review the song suggestions. Find lyrics and melody notes for “Say ‘Yes’ to a Miracle” on Session 1, Handout 1 and [listen to the song](#) online. “For the Beauty of the Earth” is Hymn 21 in *Singing the Living Tradition*, the Unitarian Universalist hymnbook, and the lyrics are provided on Session 1, Handout 2.
- Choose one of these or another song or unison reading you prefer. If you like, invite a musical volunteer to help lead a song. You may wish to help the group learn two or three closing songs/readings and alternate among these over the course of the program.
- Prepare song sheets for participants to help them learn the song you have chosen. You may also write song lyrics (or a unison reading) on newsprint, and post.
- Download the Taking It Home section and copy for all participants.

Description of Activity

Gather participants in a circle. Distribute handouts or indicate lyrics on newsprint.

Lead participants in singing the song you have chosen.

Close by inviting participants to complete the sentence that begins: “This week, I will pay close attention to _____.”

Distribute the Taking It Home handout. Collect song or reading handouts for re-use.

Ask participants to identify miracle moments between today and the next Miracles session.

Including All Participants

Teaching a song one phrase at a time helps all learners.

Leader Reflection and Planning

We have continued this week with our exploration of miracles, and the scientific progress that they drive. Reflect on the themes of this session: the role of serendipity in discoveries both scientific and spiritual, and the Humanist Unitarian Universalist Source which counsels us to heed the guidance of reason and the results of science in the world around us. Share your own reflections on the activities, ideas, and images of this session.

Taking It Home

It may be said with a degree of assurance that not everything that meets the eye is as it appears. — Rod Serling

I have always been delighted at the prospect of a new day, a fresh try, one more start, with perhaps a bit of magic waiting somewhere behind the morning. — Joseph Priestley, chemist, minister, Unitarian

IN TODAY'S SESSION... we explored the compatibility in Unitarian Universalism of faith, reason, religion, and science. Eighteenth-century

Unitarian minister and chemist, Joseph Priestley, who is known for serendipitous scientific discoveries, believed it was deeply religious to search out the truth, both natural and spiritual.

Unitarian Universalism embraces critical questioning as a religious experience and encourages us to search for personal truths, and come to our own conclusions.

EXPLORE THE TOPIC TOGETHER: Talk about...

Is it hard for a person to be both religious and scientific? Why, or why not?

What are some serendipitous things that have happened to you or your family? Did they all have good outcomes? Do you believe they happened for a reason? Can that reason be scientifically explained?

EXTEND THE TOPIC TOGETHER: Try... being more aware of the coincidences that happen around you, and the outcome of the experience.

Share with family members when something seemingly serendipitous happens to you, and try to identify the impact of the event.

Family Discovery. Do you keep carbonated water or soda in the house? What happens if a bottle of it stays open, or gets opened a number of times?

Find out together why soda goes flat.

Alternate Activity 1: Raisin Lava

Lamp (7 minutes)

Materials for Activity

- Clear carbonated water or soda
- Tall clear glass
- Small raisins

Description of Activity

Gather participants around the tall glass so all can see. Fill the glass with the carbonated liquid, and then gently add a few raisins. Watch as the bob up and down in the water. See if participants can

reason why they seemingly “float” to the top, and then drop back down to the bottom.

Story: Joseph Priestley

As a child, Joseph Priestley noticed something that would influence the rest of his life: If you keep a bug in a jar for too long, it will die.

At the time Joseph Priestley didn't understand why that was true—nobody did. No one really studied the air; it was something everyone took for granted. After all, air is invisible. Why would you study nothingness, when there was so much to explore in the world that you *could* see?

As an adult, Joseph Priestley resumed his childhood experiments in his basement utility sink. He would time how long it took certain things to die if they were trapped under glass. He learned that nothing survived in that closed environment for very long. He also tried to burn candles in the limited atmosphere, and found that they would extinguish themselves in moments, seeming to burn up whatever kept them going.

One day, Joseph Priestley turned his eye on a new living thing. In mid-May of 1771, he popped a little mint plant under the glass, and waited to see how long it would take to run out of "air." Joseph Priestley thought it would take days, or maybe even a few weeks for the plant to die, because it wouldn't need very much air, but in late June, although the plant had shriveled a little, it was not dead, in fact it was growing upward still!

This was very puzzling for Joseph Priestley. How had the plant survived? He turned again to his experiments. A candle was placed in the jar with the plant. It would burn, much longer than the candles without a plant in the jar. Then Joseph Priestley tried it with a mouse he had caught in his kitchen. The mouse lasted a very long time compared with the mouse without the plant.

Through this experiment, Joseph Priestley discovered both oxygen and nitrogen.

He wrote several times to his friend Ben Franklin, and together they began thinking about life on earth and how plants sustain mammal life, and vice versa. No one had ever before suspected that trees and other plants took carbon dioxide from our bodies, and replenished the air with oxygen. In fact, during the time of Joseph Priestley and Ben Franklin, many people thought trees were poisonous! It was considered wise and fashionable to cut down all the trees near your house to clean the air around it. Of course, the opposite is true! Joseph Priestley had many serendipitous moments of discovery in his life. Serendipity is an accidental discovery. In this case, Joseph Priestley was looking for the reason that living things "used up" air. But what he found instead was that plants create oxygen from the carbon dioxide that we exhale, one of the most important discoveries in history!

Find Out More

A [biography](#) on the website of the Chemical Heritage Foundation gives background on Joseph Priestley. A detailed, reflective [article](#) on Priestley's life and work as a dissenting minister (from the Church of England) and an educator—by Sharon Hernes Silverman, originally published in *Pennsylvania Heritage Magazine* (summer, 1999)—can be found on the website of the Pennsylvania Historical and Museum Commission. Joseph Priestley House in Northumberland, PA, offers memorabilia from Priestley's life and work, chemistry demonstrations, and an informative [website](#).

SESSION 5: A Miracle Inside Introduction

The moment of change is the only poem.
— Adrienne Rich, 20th-century American poet

If we did the things we are capable of, we would astound ourselves. — Thomas Edison (1847-1931)

As part of the web of life, each of us embodies a miraculous, natural, and constant state of physical change. But this session focuses on inner, human transformations—changes of heart. Participants identify inner changes so deep, complete, and meaningful to the self and to others that they can seem miraculous. They explore how such changes happen: What moves a person from greed to generosity? Indifference to caring?

In this session’s Celtic story, Brigit’s cape has magical powers that allow her to trick a villain. But why, really, does the uncaring landowner change his attitude toward the hungry poor? Without a magic cape, how can we emulate Brigit?

Participants explore love, faith, and determination as tools of our own human agency which we can use to make a miracle happen inside ourselves or others.

In a wide age span or multigenerational group, remember to facilitate sharing and participation for the benefit of all. Be mindful that a participant of any age who seems reluctant to speak may need more encouragement to find their voice.

Goals

This session will:

- Cultivate experiences of wonder and awe in playful appreciation
- Explore the idea of personal transformation

- Posit that a personal, inner transformation can be a miracle
- Introduce love, faith, and determination as tools for personal transformation and equip participants to use these tools to foster miracle transformations in themselves and others.

Learning Objectives

Participants will:

- Share “miracle moments” to further discern what they consider a “miracle”
- Analyze how, in a Celtic story, the folk heroine Brigit miraculously transforms a landowner from uncaring to generous
- Identify personal transformations in themselves or others and explore how they might use love, faith, and determination to create transformation
- Understand love, faith, and determination as core values in our Unitarian Universalist faith.

Session-at-a-Glance

Activity	Minutes
Opening	5
Activity 1: Sharing Miracle Moments	5
Activity 2: Story – How Brigit Got Lands for the Poor	10
Activity 3: Miraculous Flexagon	35
Faith In Action: Reminding Others about Personal Transformation	20
Closing	5
Alternate Activity 1: Paper Snowflakes	10

Spiritual Preparation

Set aside five minutes before the session. Reflect on the ways you have changed during your life. Which changes have happened to you? Which have you intentionally made?

Think of an important change you made inside yourself, for the better. How did you do it? Can you identify a combination of love, faith, and determination in the transformation you made?

When something amazing and beautiful happens on the inside, it may not only show on the outside, but can have a positive effect on the world beyond.

Consider this quotation from Thomas Edison:

If we did the things we are capable of, we would astound ourselves.

Today you will invite the group to dream about difficult personal transformations they or someone in their life might miraculously make. Some children may recognize traits they might wish to change—for example, fear, a lack of confidence, a tendency to gossip. Others will find it easier to identify others who need a miraculous transformation. Someone who harms, saddens, or threatens a child might come to their minds—for example, a bully at school, a parent too busy to play a game, an adult who shows a frightening rage. Prepare yourself to create a safe atmosphere for children to acknowledge painful situations that call for a miracle of personal transformation. Get ready to support children to dream how their own love, faith, and determination can make such a miracle occur.

Opening (5 minutes)

Materials for Activity

- Chalice and LED/battery-operated candle
- Newsprint, markers, and tape

Preparation for Activity

- Write the opening words on newsprint, and post.

Description of Activity

Gather participants in a circle. Welcome new participants and welcome back participants from the previous session. Review names as appropriate. Invite participants to join you in saying the opening words:

*We light this chalice
Knowing we are surrounded by miracle,
Knowing we all,
And the world around us,
Are miracle upon miracle.
We gaze with awe,
Wonder seeing wonder.*

Activity 1: Sharing Miracle Moments (5 minutes)

Materials for Activity

- Newsprint, markers, and tape
- Sheets of newsprint with definition(s) of a miracle generated by the group

Preparation for Activity

- Post the definition(s) of a miracle the group generated in Session 1 along with any revisions made in subsequent sessions.
- Prepare to share, in a phrase or sentence, a “miracle moment” of your own.

Description of Activity

Invite everyone, whether or not this is their first Miracles session, to share a “miracle moment”—a time when they paid attention to something

unexpected, awesome, and perhaps unexplained. If needed, share a recent miracle moment of your own. You may wish to remind the group:

- Everyone’s ideas and experiences of miracles may be different.
- Participants may “pass.” Sharing a miracle is not required.

Thank each volunteer for their contribution. Be careful to respond to each contribution with the same level of enthusiasm.

Ask, “In light of the miracle moments you have described, does the definition still capture the group’s understanding of miracles?” Invite participants to rework the definition. Record their ideas on the newsprint and save it for the next session.

Activity 2: Story – How Brigit Got Lands for the Poor (10 minutes)

Materials for Activity

- A copy of the story, “How Brigit Got Lands for the Poor”

Preparation for Activity

- Read the story “How Brigit Got Lands for the Poor.” Consider how you might tell it dramatically, perhaps using different voices for Brigit and the landowner. If you plan to invite volunteers to read these roles, copy the story or provide the online link so volunteers can prepare ahead of time.
- Optional: In the Find Out More section, read the reflections on Brigit’s power from *The Moon in the Well* (Peru, Illinois: Open Court/Carus, 2001), Erica Helm Meade’s book of wisdom tales, which includes this story. This may help you lead the group to discover what really caused the landowner’s miraculous change.

Description of Activity

Gather the group. Ask the children if anyone knows what “transformation” means. Affirm that “transformation” is another way to say “change.”

Say you will tell an old Celtic folk tale, from Ireland, and ask participants to notice what changes, or transformations, occur.

Tell the story.

When you are finished, invite volunteers to recount what happened in the story. Ask the group what changes they noticed. Affirm:

- The poor and hungry people got more land and therefore, more food.
- The landowner changed from selfish (greedy, uncaring, mean) to generous (kind, fair, nice).
- Things became more fair.

Now ask:

- Were any changes in the story miraculous? Why?
- When the landowner saw the stretched-out cape, why did he keep his agreement with Brigit? Why didn't he just say she had tricked him, and get out of his agreement?
- Myths and fairy tales often are full of miraculous events. Do you think these events might have alternate, rational explanations?
- What do you think made the landowner change?

Affirm participants' answers and explanations.

Then, if no one has, suggest:

- I wonder if Brigit's dramatic actions opened the landowner's eyes to the people's hunger; maybe he had not really noticed the problem before. Maybe the fire of justice inside Brigit made the change inside the landowner?

Then pose:

Can you think of any situations where your strong feeling about what's fair could make a change inside someone else who doesn't yet see the problem? How would you show your inner fire to them, the way Brigit stretched her cape?

Activity 3: Miraculous Flexagon (35 minutes)

Materials for Activity

- Newsprint, markers, and tape
- Handout 1, Hexaflexagon Illustration
- Leader Resource 1, Hexaflexagon Template and Instructions
- Scissors, including left-handed scissors
- Fine- and medium-point color markers to share
- Optional: Cellophane tape
- Optional: A computer with Internet access, a projector, and speakers

Preparation for Activity

- Read Description of Activity, below. Then read Alternate Activity 1, Paper Snowflakes, a simpler paper craft activity, which might work better with younger children. Decide which to use.
- Consider inviting an adult volunteer to join the group for this activity to provide pastoral care. It may be helpful to have an adult available to speak privately with a participant for whom painful experiences arise.
- Download and adapt Leader Resource 1; then, copy templates and instructions for participants. First, pencil letters on the template (the strip of paper with triangle folds drawn, which appears on the left-hand side of the Leader Resource). Be sure to pencil the letters clearly, in the exact positions shown. Then, make copies so that each participant will have 1) the instructions

provided on the Leader Resource and 2) a template suitable for them to write or draw on and easy for them to fold as shown. We recommend that you photocopy the instructions separately from the template. Children who are still developing fine motor skills, and perhaps other participants, may prefer a larger template to fold into a hexaflexagon. Enlarge the template on Leader Resource 1 by photocopying just the template image three times, at 150% size, onto 11x17-inch paper. You can then place several larger-size templates together on a sheet of 11x17-inch paper and make regular copies (100% size).

- It is recommended that you research flexagons and hexaflexagons (a hexaflexagon is a six-faced flexagon). For an entertaining introduction that you may decide to show the group, watch the YouTube video [“Hexaflexagons”](#) by Vi Hart. Use the resources in this session’s Find Out More section to better understand how they work and to practice making them. Make a practice flexagon to show the group.
- Cut flexagon templates from the handouts for participants who may lack the dexterity to do it themselves (or for all participants, to save time). The shape must be cut precisely in order to fold properly into a flexagon.
- Post blank newsprint and make three columns: Hurtful Act / Problem Inside / Change to...

Description of Activity

Participants explore the difference between evident and hidden characteristics by making and manipulating a hexaflexagon, a three-dimensional, folded paper object that reveals six different faces depending on how it is folded (flexed).

Participants fold paper strips into hexaflexagons. They reflect on the nature of an inner transformation and write or draw their ideas on the side of the paper, which will end up on the inside of their hexaflexagon.

Show the group a sample hexaflexagon. Say, in these words or your own:

Before we transform our paper into hexaflexagons, let’s talk about how people transform.

Remind them that the landowner in the story changed. Use the same words the participants used to describe the landowner’s transformation.

Then ask:

When the landowner kept all the land for himself, he hurt the people who were hungry. Do any of you know people whose actions hurt others? Think to yourself for a moment.

Give the group a moment. Then ask if anyone wants to share an example. Be ready for a child’s revelation that they or someone they know are being bullied or experiencing another kind of cruelty at school, at home, in your congregation, or elsewhere. Listen with discernment. In the case of serious threat to health or safety, follow your congregation’s safety policy, which might include talking to the participant after the session and letting them know of the need to share what you have heard with parents, your religious educator, or your minister as appropriate. Make sure you know the guidelines for mandated reporting.

Choose an example of a person’s hurtful action that a volunteer offers, and lead the group to process:

- What is happening inside the person that makes them act in this hurtful way? (E.g., anger, indifference, selfishness, loneliness,

greed. Write responses in the “Problem Inside” column.)

- What would the person need *inside* them that could make them act differently? (E.g., love, caring for others, kindness, understanding, willingness to share. Write responses in the “Change to” column.)

Offer this scenario if the group is reluctant:

Suppose there is one kid in your class at school who never brings a lunch, or any money to buy lunch. Let’s suppose there is another kid in the class who always brings snacks, and a big lunch, and money. This second kid teases the first kid by showing off their big lunch, every day, and makes comments such as, “What are you, poor?”

Write “Lunch Bully” in the Hurtful Act column.

Gather the group’s ideas for the Problem Inside and Change to columns.

Now ask:

Does this story have any other examples of a hurtful act?

Prompt if needed (“What about the other kids in this class?”) and add “Bystanders” in the Hurtful Act column. Then gather the group’s ideas for what is happening inside the bystanders (Problem Inside) and the feelings or attitudes that would make the bystanders act differently (Change to).

Process additional examples quickly, briefly describing on newsprint the Hurtful Action and the group’s Problem Inside and Change to ideas. If the scenario has a “bystander” component, take the time to draw it out.

Now distribute the hexaflexagon templates you have made from Leader Resource 1, and instructions from Leader Resource 1. If participants will cut out their own templates, distribute scissors.

Distribute copies of Handout 1, Hexaflexagon Illustration; color markers to share; and scissors (if participants will cut out their own flexagon shapes), at worktables

Invite participants to cut out their hexaflexagon templates. Then, invite them to imagine a person whose actions hurt others. What positive qualities (indicate the “Change to” column) might that person need to develop more of, inside themselves? Ask them to write or draw the positive qualities using only the triangles marked, B, C, H, I, O, and P. When they fold their flexagons, the positive qualities will be on the inside.

As the group works, ask:

- Since we do not have Brigit’s magic cape, what could we do to help a person change themselves inside, so they would stop doing hurtful acts? How could we show our passion for fairness, like Brigit did by stretching her cape?

Visit worktables. Help participants identify the correct triangle panels to draw or write on. Invite participants to describe what they are writing or drawing and tell you more about the “miracle change” they envision inside a person. Ask, “What tools, besides the magic cape, did Brigit use to help the landowner change?”

- Her love for and care for the poor
- Her commitment to justice and fairness
- Her faith that the landowner should help, instead of hurt, the people
- Her belief that people who do hurtful things can change
- Her determination to change an unfair situation.

Make sure everyone has time to fold up their flexagon. Optional: Use cellophane tape to secure the folded flexagons.

Point out that although qualities such as kindness, caring, and love are on the inside, and cannot be seen, we know what is inside people by the way they act.

Faith In Action: Reminding Others about Personal Transformation (20 minutes)

Materials for Activity

- Newsprint, markers, and tape
- Poster board, blank paper, and/or index cards
- Color markers
- Scissors, including left-handed scissors

Preparation for Activity

- Arrange with your religious educator, minister, and lay leaders for the group to display and/or distribute the message at a congregational gathering. Obtain permission to post signs or leave cards around the building.
- Decide whether the group will create sandwich boards, make posters, and/or write the message on index cards to post or distribute. Set materials on worktables.
- Write the message on newsprint for participants to copy: You are not the same person you were when you began to read this sign.

Description of Activity

Spread a message about personal transformation. Engage participants to create sandwich boards to wear at your congregation's coffee hour, during worship, or at another time when a crowd gathers, displaying this message:

You are not the same person you were when you began to read this sign.

Gather the group and introduce the idea that each of us is changing, all the time. Ask for examples of changes inside and outside ourselves. Depending on the age(s) of participants, you might offer:

- Your hair, our fingernails, and our toenails are growing all the time.
- You learn to read not all at once but in steps, by learning letters, sounds, and the meaning of words.
- One day you notice people doing cartwheels or discover something flexible your body can do. Then maybe you practice on your own, learn from older kids, or take a class. You learn more skills. Now you are a gymnast.

Now ask for examples of changes that “just happen” (such as hair growing) and examples of changes that need some of the tools explored in the session: intention or faith, love, belief in justice, belief that change is possible, determination and hard work.

Suggest that others in your congregation might appreciate a reminder that we are all, always, changing, and that we can make inner changes ourselves, by using some of these tools. Perhaps your reminder will lead to a few miracle transformations.

Point out the message you have posted and explain how and where the children will distribute it. Invite them to speculate what might happen to someone reading the message.

Indicate the materials participants need to make sandwich boards. And/or, invite them to write the message on index cards or blank paper to post or distribute. If appropriate, ask children for ideas about where to post or leave message cards: Near a coat rack, outside a rest room, on benches in your chapel or sanctuary?

Ask participants what they would say to people who read the signs and wonder what it is all about:

- We all change physically all the time.

- We also change inside, and we change inside for the better if we choose.
- We learned a Celtic tale about how Brigit changed a selfish landowner's heart and he became kind and generous.
- We talked about how we and people we know can change inside to be more caring.
- Do you have a story you would like to share about how you have changed inside to be a more just and loving person?

Let participants practice what they will say with each other. Consider partnering for this activity.

Closing (5 minutes)

Materials for Activity

- Taking It Home
- Newsprint, markers, and tape
- Optional: Session 1, Handout 1, Say "Yes" to a Miracle
- Optional: Session 1, Handout 2, For the Beauty of the Earth

Preparation for Activity

- Review the song suggestions. Find lyrics and melody notes for "Say 'Yes' to a Miracle" on Session 1, Handout 1 and [listen to the song](#) online. "For the Beauty of the Earth" is Hymn 21 in *Singing the Living Tradition*, the Unitarian Universalist hymnbook, and the lyrics are provided on Session 1, Handout 2.
- Choose one of these or another song or unison reading you prefer. If you like, invite a musical volunteer to help lead a song. You may wish to help the group learn two or three closing songs/readings and alternate among these over the course of the program.
- Prepare song sheets for participants to help them learn the song you have chosen. You may also write song lyrics (or a unison reading) on newsprint, and post.

- Download the Taking It Home section and copy for all participants.
- Write on newsprint, and post:

I am thankful for the miracle that people who have done hurtful actions can change.

Description of Activity

Gather participants in a circle. Distribute handouts or indicate lyrics on newsprint.

Lead participants in singing the song you have chosen.

Indicate the words you have posted. Lead a group benediction by inviting everyone to say together:

I am thankful for the miracle that people who have done hurtful actions can change.

Distribute the Taking It Home handout. Ask participants to look for miraculous changes in the people around them, or in themselves, between today and the next session.

Including All Participants

Teaching a new song phrase by phrase helps many participants learn it.

Leader Reflection and Planning

Reflect together on the session.

- How was our mix of discussion and action?
- How well did the timing of this session work?
- How well did participants understand and engage with spiritual concepts? How can we tell?
- Does the group include children who have trouble focusing? Might they have a special role next time—maybe helping co-leaders?
- Were activities and discussions appropriate for the ages of participants? What could we do differently at the next session?
- Did anything come up today that we might like to discuss with our religious educator, minister, younger participants' parents, or lay leaders?

Look ahead to the next sessions and decide how to divide leadership responsibilities.

Taking It Home

The moment of change is the only poem.
— Adrienne Rich, 20th-century American poet

If we did the things we are capable of, we would astound ourselves. — Thomas Edison, American inventor (1847-1931)

IN TODAY'S SESSION... we heard a Celtic folk tale in which Brigit tricks a landowner to share his fields with the hungry poor. We analyzed how the magic cape Brigit used in the story represented her love, faith, and determination—her passion for justice—which truly drove the landowner's transformation. Then, participants explored situations in their own lives where personal transformations might be needed. They considered how they might use their own love, faith, and determination to transform themselves or influence someone else.

EXPLORE THE TOPIC TOGETHER. Talk about... the miracle of our capacity to change. Share about times you have decided to transform yourself inside, to make your life and relationships better on the outside.

EXTEND THE TOPIC TOGETHER. Most of us know bullies of one sort or another. Share about people you have known whose actions hurt others, and what kind of inside change could help the person treat other people better. Then, talk about how you might use your own love, faith, and determination to help the person change.

A Family Adventure. Take a large view of how your behaviors affect others—not only people you know, but others across the interconnected web of life. In the story, "How Brigit Got Lands for the

Poor," it was easy for the landowner to ignore the hungry poor—until Brigit made him look, and made him care. Brainstorm and do some research. Identify troubled situations outside your immediate community and give some thought to how the situations connect to you, your family, and your everyday lives. Take the opportunity to focus your love, faith, and determination to discern the situation, change your own behavior, and help transform the circumstances of others. Make the change!

Alternate Activity 1: Paper

Snowflakes (10 minutes)

Materials for Activity

- White paper and scissors (including left-handed scissors), for all participants
- Color markers and/or color pencils to share

Preparation for Activity

- Practice snowflake-cutting to become comfortable teaching this craft.

Description of Activity

Gather participants at worktables. Ask what the group knows about snowflakes. Say:

No two snowflakes are exactly alike—just as no two people are exactly alike. We are each unique and now we will each make our own, unique paper snowflakes.

Distribute paper and scissors. Demonstrate making a paper snowflake:

1. Fold a sheet of white paper in quarters.
2. Trim the long ends so the folded paper makes a square.
3. Find the one corner of your folded sheet that has no open sides. This corner will be the center of your finished snowflake.

4. With scissors, cut shapes out of the folded sheet, in any design you like. Make sure you cut all the way through all four layers of the folded paper.

5. When you are done, unfold the paper and see your finished snowflake.

Invite the group to make snowflakes. As they finish, point out how each is unique. Then, ask:

- Can a snowflake change?

Affirm that as the temperature changes, a snowflake will naturally change. It will melt, or freeze; it will not look the same. Then ask:

- Do people change like snowflakes?

Say, in these words or your own:

We're not going to change by melting into water or freezing into ice. But, we do change naturally, all the time. Changing is part of life. As we get older, we grow taller. We might start to like different foods from when we were little. We become someone who plays soccer, or swims, or does multiplication, because we are learning, growing, changing, inside and out.

Now invite everyone to look at their snowflake. Say:

A unique person is quite different from a unique snowflake. Snowflakes cannot make choices and decisions about how they will change, but people can. Sometimes—like Brigit changed the landowner—we can help another person change in important ways that make them stop hurting others. When someone changes inside, like the landowner, they act differently, too.

We can all change inside to treat people with caring and fairness.

Let's each think of way we could change inside to act with more love for others.

Distribute markers/pencils. Invite everyone to draw or write on their snowflake a quality inside themselves they would like to grow that would make them act better toward others (e.g., love, respect, caring, patience, generosity, fairness, etc.). Invite a few volunteers to share their thoughts.

Conclude by inviting everyone to take home their snowflake, as a reminder of two miracles: We are each unique, and we can decide to change.

Ask for volunteers to clean up work areas.

Story: How Brigit Got Lands for the Poor

A Celtic pagan story from Ireland, told by Erica Helm Meade in her book of wisdom tales, *The Moon in the Well* (Peru, Illinois: Open Court/Carus, 2001). Permission pending.

Long ago in Ireland, a few wealthy landholders owned great tracts of fertile land, while the poor were forced up into the rocky hills to eke out a living from the sparse soil. One year the crops went bad and the poor could barely scrape together an onion or a carrot for their supper. Brigit went to one of the richest landholders and said, "The harvest is grim this year, and the peasants need your help."

The landholder replied, "Ah, Brigit, I'll think on it, but in truth, if the people would only work harder they surely could fend for themselves."

A few weeks passed and the situation grew worse. Brigit went again to the landholder and said, "The peasants have no food. They've taken to the hills to eat shamrocks and grass. What will you do for them?"

"Now, Brigit," said the landholder, "Don't get pushy. I'm a busy man. Why is it you're here talking to me, when you should be talking to the peasants about what they can do for themselves? I've no time for this, now be gone with you."

Another week passed, and the situation became grave. Brigit went again to the landholder and in a rage she cried, "You've done nothing to help and now the children are starving! I demand that you give land to the poor!"

"Well, Brigit," said the landholder, "It couldn't be that bad. You don't look to be starved yourself, nor lacking for warm clothes. 'Tis a fine wool cloak you wear on your back. Let it not be said I'm a stingy man. Here's what we'll do: You go out to the plain. Choose any spot. Spread your white cloak on the ground, and the plot that it covers, I'll donate to the poor."

"Tax free?" asked Brigit.

"All right, tax free," said the landholder, "but don't ask for anything more."

So that day Brigit and three of her sisters went out to the very center of the fertile plain. Each took hold of a corner of the white cloak.

Brigit said, "All right now, girls, pull it taut." They did so, and then Brigit cried, "Now take a step backward." Each of them took a step back, one to the north, one to the south, one to the east, and one to the west, and as they did, the cloak expanded. Then Brigit cried, "All right, keep walking!" They did, and as they did so, the cloak continued to expand until it covered the whole expanse of the plain.

That afternoon as usual, the landholder went up into his tower to look out and survey his lands. At first glance it looked as if a snow had fallen. Then he saw that the rocks above were bare. "The cloak," he whispered, falling to his knees, now seeing providence at work in the matter. When he saw Brigit striding up the walkway, he leaned out the window and cried, "Mercy, Brigit, I'll keep to my word! The whole of the plain belongs to the poor,

and I'll throw in a hundred bags of oat seed that they might prosper by it!"

"That's fine for tomorrow," said Brigit, "but what will you do for today?"

"For today?" said the landholder. "Why, a feast for today, a feast for all."

"What sort of a feast?" asked Brigit.

"Why, a feast of stews, and roasts, and compotes, and mashies, and stuffings, and jellies, and cakes," replied the landholder.

"And bags to take home?" asked Brigit.

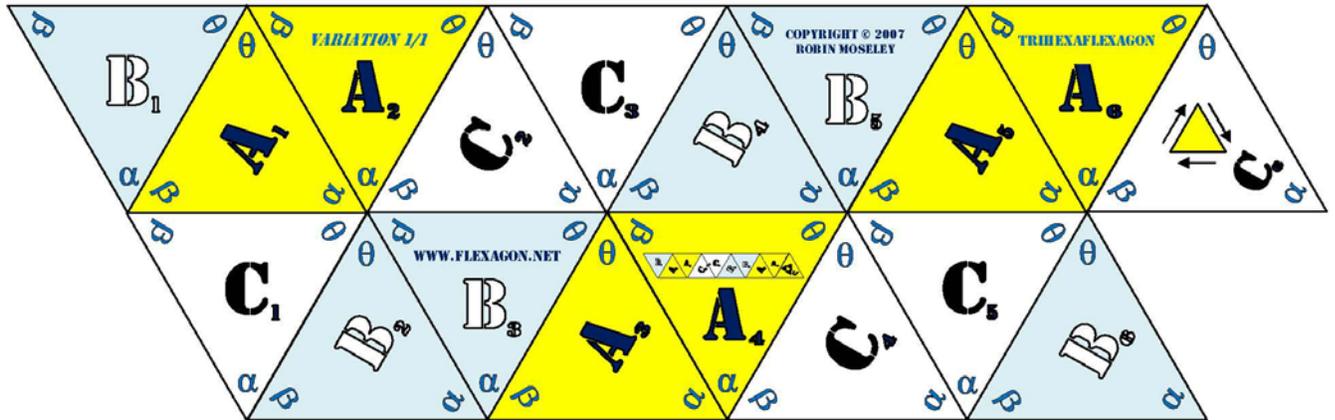
"Why of course, bags to take home," assured the landholder. "Very well, then," said Brigit, "I'll spread the word."

"Aye, Brigit, I'm sure you will, and I don't mind saying, that if you spread the word as efficiently as you spread the cloak, not a soul will miss this feast."

Handout 1: Hexaflexagon Illustration

From Robin Moseley's Flexagon Portal website, which offers detailed instructions for working with this and many other flexagon shapes. Used with permission.

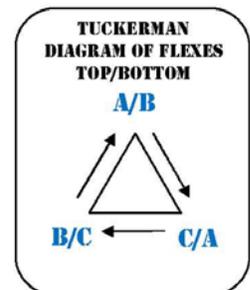
TRIHEXAFLEXAGON VARIATION 1/1



**TRIHEXAFLEXAGON
VARIATION 1/1**



Fold in half along the horizontal middle line. Before gluing, you may want to pre crease all triangle lines back and forth. Once folded and glued into a horizontal strip of triangles, fold together the two pairs of C triangles. Now adjust the ends so that the reverse side of the top left "B" triangle will fold over and paste onto the back side of the top right "C" triangle. All the yellow A triangles will be on one face of the flexagon when completed. Note that the flexagon has a uniform thickness of 2 sheets of paper when completed.



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WWW.FLEXAGON.NET

PAGE 1/1

Leader Resource 1: Hexaflexagon Template and Instructions

Used with permission from Gathering for Gardner, a conference, foundation, and community of people connected to Martin Gardner, 1914-2010, who popularized the flexagon.



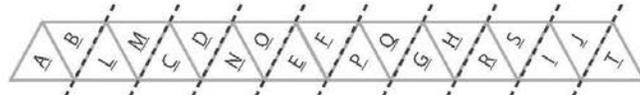
HEXAHEXAFLEXAGON BLANK TEMPLATE



INSTRUCTIONS

1. CUT OUT THE TEMPLATE & LIGHTLY LABEL IT WITH PENCIL AS SHOWN BELOW. LATER, YOU CAN ERASE THE PENCIL AND DECORATE YOUR FLEXAGON.

FRONT

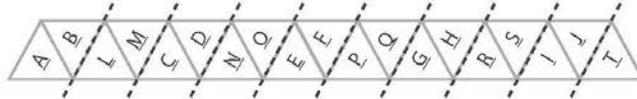


BACK



2. MAKE MOUNTAIN FOLDS ALONG THE LINES SHOWN BELOW:

FOLDS

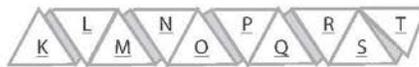


3. NOW FOLD THE STRIP SO THAT IT LOOKS LIKE THE DIAGRAM BELOW:

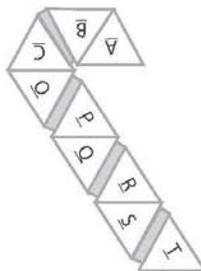
FRONT



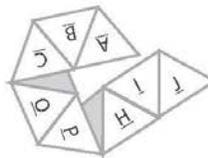
BACK



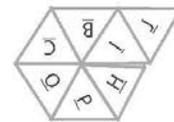
4. NOW FOLD YOUR STRIP IN TO THE SHAPE SHOWN HERE:



5. ...AND FOLD AGAIN LIKE SO:



6. BEND THE J FLAP AWAY FROM YOU & GLUE FACE T TO FACE K.



..AND NOW YOU HAVE A WORKING HEXAHEXAFLEXAGON!

Find Out More

Reflections on Brigit's Power

How did Brigit change the landowner? In her book, *The Moon in the Well* (Peru, Illinois: Open Court/Carus, 2001), Erica Helm Meade provides commentary on the story "How Brigit Got Lands for the Poor," which reads, in part:

The landholder in this tale seems a greedy sort, and we'd like to think we're nothing at all like him, but the truth is, most of us at one time or another have been lulled by complacency. It is easy for the fortunate, absorbed in the business of increasing wealth, to be oblivious to poverty and hunger in their own communities. Brigit on the other hand, stands for a less complacent side of humanity. Something keeps her fierce and focused—perhaps her faith, perhaps her love of children, perhaps her innate fiery nature, perhaps her vision of something better... [Acting] in accord with the fire in our hearts nourishes others in need, and that in turn, nourishes our integrity. Brigit's flame ignites the heart of the landholder. His smugness transfigures into awe, his self-certainty into faith, his arrogance into humility, and his stinginess into generosity.

Brigit, St. Brigit, and Imbolc

Read more about Brigit in *The Moon in the Well* or visit the [Shrine of the Forgotten Goddesses](#) website, which also offers information about the Celtic/pagan spring festival, Imbolc.

Magic Math: Flexagons

Flexagons were discovered accidentally by mathematics graduate student Arthur Stone in 1939. Find a brief version of their story [here](#).

Robin Moseley's [Flexagon website](#) offers more flexagon templates. Some are designed so that the faces have colorful, contrasting patterns. You will also find information about the history of these shape forms and support for working with them; see "Tips for Cutting, Folding, & Pasting."

The website, Puzzles, also offers multiple, interesting [flexagon templates](#), including one that pays homage to Martin Gardner. Gardner popularized math games, including flexagon-making, through a recreational mathematics column he wrote for *Scientific American* magazine between 1956 and the 1980s.

Changing a Bully

The Nemours Kids Health website offers [articles about bullying](#) for parents, children, and youth. Look for the tabs with material for "Parents," "Kids," and "Teens."

On the Video Jug website, find short clips offering [help in identifying bullying behavior](#) and advice for adult intervention.

SESSION 6: The Miracle of Social Change

Introduction

Every great dream begins with a dreamer. Always remember, you have within you the strength, the patience, and the passion to reach for the stars to change the world. — Harriet Tubman (c. 1820-1913), abolitionist and Underground Railroad conductor

...[E]ach of us can work to change a small portion of events, and in the total; of all those acts will be written the history of this generation. — Robert F. Kennedy

A small number of people in every generation are forerunners, in thought, action, spirit, who swerve past the barriers of greed and power to hold a torch high for the rest of us. Lappé is one of those. — Howard Zinn (1922-2010), in a tribute to Frances Moore Lappé, author of the groundbreaking 1971 bestseller, Diet for a Small Planet

This session is about those miraculous shifts from fear to openness, injustice to fairness, and isolation to collaboration that a group can experience when passionate individuals focus their love, faith, and determination to transform the community.

Participants hear and enact the Christian story of Jesus feeding thousands with just a few loaves and two fish. While mainstream Christianity presents this story as one of Jesus's miracles, a liberal interpretation resonates for many Unitarian Universalists: Jesus's inspiration led the people to create their own abundance by sharing.

Participants imagine transformations that would help the communities to which they belong, including the entire global community. They

observe the ripple effect in water, then consider how individuals can fuel a community's miraculous change.

In a wide age span or multigenerational group, remember to facilitate sharing and participation for the benefit of all. Affirm younger participants' contributions. Keep in mind, a participant of any age who seems reluctant to speak may need more encouragement than others to find their voice.

Goals

This session will:

- Cultivate experiences of wonder and awe
- Introduce the story of Jesus and the loaves and fishes for consideration as a story of miraculous community transformation
- Encourage participants to ground Unitarian Universalist identity in a sense of responsibility to, and a belief in one's capacity to, change the world
- Offer the ripple effect in water as a metaphor for the transformative effect an individual can have on the wider community.

Learning Objectives

Participants will:

- Explore what they believe constitutes a "miracle" as they share experiences of "miracle moments"
- Feel empowered as agents for change through the metaphor of the ripple effect in water
- Identify community and global situations that "need a miracle" and explore how individual action, grounded in love, could create the needed transformation.

Session-at-a-Glance

Activity	Minutes
Opening	5
Activity 1: Sharing Miracle Moments	5
Activity 2: Story – Loaves and Fishes	10
Activity 3: We Need a Miracle	15
Activity 4: The Ripple Effect	15
Faith In Action: Transforming Communities with Food Distribution	
Closing	5
Alternate Activity 1: Story – A Lamp in Every Corner	10

Spiritual Preparation

Set aside five minutes before the session. Sit comfortably and take three deep breaths to center yourself. Bring your thoughts to some of the major, positive changes that have transformed the world in which we live. The end of apartheid in South Africa. Civil rights movements in the U.S. and other nations. Think of miraculous social transformation. Let your mind fill with images and memories of people who helped bring these changes into being. Breathe in deeply, and ask yourself, “What changes do I want to see in this world? What miracle is now being born? How can I help?”

Opening (5 minutes)

Materials for Activity

- Chalice and LED/battery-operated candle
- Optional: Opening words on newsprint

Preparation for Activity

- If needed, write the opening words on newsprint, and post.

Description of Activity

Gather in a circle around the chalice. Welcome new participants and welcome back those from previous sessions. Review names as appropriate.

Light the chalice, or ask a volunteer to light it. Lead the group to say the chalice-lighting words:

We light this chalice

Knowing we are surrounded by miracles:

The miracle we are,

And the miracle we can make together.

Extinguish the chalice.

Including All Participants

To include vision-impaired participants, lead the group to say the chalice-lighting words as a call and response, phrase by phrase.

Activity 1: Sharing Miracle Moments (5 minutes)

Materials for Activity

- Newsprint, markers, and tape
- Newsprint with definition(s) of a miracle generated by the group in previous sessions

Preparation for Activity

- Post the definition(s) of a miracle generated by the group in previous sessions.
- Prepare to share, in a phrase or sentence, a “miracle moment” of your own.

Description of Activity

Invite everyone to share a “miracle moment.”

Explain briefly that you mean a time when they paid

attention to something unexpected, awesome and perhaps unexplained. To start things off, you can share a recent miracle moment of your own. You may wish to remind the group:

- Everyone’s ideas and experiences of miracles may be different.
- Participants may “pass.” Sharing a miracle is not required.

Activity 2: Story – Loaves and Fishes (10 minutes)

Materials for Activity

- A copy of the story, “Loaves and Fishes”
- Leader Resource 1, Loaves and Fishes Skit
- Newsprint, markers, and tape
- Optional: Simple props
- Optional: Leader Resource 2, Loaves and Fishes – The Real Miracle

Preparation for Activity

- Read the story, “Loaves and Fishes,” and prepare to tell it to the group.
- Decide how you will choose volunteers to play parts in the skit. Copy the script (Leader Resource 1) for everyone who will need it.
- Optional: Gather props for volunteers performing the skit, such as loaves of bread (leave them wrapped so someone can bring them home after the session), two fish made of plastic or paper, swaths of fabric for biblical-era cloaks and blankets for “the thousands” to sit on.
- Optional: Read Leader Resource 2, Loaves and Fishes – The Real Miracle. This excerpt from *Violence Unveiled: Humanity at the Crossroads* by Gil Bailie (New York: Crossroad, 1995) uses historical background and an analysis of Jesus’s ministry to illuminate the miracle central to this biblical story. Prepare to share the

Leader Resource or some of its content with the group.

Description of Activity

Participants hear, and then role play, the Christian scripture story about Jesus transforming five loaves of bread and two fish into enough food for a gathering of thousands. They share their reflections on the nature of Jesus's miracle.

Gather the group. Introduce the story with words such as these, inspired by [a sermon delivered by the Rev. Colin Bossen](#) to the Unitarian Universalist Society of Cleveland in March, 2008:

The story we are going to hear comes from Christian scripture. Some people think this story means Jesus created a miracle, or that God worked magic through Jesus. Others think this story means Jesus performed another kind of miracle. After the story, I will ask you what you think the miracle was.

Read or tell the story.

Pause for a moment. Then, if you have not pre-assigned the skit roles, ask for volunteers to perform the story. Distribute scripts (Leader Resource 1) and props to those who will perform. After the skit, invite the actors and audience to tell what happened in the story, in their own words.

Then ask:

- What was miraculous?

Affirm/explain, in these words or your own:

Perhaps Jesus somehow miraculously transformed five loaves of bread and two fish into a much larger meal. Or, perhaps, through his teachings about love, he miraculously inspired his disciples and the gathered thousands to share.

Here is what one UU minister, Rev. Colin Bossen, has said: "When Jesus brought out the loaves and fishes that he and his companions had with them, blessed the food and offered to share, even though it was not enough, he convinced everyone else present to share with the group what they each had. Some people had small pieces of fruit in their pockets and Jesus's generosity moved them to share their fruit. Others had a loaf of bread tucked away in their bag and when everyone else started to share they too pitched in. In this way the whole community created a great miracle and, because they shared, everyone had not only enough but more than they needed. There was even food left over."

Activity 3: We Need a Miracle (15 minutes)

Materials for Activity

- Newsprint, markers, and tape
- Illustrated news magazines
- Optional: Computer(s) with Internet access

Preparation for Activity

- Gather a variety of current news magazines that depict and describe hunger; homelessness; terrorist acts and armed conflict; disparities in access to health care, clean water, and public safety services; and other, real problems, local and global. Choose thoughtfully—avoid shocking or disturbing images and information. Suggestions:

- News magazines geared toward children, such as *Time Kids*
- Publications/websites of aid and advocacy groups such as [Doctors Without Borders](#)/Médecins Sans

Frontières, [Partners in Health](#), [Feeding America](#), [Earthjustice](#), [Greenpeace](#), and [TeachKind](#) (People for the Ethical Treatment of Animals)

- Local and national newspapers and news magazines
- Consider how you will form groups. Be ready to rearrange some participants so a group diverse in age is seated together at each work table.
- If you have access to the Internet, plan how you will incorporate online research into this activity.
- Post a few sheets of newsprint.

Description of Activity

Distribute magazines and newspapers at work tables. Divide participants into mixed age groups, including some strong readers, at each table. Invite participants to explore the publications and identify some local and global situations that “need a miracle.” Then, invite the groups to name and briefly describe the situations they have found. List the situations on a sheet of newsprint. Discuss each situation one at a time. (It is fine to stick with a good discussion about one of the situations.) Invite everyone to share information. Generate questions to help the group clarify problems and understand something about their underlying causes. What sort of miracle needs to happen to solve the problem? Who or what needs to change? Together, brainstorm actions that could help bring about the needed miracle, to transform the community in a way that would alleviate the problem. Make sure all ages and abilities are invited to contribute and note all ideas on newsprint. Ask, “What can one person do to get this action started?” Remind the group what Jesus said and

did in the skit. How might one person’s actions inspire or change others, in this modern situation? What would be the evidence that a miraculous change has occurred in the community?

Activity 4: The Ripple Effect (15 minutes)

Materials for Activity

- Large, shallow bowl or basin
- Cooking oil
- Rubber duck or other small, floating object
- A few stones of different sizes
- Newspaper or plastic, and towels

Preparation for Activity

- Cover the floor or a work table with newspaper or plastic. Set down the bowl or basin and fill it with water.

Description of Activity

In this session, we look at forces that can help communities, or even whole societies, change. In our story, we saw the dramatic effect an individual’s action can have to inspire and help people and the world around them. In science, we can call this phenomenon “the ripple effect”. Participants have most likely experienced ripples in water. This activity will focus their scientific observation and help them draw reasonable inferences about factors that affect the formation and behavior of ripples. Then, you will lead the group to apply the physical ripple effect as a metaphor for the impact one person or action can make on the behavior of a community. Gather the group around the bowl. Gently tap the side of the basin with your hand. Invite the group to notice how ripples form and move. Next, invite a few volunteers, one at a time, to toss a stone of a different size into the water. Lead the

group to observe the pattern of ripples each stone creates.

Now place the rubber duck into the water and again tap the side of the basin. Ask the group:

- What happens to the duck?

Now, remove the duck and pour some oil into the basin. Again, tap the side of the basin. Ask:

- What happens to the ripples?

Place the duck onto the oily surface and again tap the side of the basin:

- What happens to the duck now?

Now, post a sheet of newsprint and ask participants for their observations while you record them. Then ask:

- What are some factors that affect the size, shape, and timing of waves?
- What happens when there is a barrier on top of the water (the duck or the oil)?

Say:

Now that you have observed “the ripple effect,” and formed ideas about it, what ways do you think the ripple effect is relevant to social transformation?

Invite reflection with these questions:

- Is the effect of the efforts of one person the same as the combined effects of multiple people working toward a common goal?
- What happens when individuals or groups encounter opposition to their ideas?

Including All Participants

Make sure the bowl is placed where all can see. A work table is probably more accessible than the floor for this activity.

Faith In Action: Transforming Communities with Food Distribution (0 minutes)

Preparation for Activity

- Research local opportunities to assist in food sharing. Plan how you will work with a local agency or organization to conduct a food drive, volunteer at a food redistribution (or food recovery or gleaning) service, help at a community garden, or work for a Community Supported Agriculture (CSA) cooperative in exchange for produce to donate where it is needed.

Description of Activity

Help the group choose a way to give the gift of time to help distribute food more fairly in your community. Encourage participants to accept positions of leadership in the project. Whichever option your group chooses, be sure to share educational information and lead the group to discuss:

- What community need is being met?
- How are your actions meeting this need?
- What can you do to ensure your action has long-term effect?
- What other actions can you take to address the need?

Afterward, reflect on the action. These questions may be useful:

- How did our action help balance the injustice in food distribution?
- What long-term effect did our action have?
- How can we continue to waste less food and help make sure that those in need get more food? What commitments can we make to continue this work?
- How does working to redistribute food align with our UU values and Principles?

Closing (5 minutes)

Materials for Activity

- Taking It Home
- Optional: Newsprint, markers, and tape

Preparation for Activity

- Choose a closing song; if you like, invite a musical volunteer to help lead. Or, choose a closing reading.
- If needed, write song lyrics or closing words on newsprint, and post.
- Download the Taking It Home section. Adapt it and copy for all participants.

Description of Activity

Gather participants in a circle.

Lead participants to sing the song or say the closing words you have chosen.

Compose together a spontaneous benediction by having each participant complete the phrase “I am thankful for the miracle of ____.”

Distribute the Taking It Home handout. Ask participants to use close attention and see what miracles are revealed to them between today and the next session.

Leader Reflection and Planning

Reflect together on the session. You may wish to use these questions:

- How was our mix of discussion and action?
- How well did the timing of this session work out?
- How well did participants understand and engage with spiritual concepts? How can we tell?
- Were activities and discussions appropriate for the ages of participants? What could we do differently at the next session?
- Does the group include any who have trouble focusing? Might they have a special role next time—maybe helping co-leaders?

- Did anything come up today that we might like to discuss with our religious educator, minister, parents or lay leaders?

Look ahead to the next sessions. Decide how to share leadership responsibilities.

Taking It Home

Every great dream begins with a dreamer. Always remember, you have within you the strength, the patience, and the passion to reach for the stars to change the world. — Harriet Tubman (c. 1820-1913), abolitionist and Underground Railroad conductor

[E]ach of us can work to change a small portion of events, and in the total; of all those acts will be written the history of this generation. — Robert F. Kennedy

A small number of people in every generation are forerunners, in thought, action, spirit, who swerve past the barriers of greed and power to hold a torch high for the rest of us. Lappé is one of those. — Howard Zinn (1922-2010), in a tribute to Frances Moore Lappé, author of the groundbreaking 1971 bestseller, Diet for a Small Planet

IN TODAY’S SESSION... the group heard the story of Jesus’ transformation of five loaves of bread and two fish into abundant food for thousands of people. We considered, “How was the community transformed? What was miraculous?” We observed the ripple effect in water and discussed ways we can create a “ripple effect” in our own communities to help change the approach to shared problems such as homelessness, pollution, and unfair distribution of resources.

EXPLORE THE TOPIC TOGETHER. Talk about... times you made a personal effort to help a larger

cause—that is, to transform a community to which you belonged. What motivated you to act? What actions(s) did you take? How did your actions inspire others to help? Did your effort lead to a visible change at the community level? How could you tell? At the time, did anything about your impact strike you as miraculous? In retrospect, how does the experience touch your sense of awe and wonder? Your understanding of what is a miracle?

EXTEND THE TOPIC TOGETHER. Look for a social action or justice advocacy project your family can join. Find a rally, fundraiser, a park clean-up, a pet spay/neuter campaign, or another community service project where you can experience together how an individual's actions help shape community transformation.

Family Ritual – iRipple. Plan a regular time to share about the activities each member of your family has done which might have a ripple effect. Make stickers to wear that say “iRipple;” the badge is a reminder that all of our actions have rippling effects out into the world. Make a chart to mark each family member's iRipple reports.

Family Discovery. Scientists tell us that the world produces enough food to feed everyone. We have hunger because some people have more food than they can eat, some have too little food, and a lot of food is wasted. Food redistribution (sometimes called food recovery or gleaning) projects try to balance this by taking excess food from some communities and taking it to communities in need. Research your community: Is there a local food redistribution organization or food bank? Can you volunteer to help? Here are a few examples: [Magic City Harvest in Birmingham, AL](#), [Project Share](#) in Carlisle, PA and the [Society of St. Andrew](#) (operates gleaning projects in several states).

Alternate Activity 1: Story – A Lamp in Every Corner (10 minutes)

Materials For Activity

- ☐ A copy of the story, “A Lamp in Every Corner”

Preparation for Activity

- Read the story and prepare to read or tell it to the group.

Description of Activity

This story tells how a community transformed itself, building a church with the efforts of many individuals, and ultimately lighting the new building with glowing flames from candles held by all the people who contributed.

Read the story aloud. Then, ask:

- Suppose you were Zora, with one small job to do to build the church. How would it feel to see the whole community inside the finished building, illuminated by the shared light of everyone's individual lamp?
- What strikes you as a miracle in this story? (You might suggest, finishing the church building, the transition from no church to a complete building, the way each person's lamp helped create enough light for everyone.)

Invite the group to think about their own congregation. Have they ever sat in the sanctuary or chapel by themselves, or walked through a common space such as the social hall when no one else was around? What does it feel like, to be alone there? How is it different to be there in a group? What kind of awe might you feel in this space by yourself? What kind of awe does being together inspire?

Story: Loaves and Fishes

From Christian scripture, John 6:1-19, *New Revised Standard Version* (Nashville, Tennessee: Thomas Nelson, Inc., 1990).

A large crowd kept following [Jesus], because they saw the signs that he was doing for the sick. Jesus went up the mountain and sat down there with his disciples. Now the Passover, the festival of the Jews, was near. When he looked up and saw a large crowd coming toward him, Jesus said to Philip, "Where are we to buy bread for these people to eat?" He said this to test him, for he himself knew what he was going to do. Philip answered him, "Six months' wages would not buy enough bread for each of them to get a little."

One of his disciples, Andrew, Simon Peter's brother, said to him, "There is a boy here who has five barley loaves and two fish. But what are they among so many people?"

Jesus said, "Make the people sit down." Now there was a great deal of grass in the place; so they sat down, about five thousand in all. Then Jesus took the loaves, and when he had given thanks, he distributed them to those who were seated; so also the fish, as much as they wanted.

When they were satisfied, he told his disciples, "Gather up the fragments left over, so that nothing may be lost." So they gathered them up, and from the fragments of the five barley loaves, left by those who had eaten, they filled twelve baskets. When the people saw the sign that he had done, they began to say, "This is indeed the prophet who is to come into the world."

Story: A Lamp in Every Corner

By Janeen K. Grohsmeyer, in her book [*A Lamp in Every Corner: Our Unitarian Universalist Storybook*](#) (Boston: Unitarian Universalist Association, 2004).

Many years ago in the land of Transylvania, in a mountain valley watered by quick rushing streams and shadowed by great forests of beech trees, there was a village of small wooden houses with

dark-shingled roofs. The people in the village were of the Unitarian religion, and they wanted a church of their own. A church set on the hillside, they decided, looking down upon the village as a mother looks down upon her sleeping child.

So all the people of the village labored long and hard to build themselves a church. The stonemasons hammered sharp chisels to cut great blocks of gray stone, then set the stones into stout and sturdy walls. The glaziers made tiny glass panes and fitted them neatly into the windows with leaded lines. The foresters sawed tall beech trees into enormous beams and laid the trusses for the ceiling, then covered the roof with close-fitting wooden shingles that wouldn't leak a drop of rain. The carpenters carved wood for the pair of wide-opening doors, setting them on strong pegs so that the doors hung straight and square. A bell was brought from a faraway city, then hoisted by ropes, with a heave and a ho, to the top of the tower. The weavers wove fine cloths for the altar table, cloths embroidered with flowers and edged with lace. The smiths hammered black iron into tall lamp stands and hammered thin bronze into shining oil lamps. Finally, when the building of the church was done, the painting of the church could begin. The painters mixed bright colors: royal red and shimmering gold and brilliant blue, and everyone in the village—old and young, women and men, boys and girls—came to decorate their church. They painted flowers. They painted trees. They painted designs around the windows and different designs around the doors.

And at the end of the day, when it was finished—when their church was finally done—all the people of the village stood back to admire it... and then to sing, a song of happiness and praise. Their village

had a church now, a church set on the hillside, looking down upon the village as a mother looks down upon her sleeping child.

"We will eat now!" announced an elder of the village, because everyone was hungry after their long day's work. "And later tonight, we will come back to pray."

So the people of the village went down the hillside to their homes and their suppers, all except one little girl named Zora and her father, who stayed behind. They had brought their own bread and cheese. They ate their food slowly, sitting on the grass on the hillside and admiring their new church with its strong stone walls, its tall tower, and its magnificent bell.

After they had eaten, they went back inside, opening those carved wooden doors to go into the gloriously painted sanctuary inside. "Oh, look, Father!" Zora cried, running from picture to picture, with her footsteps echoing off the stone walls. "See how grand!"

"Yes, it is," said her father, looking around and nodding with pride. "Yes, it is."

"But Father," she said suddenly, "we have not finished!"

"What do you mean?"

"There are tall iron lamp stands all along the walls, but there are no lamps! The church will be dark when the people come back."

"Ah no, little one," said her father. "The light of the church comes from its people. You shall see!" He rang the bell to call the people to worship, then took his daughter by the hand and led her back outside. They waited on the grassy hillside, next to their beautiful church of strong gray stone.

The sun had set behind the mountains, and night was coming soon. Yet in the growing darkness, tiny

points of light came from many directions and moved steadily up the hill.

"Each family is entrusted with a lamp, little one," her father explained. "Each family lights its own way here."

"Where is our family's lamp?"

"Your mother is carrying it. She will be here soon."

The many lights moved closer together, gathering into one moving stream, all headed the same way, growing larger and brighter all the time. Zora's mother arrived, bearing a burning oil lamp in her hands. The father lifted Zora so she could set their family's lamp high in its tall iron stand. All around the church, other families were doing the same. Soon the church was ablaze with light in every corner, for all the people of the village had gathered to pray and to sing.

All through the worship service, Zora watched the lights flicker and glow. She watched her family's lamp most of all. When the service was over, her father lifted her high. She took the shining bronze lamp from the lamp stand. Its curved sides were warm and smooth in her hands. Her mother carried the lamp home, with the flame lighting the way.

The lamp flame lit their house when they returned home. Zora washed her face and got ready for bed by the light of that flame. "Mother," Zora began, as she climbed into bed and lay down.

"Yes, little one?" her mother asked, tucking the red wool blanket around Zora's shoulders.

"Father said the light of the church comes from its people."

"Yes."

"But also, the people take their light from the church!" Over on the table by the fireplace, the shiny bronze lamp was still burning. "And we have that light every day."

"Yes, indeed," said her mother. "And even when we are not in church, even when the lamp is not lit, we carry the light of truth in our minds and the flame of love in our hearts to show us the right way to be. That light—the light from truth and love—will never go out."

"Never?" asked Zora.

"Never," said her mother. "And this bronze lamp will last for many, many years. When you are grown, we will give the bronze lamp to you, and when your children are grown, you will give the lamp to them, and all of you will carry it back and forth to church every time."

"But there is only one lamp," Zora said.

"So make another, and let the light grow. And someday, tell your children to make more lamps, too. And now goodnight," her mother said and kissed Zora once on this cheek and once on that cheek and once on the forehead. Zora closed her eyes and drifted into dreams, while her mother looked down upon her sleeping child.

The years passed; Zora grew. The bronze lamp came into her care. She kept it polished and clean, and when the bell rang out across the valley to call the people to worship, she carried the lamp back and forth to the church on the hillside, the flame always lighting her way.

When the time came, she made more lamps and gave them to her children, who made more lamps and gave them to their children, and so it went, on through the years, even until today.

And always, the light of truth and the flame of love from that Unitarian church on the hillside continued to grow and show them—and us—the way.

Leader Resource 1: Loaves and

Fishes Skit

“The Story of the Loaves and the Fishes,” adapted by Patti Walzer, M.Ed.

Narrator: Wherever Jesus went, thousands of followers would come to hear him teach and to be healed of sickness. He and his disciples decided to escape awhile so that they could rest together undisturbed by the crowds of people who followed him. So they traveled to a quiet, peaceful place on the shores of the Galilee. But the people heard of this, and when Jesus arrived the crowds of people were already there waiting for him.

Jesus: They are like sheep without a shepherd. *(Greets the crowd by shaking their hands and touching others' heads.)*

Narrator: His heart was so touched that he went out to meet them. He talked to them with love and understanding. Many were healed and comforted by him. *(Disciples beckon Jesus away from the crowd. They talk to him in a circle.)* It was getting late and the disciples were concerned. They knew that a good many people had come without bringing any food with them. And they were hungry.

Child 1: It's getting very late.

Child 2: I'm hungry.

Child 3: My tummy aches.

Child 4: We have no food.

Peter: We are far from town here. Hadn't we better send them away so that they may get something to eat?

Jesus: But why do you want to send them away?

Why don't you give them something to eat?

James: Well ... We could send them to the nearest town to buy some bread.

Philip: But there are so many people. That would take hundreds of dollars! *(smiling)* How many loaves do you have? Go and see.

Andrew: There is a boy here who has 5 barley loaves, and 2 small fishes. But, what are they among so many?

Jesus: Bring the boy here!

Andrew: *(Andrew brings the boy with his lunch basket.)* Here he is.

Jesus: Will you share your lunch with us, little brother?

Jesus: They are enough. *(Jesus holds the food high in the air and blesses it.)* Thank you, God, for feeding the multitudes. *(He places the basket into the box, kneels to pray. The crowd is very quiet now. They look at each other with curiosity and wonder.)*

Child 1: Look!

Child 2: A-maze-ing!

Child 3: This is wonderful!

Child 4: There is enough!

Jesus: Pass the food to the people! *(Disciples, narrator, boy, and others pass out the bread to the congregation. When all have received a piece of food, they come forward to say communion words.)*

Peter: The bread we share this day is sacred.

James: The friendship we share this day is sacred.

Philip: The laughter we share this day is sacred.

John: The stillness we share this day is sacred.

Andrew: For bread, for friends, for joy and sorrow, for the comfort of quietness: Let us ever be grateful and caring.

Narrator: Somehow in a short time, every one was eating! There was enough for everyone and even some baskets to spare! *(Holds up baskets to demonstrate.)*

Peter: That was a miracle, Jesus! How did it happen? How could you turn so little into so much?

Jesus: I did nothing. Miracles are abundant everywhere. If you just take a look around you, you'll see that the world is full of the blessings of beauty, justice, friendship, and love.

All: So be it!

Leader Resource 2: Loaves and Fishes – The Real Miracle

Excerpts from Gil Bailie's discussion of the Miracle of Fish and Loaves, in *Violence Unveiled: Humanity at the Crossroads* (New York: Crossroad, 1995).

...Jesus seems to have found the popular appetite for miracles exasperating. At times he fled from crowds looking for a miracle worker, and he resolutely refused to perform miracles simply for the purpose of demonstrating his ability to perform them.

It is important, therefore, to remember that for a miracle to have genuine religious significance it must transform the human heart and that it was a transformation of the heart that Jesus brought about in those he deeply touched. Curing a crippled leg is not as miraculous as curing a hardened heart or a despairing soul. ...The great miracle of Jesus' ministry was reconciliation—with God and with others. This, I think, is the starting point for understanding the miracle of the loaves and fishes, and the other miracles as well.

...Given the role of table fellowship in Jesus' ministry, it is my view that it was not primarily the lateness of the hour that made the unexpected sharing of a meal necessary, but rather that Jesus decided to drive home the points he had been making in his preaching by inviting his audience to sit down then and there for the purpose of sharing a meal with those around them. The point of the

feeding, in my opinion, was not food; it was the breaking down of religious and social barriers that Jesus had been challenging as spiritually inconsequential in his preaching. It was hands-on learning. It was practice for living in the kingdom. ...By now the reader will have guessed what I think the miracle was. Jesus opened their hearts, and they, in turn, opened their satchels, and the greatest miracle of all occurred.

Find Out More

Loaves and Fishes

In a sermon delivered in March, 2008 to the Unitarian Universalist Society of Cleveland, the Rev. Colin Bossen talks about the miracle of community transformation. He writes, in part:

The story [Loaves and Fishes] is usually interpreted to highlight Jesus's miracle making abilities. Read this way it is his special relationship with God that allows Jesus to turn the five loaves of bread and the two fish into enough food for everyone. When Jesus prayed God worked magic through him. A miracle occurred and a meal that was meant for a dozen was turned into so much food that even five thousand people could not eat it all.

Like all stories in the Christian New Testament there is more than one way to interpret the loaves and the fishes. Another way to read this story is to suggest that in it Jesus performs a far greater miracle than the transformation of five loaves and two fish into a repast sufficient for five thousand. Instead of working miraculous magic he taught everyone present to share.

Community Supported Agriculture

Find a community supported agriculture enterprise or participating independent farms near you that sell directly to consumers. The [Local Harvest](#) website, dedicated to sustainable food projects, has a [CSA locator](#).

Learn more about the CSA movement from a book which gave it momentum, *Sharing the Harvest, Revised and Expanded: A Citizen's Guide to Community Supported Agriculture* by Elizabeth Henderson and Robyn Van En (White River

Junction, Vermont: Chelsea Green Publishing Company, 1999).

Food Redistribution

Food for Life is a non-profit that supports projects to redistribute food. All of the projects it supports are vegan based.

[The Society of St. Andrew](#) is an ecumenical, non-profit, charitable organization working to prevent hunger through food rescue and distribution.

SESSION 7: Miracles We Can Make

Introduction

Only within the moment of time represented by the present century has one species—man—acquired significant power to alter the nature of his world.
— Rachel Carson

Today's children will have to adapt, as they grow up, to many impacts of global climate change. We hope they will also continue to seek ways to lessen human impact on our earth. What miracles will they need?

Collectively, what miracles can we make? Our seventh Unitarian Universalist Principle affirms our place among all life that shares our planet. This session discusses global climate change and explores the Unitarian Universalist call to stewardship of the earth.

Goals

This session will:

- Further strengthen appreciation of miracles
- Demonstrate ways in which Unitarian Universalism is a lived faith by lifting up connections between our ethics and the everyday choices we make
- Introduce human causes and global effects of climate change.

Learning Objectives

Participants will:

- Understand human causes and global effects of climate change
- Investigate and imagine the future of our planet

- Consider the human potential for miracle-making with regard to our planet's future
- Commit to actions to take within the congregation and beyond.

Session-at-a-Glance

Activity	Minutes
Opening	5
Activity 1: Sharing Miracle Moments	5
Activity 2: Story – Luís and Mika	10
Activity 3: Climate Detectives – Tree Rings	15
Activity 4: Energy Quest	5
Activity 5: Environmental Impact Game	15
Faith In Action: Re-use and Recycle Drive	
Closing	5
Alternate Activity 1: Make an Anemometer	25
Alternate Activity 2: Recycle It!	30

Spiritual Preparation

Before the session, take five minutes to center yourself and think deeply about miracles, in particular regarding climate change. What miracle is needed?

Find a comfortable position, and take three deep breaths. Feel the details of your body: where it is touching the chair, how your feet feel on the floor, the sensations of your breathing.

This session explores ways we can address the global climate crisis we face.

Take a moment to think of all the harmful emissions filling our atmosphere. Think of unseasonably warm temperatures. Fill yourself with images of ice caps melting, of violent storms gaining intensity over warmer seas. And now imagine all the people who are slowly deciding to help turn the tides of the climate crisis all across the globe. What do you see people doing? Feel connected to these people. Are we joining to make a miracle together? Know that every one of us can make a difference in this vast, complicated crisis. Today we will help our children and their families know what they can do.

Opening (5 minutes)

Materials for Activity

- Chalice and LED/battery-operated candle
- Optional: Newsprint, markers, and tape

Preparation for Activity

- Write the chalice lighting words on newsprint, and post.

Description of Activity

Gather participants in a circle around the chalice. Welcome new participants. Welcome back those from previous sessions. Review names as appropriate.

Light the chalice, or ask a volunteer to light it. Lead the group in saying the chalice-lighting words you have posted:

*We light this chalice
For all who have shaped our world
For brave groups
Of small number and great vision,
and great passion, and great love
Who have changed our world, forever
May we be inspired by their example
And know that we too
With great love, passion and vision,
Can transform today
And shape history
Amen
— Rev. Christopher Jablonsky*

Extinguish the chalice.

Activity 1: Sharing Miracle Moments (5 minutes)

Materials for Activity

- Newsprint, markers, and tape

- Newsprint with definition(s) of a miracle generated by the group

Preparation for Activity

- Post the definition(s) of a miracle that the group has generated.
- Prepare to share, in a phrase or sentence, a “miracle moment” of your own.

Description of Activity

Invite everyone, whether or not they were present for Session 1, to share a “miracle moment”—a time when they paid attention to something unexpected, awesome and perhaps unexplained. If needed, share a recent miracle moment of your own. You may wish to remind the group:

- Everyone’s ideas and experiences of miracles may be different.
- Participants may “pass.” Sharing a miracle is not required.

Activity 2: Story – Luís and Mika (10 minutes)

Materials for Activity

- A copy of the story, “Luís and Mika”

Preparation for Activity

- Read and prepare to tell the story.

Description of Activity

Read the story aloud to the group, and allow a few moments of silence. Then choose one or more of the following questions to discuss:

- How does being a good steward of the earth relate to being a Unitarian Universalist?
- Why should we try to take care of the environment we live in?

- What are some ways to be kind to the environment?
- What do you think it means to be a friend of our planet?
- Can anyone stop global warming? Can we slow it down? How? Would this be a miracle? Why?
- What about we humans adapting to the changes in our climate? Do you think we can? Will it take a miracle? Explain what you mean.

Activity 3: Climate Detectives – Tree Rings (15 minutes)

Materials for Activity

- Handout 1, Tree Rings Analysis
- Optional: Clipboards and pencils

Preparation for Activity

- Copy the handout.
- Read the scripted words in the Description of Activity. If your group skews toward younger children, plan how you will adapt this material so all participants can understand you.
- Optional: Is there a tree stump with visible rings near your congregation? Consider bringing the group outdoors for this activity so participants can explore tree rings, hands-on.

Description of Activity

Participants study a tree's rings to experience how science gives us tools we can use to be good stewards of the earth.

Explain, in these words or your own:

To be a climate detective means to try and find out more about the earth's changing climate. We have tools to find out about recent changes as well as changes in the distant past, back millions of years. Some of these tools are:

Weather Satellites

Satellites orbiting in space have instruments to measure what is going on in the atmosphere and can send that information to scientists on the ground. Information from satellites helps us understand and predict weather conditions and the temperatures on earth.

Ice Cores

Scientists cut pieces of ice and look for air bubbles that were trapped in the ice hundreds or even thousands of years ago. The air bubbles help them discover what the climate used to be like on Earth. The evidence they uncover is creating a historical record of regional temperatures and greenhouse gas concentrations dating back 160,000 years.

Sediment Analyses

Sediment layering provides information about where glaciers have been in the past. Ocean sediments provide a map of how ocean currents have flowed, and fossilized pollen in sediment layers tells

us where different plants have grown in the past.

Tree Rings

We can learn a lot about each year in the life of a tree when we examine the inside of a tree trunk. If we slice across the trunk, we can see each year as a ring. Tree rings tell scientists a lot about the environment of the tree, including changes in temperature and the amount of precipitation that fell each year where the tree lives.

Distribute Handout 1 to each participant. Have them form small groups with at least one reader in each group. When participants have studied the tree rings and answered the questions on the handout, bring everyone together to share their answers. Children may want to color the rings.

Ask:

- How does learning from tree rings help us take care of the planet?
- How can it help us know how to take care of the environment right where we live?

Activity 4: Energy Quest (5 minutes)

Materials for Activity

Newsprint, markers, and tape

Preparation for Activity

- Post three sheets of blank newsprint with headings, “Sources of Energy,” “Means of Transportation,” and “Earth-friendly Actions.”

Description of Activity

Have participants brainstorm (one topic at a time):

- as many sources of energy as they can
- different ways to travel from one place to another
- actions we can take to be more environment-friendly.

Record everyone’s contributions on newsprint. Be mindful of participants’ ages, developmental stages, and likely prior knowledge. You may need to prompt—“gasoline,” “batteries”—or hint with an explanation, such as, “Energy is what makes cars and traffic lights and computers and air conditioners turn on and work.” You might offer descriptions of forms or renewable energy, for example, “Biomass energy comes from plants we can burn without hurting the environment. Fossil fuels are materials like gasoline for cars and coal to make electricity. Fossil fuels come from under the earth. We take them out of the earth and when we burn them for energy, we pollute the air.” No need to over-explain or make sure everyone gets it; the primary reason to prompt or explain is to include everyone in the brainstorming.

Examples of sources of energy

Electricity

Batteries – usually chemical energy

Biomass Energy – energy from plants

Geothermal Energy

Fossil Fuels – coal, petroleum oil, and natural gas

Hydropower and Ocean Energy

Nuclear Energy

Solar Energy

Wind Energy

Examples of ways to travel

Walk

Skate/Skateboard

Bicycle

Bus

Train

Examples of environment-friendly actions

Turn off lights.

Seal windows and doors from air leaks.

Use less heat or air conditioning.

Bike, walk, skate.

Carpool, take public transportation.

Use alternative fuels sources when possible.

Save water.

Re-use plastic bags.

Recycle bottles, cans, and plastic containers.

Properly dispose of used batteries.

Ask participants to look at their list of environment-friendly actions and name some they do, or could, take on their own. Put stars next to these on newsprint. Now ask for actions that require help from adults or need to be done with a group. Put double stars next to these. Encourage participants to choose one action they can commit to right away. Tell them they will have a chance to say their action during the session Closing.

Activity 5: Environmental Impact

Game (15 minutes)

Materials for Activity

Handout 2, Environmental Impact Game – Map

Handout 3, Environmental Impact Game – Instructions

Paper and pencils

Optional: Prizes for all participants

Preparation for Activity

- Read the Description of Activity, Handout 2, and Handout 3 to make sure you understand the game.
- Decide how many teams you will have; try to cap teams at five people to make sure all have opportunities to engage. Print a map (Handout 2) and instructions (Handout 3) for each team.
- Optional: Obtain eco-friendly prizes—for example, re-usable grocery bags, or balsawood gliders or paper kites that use “wind power.” The game need not be competitive; you may wish to reward each member of each team for giving thought to the challenge of reducing their day-to-day environmental impact.

Description of Activity

Ask the group:

Now you know why a lot of people are worried about the changes in earth’s climate, and you understand how different species, including humans, may be affected. When a problem is big, like climate change, it can seem overwhelming. We want to slow down climate change and we want to adapt ourselves and other species to new climates, so we can survive. You might

hear people say things like, “Only a miracle can solve this!”

Well, maybe so. But that is okay, because the way we UU’s see it, this might be the sort of miracle we can help to make. When every person does their own part, even if each part is small, a group of people can make quite a big miracle together.

We are going to play a game that will show us ways we can each be part of that kind of miracle. What can we do every day to make some miracles about our environment? What kinds of everyday decisions can we make?

Say:

All of our families do errands, right? Maybe you visit your friends or cousins or grandparents sometimes? Well, the way we get from place to place makes a difference to the environment. For example, if we walk to the grocery store or we pedal a bicycle to visit our friends, instead of riding in a car or taking a bus, we don’t use any energy from the earth—just our own energy. But sometimes we might have a lot of groceries to carry, or our friends live far away, that walking is not very practical.

Explain that participants will play a game. They will plan how to get around while they do errands and make visits in a community, while trying to make as little impact as possible on the environment.

Form teams at work tables. Distribute maps (Handout 2), instructions (Handout 3), paper, and pencils.

Give the teams seven minutes to work. When five minutes have passed, let them know they have just two minutes more.

Reconvene the large group. Invite teams to have a representative give their environmental impact point total and tell the route and transportation modes they used. If you are running out of time, ask for the point totals and for a team spokesperson to mention one of the more difficult or interesting choices their team made.

Use these prompt questions to draw out the challenges and decisions the teams faced:

- Did you remember to bring the flowers to Grandmother’s house? If you remembered, would you have made a different choice?
- Did people not take the bus because of where the bus stops were located? What if you lived in a place that did not have any bus transportation, but had to carry groceries or clothing donations? Might you use a car more?
- Did you think about how much time walking would take, versus driving? Time was not an issue in this game, but, in real life, sometimes it is.
- What are some advantages of walking, besides the fact that it does not hurt the environment? (healthy exercise, not as stressful as driving/waiting for a bus, it’s free, it gives you a chance to be outdoors)

Conclude:

Although this was just a game, we and our families plan how we will get around to different places almost every day.

What different transportation decisions do you think you might make in the future?

Some people say it will take a miracle for humankind to learn to live with climate change and to keep our damage to the earth from getting worse. Do you think these decisions we make can be part of a miracle?

Faith In Action: Re-use and Recycle

Drive (0 minutes)

Materials for Activity

- Collection bin(s)
- Poster board or a roll of mural, markers, and paint

Preparation for Activity

- Arrange a site for collection bins in the congregational building. Arrange for a congregational volunteer or staff member to monitor the collection bins for the duration of your re-use and recycle drive.

Description of Activity

Get all ages in re-use/recycle with a congregational drive to recycle coats, clothes, or unused, working cell phones. All of these items are needed by organizations that shelter or support homeless people, victims of domestic abuse, new immigrants, and families living in poverty.

Research community needs and decide on the organization to receive the donations. Make

sure you ask what would be most helpful and not so helpful. Assess your congregational resources. What kind of re-use drive would have the most impact in your community? Have participants create one or more posters to advertise the effort and to label the collection box or bin. Publicize the drive in congregational venues such as worship announcements, newsletter, and website.

Collect items over the chosen time period and take them to the organization.

Arrange a time to formally thank the congregation/community for participating. At this time, engage a discussion so that everyone has a chance to reflect on these questions:

- How did it feel to find a new use for things instead of throwing them away?
- What impact do you hope you had on the recipients?
- What impact do you hope you have had on environmental problems?
- What other ways can you, individually, or we, as a community, implement re-use to help others while helping the environment?

Closing (5 minutes)

Materials for Activity

- Taking It Home
- Optional: Newsprint, markers, and tape

Preparation for Activity

- Choose a closing song; if you like, invite a musical volunteer to help lead. Or, choose a closing reading.

- If needed, write song lyrics or closing words on newsprint, and post.
- Download the Taking It Home section. Adapt it and copy for all participants.

Description of Activity

Gather participants in a circle.

Lead participants to sing the song or say the closing words you have chosen.

Compose together a spontaneous benediction by having each participant complete the phrase “I am thankful for the miracle of _____.”

Distribute the Taking It Home handout. Ask participants to use close attention and see what miracles are revealed to them between today and the next session.

Leader Reflection and Planning

Reflect together on the session. You may wish to use these questions:

- How was our mix of discussion and action?
- How well did the timing of this session work out?
- How well did participants understand and engage with spiritual concepts? How can we tell?
- Were activities and discussions appropriate for the ages of participants? What could we do differently at the next session?
- Does the group include any who have trouble focusing? Might they have a special role next time—maybe helping co-leaders?
- Did anything come up today that we might like to discuss with our religious educator, minister, parents, or lay leaders?

Look ahead to the next sessions. Decide how to share leadership responsibilities.

Taking It Home

Only within the moment of time represented by the present century has one species—man--acquired significant power to alter the nature of his world.

— Rachel Carson

IN TODAY’S SESSION... we discussed global climate change and explored a Unitarian Universalists call to be good stewards of the earth. Today’s children will have to adapt to many impacts of climate change while continuing to seek ways to lessen human impact on our earth. What miracles will they need? Collectively, what miracles can we make?

EXPLORE THE TOPIC TOGETHER. Talk about... ways around your house that you can conserve, re-use, and recycle. Make a list of new ideas, and post them prominently. Try to follow up by acting on your new initiatives.

EXTEND THE TOPIC TOGETHER.

Try... There are many ways to re-use and recycle household items. Coffee cans can be decorated and made into handy storage bins. Old books or DVDs can be shared with someone who hasn’t read/seen them; an old CD can become a coaster to protect a table surface or a shiny material to use in an art project. Newspaper can be used to clean glass surfaces or donated to animal shelters/veterinarians. Plastic food storage bags can be washed and re-used. Old or

outgrown clothes can be donated, cut into rags, or sewn into something new. Work on making great homemade recycled gifts for family and friends for all occasions.

Family Discovery. The [Families insert](#) in the [Summer 2015](#) issue of *UU World* magazine is devoted to climate change: its causes, its effects, and what we can do to adapt. Share with the whole family an inspiring, true story about widespread conversion to wind power on a Danish island. Download/print as a PDF file.

Family Adventure. Want to know more about how energy works? The website of the nonprofit educational organization, Science Buddies, presents instructions at beginner, intermediate, and advanced levels for [hands-on experiments and projects](#) to study various energy sources from wind power to geothermal heat pumps.

Alternate Activity 1: Make an Anemometer (25 minutes)

Materials for Activity

- Leader Resource 1, How to Make an Anemometer
- Five 3 oz. plastic or waxed paper cups
- Two plastic soda straws
- A new pencil with unused eraser head
- Single-hole paper punch
- Scissors (including left handed scissors)
- Tape
- One push-pin
- Permanent magic marker

Preparation for Activity

- Print Leader Resource 1, How to Make an Anemometer.

- Obtain supplies.
- Make a practice anemometer so you will be comfortable leading the activity.

Description of Activity

Explain:

The wind that powers a kite or a sailboat can also turn the blades of a windmill to do jobs such as pumping water or grinding grain to make flour. Today, people are beginning to use windmills to generate electricity; these windmills are called wind turbines. To be useful, a wind turbine must be located in a place where there is going to be a lot of strong wind. Scientists measure the speed of the wind with an anemometer.

We are going to make anemometers today.

Using the leader resource as a guide, help the group follow the instructions to make an anemometer.

Once it is ready, take it outside, hold it in front of you. Looking at the X on the bottom of one cup, count the number of times that one cup makes a revolution in 10 seconds.

If it's not windy, blow on it, as hard as you can, asking someone else to see who can make it revolve the fastest.

Alternate Activity 2: Recycle It! (30 minutes)

Materials for Activity

- Cleaned, used items to be repurposed, e.g., socks, other clothing/fabric, buttons, coffee

containers, paper towel tubes, non-recyclable bottles or cans, newspapers, greeting cards

- ☐ Arts and crafts materials and tools, e.g., thread and needles (needs adult supervision); stickers; glue sticks; tape; scissors (including left-handed scissors); paints, markers, and crayons
- ☐ Optional: Hot glue gun

Preparation for Activity

- Display all materials so they are accessible. Have empty work surfaces available for participants to use once they have an idea and a plan.
- Optional: If you will use a hot glue gun, set up a station where participants can bring materials to be glued and assign an adult to use or supervise use of the glue gun.

Description of Activity

Using a variety of supplies to be reused and recycled, create new items using the old ones: sock puppets, vases, storage containers, gift tags, new greeting cards, etc. Let the participants imagine and create. Remember, this activity only saves resources when you use items that would be discarded and your new creations eliminate the need to purchase something new. For example, the greeting cards created will make buying new cards (and the manufacture of some new cards) unnecessary.

Story: Luís and Mika

Luís lived in the Arctic Circle with his parents who were researching the effects of global warming. Luís wondered about that as he went out for a walk. He didn't think there was much

global warming going on today. It didn't feel warm to Luís, who was bundled up in a snowsuit, mittens, hat, and boots.

Luís came across a very large polar bear. She looked very sad, and Luís felt sorry for her, and so he went over to ask why.

The polar bear said she was sad because her habitat was shrinking.

"What's a habitat?" Luís asked.

"Why, your habitat is where you live. The Arctic is my habitat," responded the polar bear, Mika.

"It is everything you see around you, the ice, and the sea, and the glaciers. It has food, shelter, everything I need to live a healthy life and raise a polar bear family."

"Why is it shrinking?" Luís asked.

"Well," Mika replied, "my habitat needs to be cold. I like it that way, and so do the fish I eat. But the climate around here is getting warmer."

"I actually think it is plenty cold here!" said Luís.

"But I know about global warming. My parents study that. It's because of people cutting down rain forests and drilling deep into the earth to get coal and oil."

Mika nodded sadly. "Take it from me, our winters are not what they used to be," she said.

"Winters are shorter now. Ice melts faster than it ever has before. That means that polar bears like me are running out of places cold enough to live, hunt, and raise our cubs. If we don't have anywhere to live, we may vanish from the earth forever. And mine is not the only habitat that's in trouble. Oceans are warming up. Wild forest lands are getting smaller. Many species

are threatened because their world is changing so rapidly.”

“That’s awful,” replied Luís. “What is causing global warming?”

“The earth is warming up because of the way humans have used it. Like you said. Cutting down trees. Drilling into the earth. And, no offense, but, everyday things you do at home can contribute to global warming, and in turn hurt me, and my environment, even the whole planet.”

“Like what?” asked Luís. “I’m just a kid!”

“If you ride in a gas-powered car, or leave lights on in your house when you do not need them, everyday things like that,” said Mika.

“Like having the heat up too high, or the air conditioning too low, taking long showers, and leaving computers and phone chargers plugged in on stand-by instead of shutting them off.”

“Those things hurt you?”

“Yes, they do. The energy to run all those devices, or to heat your water, or run your car isn’t free. It comes from oil or coal that is taken from the earth and burned in great, big factories. When the factories make fuel, they also make a lot of waste—pollution and chemicals that go into our air and water. Forests are cut down to make room for cattle that people want to eat or more space for people to live, work, and play.”

“I had no idea!” said Luís.

“Humans are just starting to understand the impact they have had on all the creatures’

habitats. But a while back, before most people were thinking about how they use our earth, I met a very concerned lady named Rachel Carson.

She came up here to the Arctic, and we had a very long talk. I told her there were strange smells in the air, and that the animals seemed to be sick.

“Rachel did a lot of research, and wrote a book called *Silent Spring* about chemicals used to get rid of bugs and help crops grow. She showed that these chemicals did not kill just bugs, but harmed many animals. The chemicals even killed songbirds. The book was so important that President Kennedy read it, investigated those chemicals, and had them banned. Rachel was really concerned about the environment. She spoke to the U.S. Congress, worked for the U.S. Fish and Wildlife Service, and taught at a college. Even though she is not alive any more, many friends of the earth still celebrate Rachel Carson’s birthday, May 27—and many Unitarian Universalist congregations celebrate it, because she was a UU.”

“I’m a UU!” said Luís excitedly.

“You are?” said Mika. “That’s wonderful! Many Unitarian Universalists are changing their human habits in ways that help the earth.”

“Really?” asked Luís. “I want to help, too. What can I do?”

“There are a lot of things you can do to help, Luís,” said Mika.

[Pause. Invite the group to try and guess what ideas Mika gave Luís. Then continue...]

Here is what the polar bear told Luís. “If you remember to turn off lights and unplug phone chargers when you are not using them, you will use less electricity. That helps. Wear a sweater inside when it’s cold, and you won’t need to turn the heat so high. Take short showers! It takes a lot of energy to heat water for a shower. Plus, you’ll save water that other species need, too—like those fish I like to eat!”

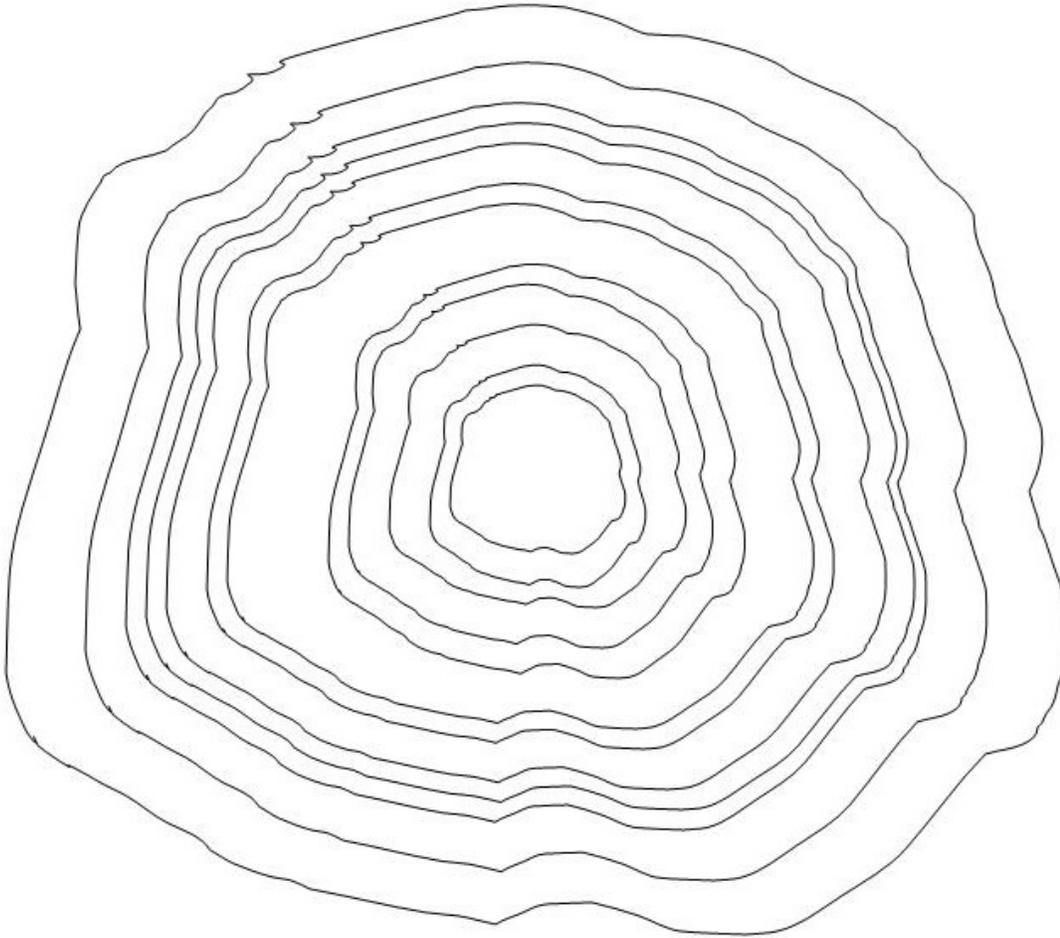
Luís wondered how a polar bear knew so much about humans’ habits! She told him to recycle everything he could, from plastic and paper, to clothes that had gotten too small, to electronics he didn’t play with anymore. “Take them to someone who can use them,” Mika said, “or make new things from your old stuff.”

Mika told Luís that the way polar bears use the earth fits right in with the other species that share their habitat. “For example, I always swim, or walk, or float on an iceberg to get where I’m going,” she said. “But humans use their cars a lot, and airplanes, and buses,” she said. “If you can walk, bike, or skate where you are going, that can help. Buy food that is grown or made near where you live and doesn’t have to ride to your town in a truck or a train that uses a lot of fuel. Remember, we are all connected in the interdependent web of life.”

“Gosh, Mika, I sure am glad I ran into you. I learned a lot about global warming and climate change.”

Luís went back to find his parents to tell them all he had learned, and to see if they could celebrate Rachel Carson day, too.

Handout 1: Tree Ring Analysis



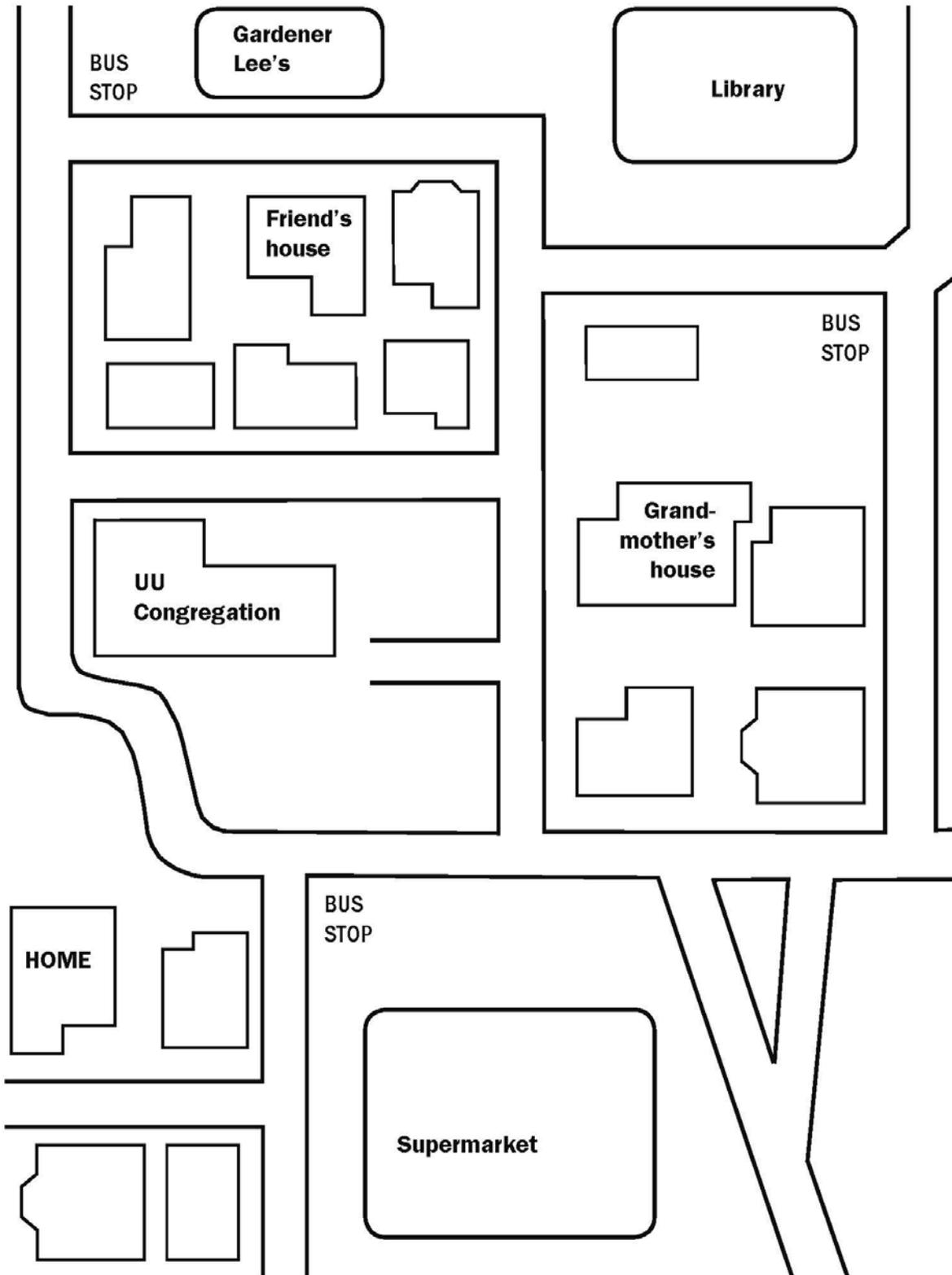
Tree rings tell us about the tree's life. Each ring tells the story of a year. If you see a small ring, there was little rain that year. If you see a large ring, it shows a year when the tree grew a lot.

Start from the middle, the tree's first year. Count the rings. How old was this tree when it was cut down?

Which year did the tree grow the most?

Which year had the least rain?

Handout 2: Environmental Impact Game – Map



Handout 3: Environmental Impact Game – Instructions

You have a busy day planned, with chores and visits all over your community:

- Return 10 large books to LIBRARY.
- Deliver a donation of used clothing, in a large duffel bag, to UU CONGREGATION.
- Go to FRIEND’S HOUSE to meet their new pet.
- Buy a week’s worth of groceries for your family at the SUPERMARKET.
- Stop at GARDENER LEE’S HOUSE where they will give you their extra tomatoes and zucchini, for free.
- Visit your GRANDMOTHER and bring fresh flowers grown in your window box.

Objective: Complete the plan for the day using as FEW environmental impact points as possible.

Starting from “HOME,” make all six stops, in any order, using some combination of these modes of transportation: walking, bicycling, a non-motorized wheelchair, a bus (there are three bus stops in the community), or a car.

Any time you leave a location and go to another location is a segment of your route. You must choose a mode of transportation for each segment. You can return home at any time (for example, to drop off groceries or get your bicycle). So, remember to count each trip home as a separate segment of your route.

Assume that a licensed driver is available for your car.

Be realistic about what you can carry. (You can use a rolling cart without adding any environmental impact points.)

Good news! The bus is free today.

With your team:

1. Look at the map. Identify HOME and the locations of all six stops. Identify locations of bus stops in case you want to use a bus.
2. Decide the order in which you will make the stops. Decide the transportation you will use:
 - Walk – 0 impact points
 - Bicycle – 0 impact points
 - Wheelchair (non-motorized) – 0 impact points
 - Bus – 2 impact points
 - Car – 4 impact points
3. Make a list of every segment of your route (example: HOME to GRANDMOTHER’S HOUSE).
4. On the map, draw or write your route and the transportation mode you are using for each segment.
5. Calculate your environmental impact points.

6. Be ready to explain the choices you made when it is your team's turn to present the route you chose.

You may find this worksheet handy for planning and calculation:

STOPS TO MAKE (in any order)	TRANSPORTATION USED	IMPACT POINTS
Return 10 large books to LIBRARY.		
Deliver a donation of used clothing, in a large duffel bag, to UU CONGREGATION.		
Go to FRIEND'S HOUSE to meet their new pet.		
Buy a week's worth of groceries for your family at the SUPERMARKET.		
Stop at GARDENER LEE'S HOUSE. They will give you their extra tomatoes and zucchini, for free.		
Visit your GRANDMOTHER and bring fresh flowers grown in your window box.		

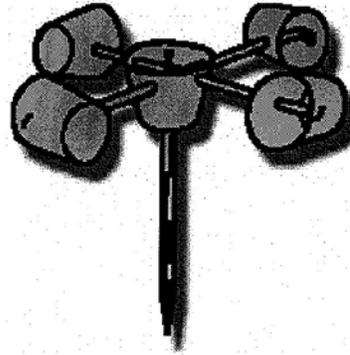
Leader Resource 1: How to Make an Anemometer

From the [Climate Kids pages](#) of the website of the Southeast Regional Climate Center at the University of North Carolina, Chapel Hill; used with permission.

How to Make an Anemometer

Materials Needed:

- five 3 oz. plastic cups
- two plastic soda straws
- one pencil (with unused eraser)
- single-hole paper punch
- scissors
- tape
- one push-pin
- permanent magic marker



Step 1

Take four of the plastic cups and punch one hole in each, about $\frac{1}{2}$ inch (1.5 cm) below the rim.

Step 2

Take the fifth cup and punch two holes in it, directly opposite from each other, about $\frac{1}{2}$ inch (1.5 cm) below the rim. Now punch two more holes in the cup, each $\frac{1}{4}$ inch (1 cm) below the rim that are equally-spaced between the first two holes.

Step 3

Using the push-pin and the scissors, make a hole in the center of the bottom of the cup with four holes in it. The hole should be large enough that the pencil can fit easily through it.

Step 4

Slide one of the straws through the hole in one of the cups that has only one hole in it. Bend the end of the straw that is inside the cup about $\frac{1}{2}$ inches (1.5 cm) and tape it to the inside of the cup.

Step 5

Place the other end of the straw through two of the holes in the fifth cup and then through the hole in one of the other cups. Tape the end of the straw to the inside of the cup as you did earlier, making sure that the openings of the two cups face opposite directions.

Step 6

Repeat steps 4 and 5 with the remaining two cups, sliding the straw through the remaining two holes in the fifth cup. Make sure that the opening of each cup faces the bottom of the cup next to it (in other words, no two openings should be facing each other). Each of the four cups should be facing sideways.

Step 7

Insert the pencil with the eraser facing up through the bottom of the fifth cup. Carefully push the pin through the two straws and into the eraser on the pencil.

Step 8

Take the permanent magic marker and draw a large **X** on the bottom of one of the cups.

Your anemometer is now ready to use! Take it outside and hold it in front of you in an open area where the wind is blowing.

Look at the **X** on the bottom of the cup as it spins around. Count the number of times it spins around (revolutions) in 10 seconds. Use the table below to estimate the wind speed.

Revolutions in 10 seconds	Wind Speed in Miles per Hour (mph)	Wind Speed in Kilometers per Hour (kph)
2 - 4	1	2
5 - 7	2	3
8 - 9	3	5
10 - 12	4	6
13 - 15	5	8
16 - 18	6	10
19 - 21	7	11
22 - 23	8	13
24 - 26	9	14
27 - 29	10	16
30 - 32	11	18
33 - 35	12	19
36 - 37	13	21
38 - 40	14	23
41 - 43	15	24
44 - 46	16	26
47 - 49	17	27
50 - 51	18	29
52 - 54	19	31
55 - 57	20	32

Find Out More

Find hands-on games, activities, and resources on the [Climate Kids pages](#) of the website of the Southeast Regional Climate Center at the University of North Carolina, Chapel Hill.

The Families section in *UU World* magazine has devoted several themed issues to environmental stewardship topics:

- [Summer 2015](#): The Whole World in Our Hands. Story: Green Like the Wind. Parent Reflection: The Web of Life: Helping Children to Know Our Place
- [Fall 2014](#): Geology: The Study of Wondrous Transformations. Story: A Rock Can Tell You a Story. Parent Reflection: Raised UU... and Geologist, by Charlotte Lehmann
- [Winter 2010](#): Empowering UU Kids to Understand, Care, and Act. Story: The Change the World Kids. Parent Reflection: A Parent's Loving Choices Nurture a Child's Loving Power

Tapestry of Faith curricula include several ecology- and stewardship-focused programs with activities, stories, and readings you can use, at home or in your congregation, to spark multigenerational discussion and action around our UU call to be good stewards and resilient protectors of our environment. Browse [Circle of Trees](#), [Gather the Spirit](#), or [World of Wonder](#) (K-1). The Tapestry of Faith Toolkit Book, [Creating Justice Together](#), includes among 36 service project ideas a number related to environmental stewardship, for example, Making a Solar Oven.

The Nature Generation is an organization that initiated the [Green Earth Book Award](#) in 2005 to recognize environmental stewardship books for children and young adults. Ten years later, more and more books for children are explaining climate change and suggesting helpful, hopeful actions to take. In a library or bookstore, find past Green Earth Book awardees including *Earth in the Hot Seat: Bulletins from a Warming World* written by Marfe Ferguson Delano (National Geographic Children's Books, nonfiction); *Operation Redwood* by S. Terrell French (Abrams/Amulet, fiction); or *The Earth Book* by Todd Parr, a playful introduction to the concept of "going green." (Little, Brown; for ages 3-6).

SESSION 8: Still a Mystery

Introduction

Dogbert (gazing at night sky): No matter how bad the day is, the stars are always there.

Dilbert: Actually, many of them burned out years ago, but their light is just now reaching earth.

Dogbert: Thank you for shattering my comfortable misconception.

*Dilbert: It's the miracle of science. —
Scott Adams*

This session concludes the program by exploring some phenomena that remain mysterious and awe-inspiring, even under scientific examination. Participants revisit stories, activities, and themes of the program and have the opportunity to reconsider their own ideas about Miracles. Note: Two Alternate Activities provide hands-on experiences. You may wish to set these up as “stations” to preview or extend this workshop.

Goals

This session will:

- Continue the exploration of awe and wonder and the nature of miracles.

Learning Objectives

Participants will:

- Share Miracle Moments they have experienced
- Reflect on themes of the program and what they have learned
- Explore phenomena that continue to lack scientific explanation.

Session-at-a-Glance

Activity

Opening

Activity 1: Sharing Miracle Moments

Activity 2: Story – Things We Still Can't Explain

Activity 3: Miracle Charades

Activity 4: Miracles Revisited

Faith in Action: Miracles in a Science Museum

Closing

Alternate Activity 1: Magical Rising Coin

Alternate Activity 2: Making a Rainbow

Spiritual Preparation

Take five minutes to center yourself. Think about miracles, in particular the miracle of mysteries that science has not yet explained. Find a comfortable position, and take three deep breaths. Feel the details of your body: where it is touching the chair, how your feet feel on the floor, the sensations of your breathing.

Think of the participants you have led in this group. Recall each of their faces. Out of the billions of people on the face of this earth, you have had these experiences with this special group of people. Thank them each in your mind.

Now recall memories of the last sessions.

Think of sharing stories, experiments, shining moments of insight, connection, and fun.

How has this program stretched you? How has it touched you? How has it challenged you?

What has happened in your life since it began?

Can any aspect of your experience here be called “miraculous?”

Opening (5 minutes)

Materials for Activity

- Chalice and LED/battery-operated candle
- Optional: Newsprint, markers, and tape

Preparation for Activity

- Post the newsprint with the chalice-lighting words below.

Description of Activity

Gather participants in a circle around the chalice. Welcome new participants. Welcome back those from previous sessions. Review names as appropriate.

Light the chalice, or ask a volunteer to light it. Lead participants in saying the chalice-lighting words:

*We light this chalice
For the wonderful mysteries
in our world and in ourselves,
the ones science can explain
and the ones, in awe,
we still seek to understand.*

Activity 1: Sharing Miracle Moments (5 minutes)

Materials for Activity

- Newsprint, markers, and tape
- Newsprint with definition(s) of a miracle generated by the group (Session 1)

Preparation for Activity

- Post the newsprint with the group's definition(s) of a miracle.
- Prepare to share, in a phrase or sentence, a "miracle moment" of your own.

Description of Activity

Invite everyone to share a "miracle moment"—a time when they paid attention to something unexpected, awesome, and perhaps unexplained. If needed, share a recent miracle moment of your own. You may wish to remind the group:

- Everyone's ideas and experiences of miracles may be different.
- Participants may "pass." Sharing a miracle is not required.

Ask:

- What do you think of our definition of miracles now? Should we change it? How?

Activity 2: Story – Things We Still Can't Explain (10 minutes)

Materials for Activity

- A copy of the story, "Things We Still Can't Explain"
- Leader Resource 1, Ball Lightning Images
- Leader Resource 2, Earthquake Lights Image
- Leader Resource 3, Sliding Rocks Images
- Optional: Computer and a projector or large monitor, ideally with Internet connection

Preparation for Activity

- Read the story and prepare to read or tell it to the group.
- Download and print Leader Resources 1, 2, and 3 to show the group images of ball lightning, earthquake lights, and sliding rocks. If possible, print Leader Resource 2, Earthquake Lights Image, in color.
- Optional: The Description of Activity gives you questions to prompt discussion. One question asks you to reveal to the group the

scientific explanation, which emerged in 2014, for the sliding rocks phenomenon. Read an abstract or the full article, [“Sliding Rocks on Racetrack Playa, Death Valley National Park: First Observation of Rocks in Motion.”](#) in the August 27, 2014 *Public Library of Science ONE Journal*. Or, read an August 17, 2014 *Los Angeles Times* article about the discovery, [“Mystery of how rocks move across Death Valley lake bed solved.”](#)

- Optional: If you have Internet access, show images and video of the unexplained phenomena while you share the story or immediately afterward. Start with these links:

- **Ball lightning.** The story in this session borrows, with permission, from a July 6, 2014 post by Sukanya Mukherjee, [“Where Science Has Failed: The 8 Strangest Natural Phenomena Unexplained By Science.”](#) on the website, HEXAPOLIS. Use the link to find images of ball lightning, earthquake lights, and five other unexplained phenomena.
- **Sliding rocks.** This well-produced video, [“How Rocks Move \(6:15\).”](#) shows the efforts of paleo-oceanographer Richard Norris and a team of citizen scientists to measure and understand the movements of the rocks in Death Valley’s

Racetrack Playa; read about the Slithering Stones Research Initiative [here](#). [“Raising Heaven: Where Rocks Go Wandering.”](#) by Tim Cahill (National Geographic, 2007) was a source for the story in this session.

- **Earthquake lights.** This clip on YouTube shows the [colorful lights](#) that appeared in the sky a half hour before an earthquake in Sichuan, China in 2008. The first 50 seconds of this [YouTube video](#) are a compilation of “earthquake light” images. A good, recent article is [“Glowing lights around an earthquake's epicenter”](#) in the online *London Times*.

Description of Activity

Read the story, showing images of unexplained phenomena as you have planned. When you are finished, prompt discussion:

- Do you believe all three of these unexplained phenomena are real? Which seems hardest to believe? Why?
- Which of these phenomena fit our definition of a miracle? Why or why not?
- [For each of the phenomena] What do you think the scientists are missing? How would you explain the cause of this phenomenon? How does the lack of a proven, scientific explanation make you feel?
- I would like to tell you that after today’s story was written, someone witnessed the sliding rocks while they were moving, on a

cold, windy night. [If you have read the *Los Angeles Times* article about the discovery and wish to tell the group more, share details now.] The scientists concluded that a combination of a very thin coating of ice on the ground and a very strong wind pushed the rocks. By morning, when the ice melted, the trails were visible in the ground. Does knowing the scientific explanation make any difference to you?

- Even though we cannot be sure of a scientific explanation, do you think the phenomenon has a meaning or a purpose? Why do you think that? Or, why not?

Activity 3: Miracle Charades (20 minutes)

Materials for Activity

- Newsprint with definition(s) of a miracle generated by the group (Session 1)
- Small slips of paper and pencils
- Two baskets or other containers
- Timepiece (seconds)

Preparation for Activity

- Post newsprint for scoring.

Description of Activity

The purpose of this activity is to engage participants in the naming of miracles, and encourage them to think more widely about how they would describe a miracle.

Charades is a game of pantomimes. A participant will "act out" a phrase without speaking, while the other members of their team try to guess what the phrase is. The

objective is for your team to guess the phrase as quickly as possible.

Select a timekeeper, or perhaps one of the facilitators to keep an eye on the time. Decide how much time a team will have to guess correctly.

Divide the players into two teams of equal size. Give each team pencils, slips of paper, and a container for the slips. Review the gestures used in Charades. Some gestures that may be helpful are:

- Number of words in the phrase: Hold up the number of fingers.
- Which word you're working on: Hold up the number of fingers again and point to the appropriate one.
- Number of syllables in the word: Lay the number of fingers on your arm.
- Which syllable you're working on: Lay the number of fingers on your arm again, then lift one finger to indicate the first syllable, or two fingers to indicate the second syllable, etc.
- Length of word: Make a "little" or "big" sign as if you were measuring a fish. This can help players quickly guess words like "a," "an," "it," and "the."
- "The entire concept:" Sweep your arms through the air.
- "On the nose:" (i.e., someone has made a correct guess): Point at your nose with one hand, while pointing at the person with your other hand.
- "Sounds like:" Cup one hand behind an ear.

- "Longer version of:" Pretend to stretch a piece of elastic.
- "Shorter version of:" Do a "karate chop" with your hand.
- "Plural:" Link your little fingers to make a "plus" sign.
- "Past tense:" Wave your hand over your shoulder toward your back.

To Play

Send teams to separate rooms with paper, pencils, and a bowl or basket. As each team to describe at least five miracles with a word or phrase that the other team will have one member act out for their teammates to guess. Each miracle must be written on a separate sheet of paper, and the papers folded closed and collected in the bowl.

Re-gather the large group.

Each round of the game proceeds as follows:

A player from Team A draws a phrase slip from Team B's container. After the player has had a short time to review the slip, the timekeeper for Team B notes the time and tells the player to start. Team A then has three minutes to guess the phrase. If they figure it out, the timekeeper records how long it took. If they do not figure it out in three minutes, the timekeeper announces that the time is up, and records a time of three minutes.

A player from Team B draws a folded paper from Team A's bowl, and play proceeds as above.

Continue until every player has had a chance to "act out" a miracle, time runs out, or interest

wanes. The score for each team is the total time that the team needed for all of the rounds. The team with the lower score wins the game.

Including All Participants

If you have a large group, make more teams. Team A supplies miracles to Team B, Team B supplies Team C, and Team C supplies Team A.

If any participant is vision-impaired, omit this game or change the game dynamic by asking players to use words (instead of gestures) to describe the miracle they want teammates to guess, but without using key words or phrases. For example, a player trying to suggest "stars" cannot use "nighttime, sky, super, or light" to describe the miracle.

Activity 4: Miracles Revisited (15 minutes)

Materials for Activity

- Session 1, Leader Resource 1, It's a Miracle
- Newsprint with the definition(s) of miracles generated by the group in this program

Preparation for Activity

- Print Session 1, Leader Resource 1, It's a Miracle.
- Post the newsprint sheets describing and defining miracles that the group generated during the program.

Description of Activity

Participants revisit ideas and experiences from earlier sessions and reconsider their perspectives on miracles, science, and religion. Lead a discussion using these questions:

- What helps us experience miracles? Is it possible to prepare oneself to experience a miracle? How?
- Has your thinking about miracles changed as a result of your experience with this program?
- How would you define a miracle now?
- What place does the miraculous have in Unitarian Universalism?
- What place does the miraculous have in your life?

Faith In Action: Miracles in a Science Museum (0 minutes)

Materials for Activity

- Clipboards, paper, and pencils

Preparation for Activity

- Plan for the group to visit a local science museum. Arrange for transportation, fees (ask about a group rate), and parent volunteers so that all participants will be able to explore the museum in a small group with an adult.
- Prepare and distribute written notices and permission forms. Include a heads-up that participants will be invited to look for miracles while the group is at the museum.

Description of Activity

Arrange to go as a group to a local museum that has a science theme.

Assign small groups to tour the museum and encourage each person to look for miracles as they explore. Tell everyone when and where to re-gather; make sure you will have at least 15

minutes to be together at the museum before participants need to leave.

When you re-gather, invite participants to report on their observations. Guide discussion with these questions:

- What did you see that was awesome and amazing? Which exhibits showed something you would consider a miracle? What is the science behind the miracle? What about the miracle does science fail to completely explain?
- Do you think that science itself is a miracle? Does it amaze you that our species has been able to figure out so much about our world?
- Is a science museum a logical place or a surprising place to find miracles? Why or why not?

Remind everyone that miracles can be found in both the explained and the unexplained.

Closing (5 minutes)

Materials for Activity

- Taking It Home
- Optional: Newsprint, markers, and tape

Preparation for Activity

- Choose a closing song; if you like, invite a musical volunteer to help lead. Or, choose a closing reading.
- If needed, write song lyrics or closing words on newsprint, and post.
- Download the Taking It Home section. Adapt it and copy for all participants.

Description of Activity

Gather participants in a circle.

Lead participants to sing the song or say the closing words you have chosen.

Invite the group to compose a spontaneous benediction together by having each participant complete the phrase “I am thankful for the miracle of _____.”

Encourage everyone to keep looking for and working for miracles after the program ends.

Distribute the Taking It Home handout. Wish everyone well as they leave.

Taking It Home

Dogbert (gazing at night sky: No matter how bad the day is, the stars are always there.

Dilbert: Actually, many of them burned out years ago, but their light is just now reaching earth.

Dogbert: Thank you for shattering my comfortable misconception.

*Dilbert: It's the miracle of science. —
Scott Adams*

IN TODAY’S SESSION... we concluded the program, exploring physical phenomena that remain wonderfully mysterious, even to science. While revisiting stories and themes from the entire program, participants were invited to reconsider their own ideas about miracles and encouraged to continue looking and working for miracles after the program ends.

EXPLORE THE TOPIC TOGETHER: Talk about... Has your idea of miracles or what is miraculous changed over the course of this program? How do you think differently about

miracles now? What are some of the miraculous qualities about your family?

EXTEND THE TOPIC TOGETHER. Try... an outdoor discovery trip to exercise your ability to notice miracles. Visit a nearby park or sit on your own front stoop; you can focus on nature or, instead, focus on human behavior.

Challenge yourselves to observe everything as if for the first time, looking with close attention. Bring a magnifying glass, pencil and paper for sketching, and a note pad to try to describe something in very specific detail with words, as if writing a letter to someone who has never, and may never, have the opportunity to witness the miracles you will see.

A Family Ritual. Remind each other to be grateful for the miracles all around us. At the end of a day, take a moment together, and have each family member say, “I am grateful for the miracle of _____.”

Alternate Activity 1: Magical Rising Coin (5 minutes)

Materials for Activity

- A coin
- Adhesive putty
- A cup of water
- A non-transparent bowl

Preparation for Activity

- Set the coin in the middle of the bowl, at the bottom, using a small amount of the adhesive putty to keep it in place.

Description of Activity

This activity shows that sometimes our senses can be deceived, and what we see is not always what's true.

Gather participants around the bowl close enough to see the coin at the bottom. Now have them move back, away from the bowl, until they cannot see the coin anymore.

Have someone pour the water very slowly into the bowl.

Watch the bowl from where you are standing.

What do you see? When the bowl is empty the edge of the bowl prevents you from seeing the coin. When the bowl is full, the light bends over the edge so you can see the coin.

Ask:

- Have you ever noticed that things at the bottom of a pool or river always look closer to the surface than they really are?

This is because of the way light is bent through water and is an effect of refracted light.

Alternate Activity 2: Making a Rainbow (5 minutes)

Materials for Activity

- A clear plastic box, filled halfway with water
- A hand mirror that will fit inside the box
- Flashlight
- Thick black construction paper or poster board, scissors, and tape
- A white card

Preparation for Activity

- Plan to do this activity in a room you can completely darken.

- If the group is large, obtain multiple clear plastic boxes, mirrors, and flashlights and set up multiple stations.
- To save time, prepare the flashlight(s):
 - Cut out the shape of the face of the flashlight (to block light) from the black paper.
 - Make a small slit in the cutout paper.
 - Tape the paper securely to the face of the flashlight, to block the light.

Description of Activity

Lead the participants to do this experiment:

- Set the mirror inside the clear plastic box, leaning against one end.
- Place the mirror in the box, leaning against an end.
- Darken the room. Then, turn on the flashlight, and aim it at the mirror, keeping the flashlight outside of the box.
- Hold the white card so reflected light coming from the mirror can shine on it.

Make sure everyone has an opportunity to see a rainbow on the white card.

Explain: When light travels through water, the light beam slows down and bends. The seven different colors that make up the rainbow all travel at different speeds and therefore each color bends at a slightly different angle. The mirror reflects the different colors so that you see a rainbow, or spectrum, of the seven separated colors.

Ask: "Is a rainbow a miracle, even though it is something we can make ourselves? Why, or why not?"

Story: Things We Still Can't Explain

Sources used for this story include:

[“Raising Heaven: Where Rocks Go Wandering,”](#) by Tim Cahill (National Geographic)

The world still holds many wonders that science—so far—cannot explain. As you learn about the three mysteries described, see if you can hypothesize any scientific explanations for them.

1. Ball Lightning

Too many public sightings of ball lightning have been reported to write it off as fictitious. It is literally a blazing ball of lightning that usually appears during a thunderstorm. What makes it incredibly intriguing is that these burning spheres are actually mobile, with seemingly unexplainable powers. People have seen ball lightning pass through blocks of metal, wood, and even buildings. They are accompanied by strong sulfurous odor, and have a lifespan ranging from one second to a minute.

Ball lightning can cause major damage, such as burning objects in its path. So far, the most popular scientific explanation says that lightning balls are made of vaporized silicon. In 2012, scientists in China captured video and spectrographic images of ball lightning for the first time. The images have allowed scientists to determine what these balls of fire are made of, so, we may be close to an explanation.

2. Earthquake Lights

Sometimes before, during, or after a large earthquake, mysterious, flashing lights are

seen in the sky. People have described them as blue, white, multicolored, or sometimes every color in the spectrum. These earthquake lights usually last only a few seconds, though some have been observed for as long as a minute.

Earthquake lights have been observed throughout history, with the earliest report dating back to 373 BCE. The 20th century provides the majority of reports. After the 1930 earthquake at Japan's Idu Peninsula, more than 1,500 people told researchers they had seen mysterious lights. After the 1976 Tangshan earthquake in China, people reported a "colorful, flashing light display [that] was seen in the sky 200 miles away."

Scientists began to take earthquake lights seriously in the 1960s, when they were first photographed. More recently, people have captured earthquake lights on video. Many wonder whether earthquake lights can be taken as a warning that an earthquake is about to happen.

In 2010, Chilean journalist Cecilia Lagos witnessed earthquake lights. Later, she said:

I saw through my window, while I was still in bed, I saw the sky changing colors, it was absolutely surreal. I really thought it was the end of the world...I don't know I hope you understand me because I'm not exaggerating really because I saw it through my window like that.

That was the most terrifying thing seeing

*the sky changing colors with the terribly,
amazingly strong movement of the
earth, I thought, ok...this is mother earth.*

An old, Japanese haiku poem (author unknown) hints at the connection of these lights to movement under the earth's surface:

*The earth speaks softly
To the mountain
Which trembles
And lights the sky.*

Some think that certain types of rock grinding against one another may generate electrical charges that make the sky glow. But, science does not yet know with certainty the cause of earthquake lights.

3. Sliding Rocks

Another geological mystery is sliding rocks, also called sailing stones or moving rocks.

These are large, heavy rocks that appear to move, apparently on their own, along the smooth ground of a valley. No one has seen the rocks move. We know they have moved because of the long tracks they leave in the ground.

In Death Valley, Arizona, a large, flat area known as Racetrack Playa has many of these moving rocks. A writer in National Geographic magazine said:

I am thinking specially of an area in the northwest section of Death Valley called the Racetrack, where, inexplicably, ...rocks as big as microwave ovens go zipping across the desiccated mud for distances of more than half a mile (880

m). The evidence is all there: deep tracks in the surface, with a rock at the end. One concludes, reluctantly, that the rocks somehow traveled a couple of hundred yards, leaving a telltale trail behind. There are over 150 of these roving rocks. But no one has ever seen them move.

No one has seen the rocks move, nor is there evidence that an animal or human moves them—so, how and why do the rocks move? At Racetrack Playa, many curious visitors have observed the stones and the tracks they leave. The tracks can be hundreds of feet long and are typically less than an inch deep. The stones appear to move every two or three years and most tracks develop over three or four years. Rocks with rough bottoms leave straight tracks, while those with smooth bottoms seem to wander. Rocks sometimes turn over, exposing another edge to the ground and making a different-looking track. Sometimes two rocks seem to have started together, traveling side by side, until one abruptly took another direction, to the left, to the right, or even backward. Because no one has witnessed the rocks moving, the speed the rocks travel at are not known.

One theory suggests that the rocks are so porous that there is air inside them. On a sub-zero night, the air inside a rock will compress. The next day, the intense desert heat causes the air inside to once again expand, which pushes the rocks along their paths.

Gravity is not the cause. Sliding rock trails go in a variety of different directions, often uphill. Many people believe that strong winds move the rocks when the weather is wet. The dried mud at Racetrack Playa, becomes slippery when wet and can sometimes freeze overnight into sheets of ice. But some of the rocks weigh as much as a human, which some researchers feel is too heavy for the area's wind to move, even across a very slippery playa. People have tried to move the rocks when the ground is slippery, using ropes, and have failed.

Leader Resource 1: Ball Lightning Images

The photograph of ball lightning is reproduced from the [HypeScience website](#).



The 1886 illustration of ball lightning, "Globe of Fire Descending into a Room," is public domain from the National Oceanic & Atmospheric Administration (NOAA).



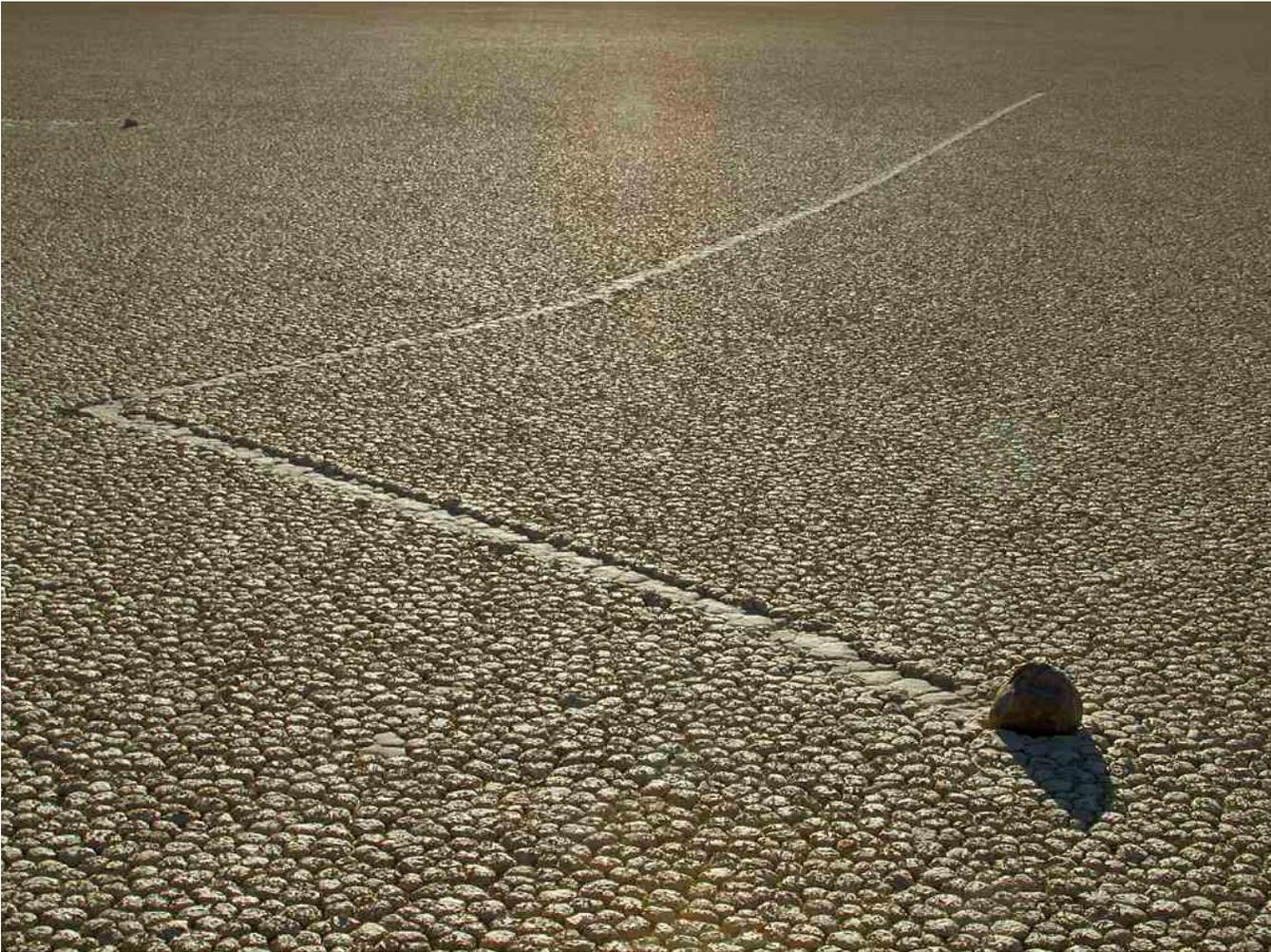
Leader Resource 2: Earthquake Lights Image

These earthquake lights were observed minutes before the 8.0 magnitude earthquake in Sichuan, China in 2008. Photo is from a video posted on YouTube.



Leader Resource 3: Sliding Rocks Images





Find Out More

A Look at Awe

On Vimeo, watch a presentation by Jason Silva based on research including the book, [The Biological Advantage of Being Awestruck](#), by Nicholas Humphrey.

More Research on Unexplained Phenomena

Abundant Internet articles hypothesize about as-yet-unexplained natural phenomena. Find a 2012 theory about ball lightning [here](#), on the Tech Guru Daily website. On the Wondergressive website, [“Ball Lightning Directly Measured for the First Time”](#) reports on the accidental spectrographic capture of a lightning ball by scientists in China, and offers explanation.

[“The Sliding Rocks of Racetrack Playa.”](#) by Paula Messina, includes photos of the rocks and the tracks in the dirt that prove they have moved.

The *Journal of Scientific Explanation* article, [“Rocks That Crackle and Sparkle and Glow: Strange Pre-Earthquake Phenomena”](#) (2003) by Friedemann T. Freund, gives a contemporary understanding of pre-earthquake lights in the sky.