

Teacher:
Date: (2-3 day lesson plan)
Subject / grade level: Science/Health/Math (preK-12)
Materials: <ul style="list-style-type: none">• Class set of the Mandala Coloring worksheet• The Mandala Book: Patterns of the Universe by Lori Bailey Cunningham• Outdoor space to collect items from nature and create mandalas• Small brown paper bags• Chime• Camera• Nature Journals• Colored pencils• Images of mandalas
SOLs: Key science SOLs: Look at your grade level specific SOLs from VDOE Science Standards that focus on scientific investigation/reasoning/logic, life processes, and earth patterns/cycles/change. For example, the K Science SOLs would be: K.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which <ol style="list-style-type: none">a) basic characteristics or properties of objects are identified by direct observation;b) observations are made from multiple positions to achieve different perspectives;c) a set of objects is sequenced according to size; d) a set of objects is separated into two groups based on a single physical property; k) objects are described both pictorially and verbally K.4 The student will investigate and understand that the position, motion, and physical properties of an object can be described. Key concepts include <ol style="list-style-type: none">a) colors of objects;b) shapes and forms of objects;c) textures and feel of objects;d) relative sizes and weights of objects; ande) relative positions and speed of objects. K.6 The student will investigate and understand the differences between living organisms and nonliving objects. Key concepts include <ol style="list-style-type: none">a) all things can be classified as living or nonliving K.9 The student will investigate and understand that there are simple repeating patterns in his/her daily life. Key concepts include <ol style="list-style-type: none">a) the shapes and forms of many common natural objects including seeds, cones, and leaves

- K.10 The student will investigate and understand that change occurs over time and rates may be fast or slow. Key concepts include
- natural and human-made things may change over time; and
 - changes can be observed and measured.

Math SOL: Look at your grade level specific SOLs from [VDOE Math Standards](#) that focus on symmetry, number sense and patterns.

For example, the Kindergarten Math SOLs:

- K.1 The student will a) tell how many are in a given set of 20 or fewer objects by counting orally
- K.12 The student will sort and classify objects according to one attribute.
- K.13 The student will identify, describe, extend, create, and transfer repeating patterns.

Health SOL: Look at your grade level specific SOLs from [VDOE Health Standards](#) that focus on Mental Wellness.

For example, the Kindergarten Health SOL for Mental Wellness:

- K.1 The student will identify and describe key health and safety concepts.
- Identify a variety of feelings (e.g., happiness, sadness, anger, fear, frustration, calmness).
- K.2 The student will identify healthy decisions. n) Describe how feelings can influence actions.

- I can demonstrate how to create a pattern and symmetry by adding at least 2 natural items to the mandala.
- I can give at least one example of impermanence in nature and in the feelings I have in my life.
- I can contribute to the discussions, design and creation of the class mandala and complete a mandala.
- I can make a connection from my own life and to things I have learned with patterns to the creation of the mandala.
- I can complete a nature journal entry with a description and sketch of something from nature with a mandala like pattern or sketch the nature mandala created by my group.

Differentiation strategies

Above Target: series of natural pattern pictures and cards with the mathematical focus, advanced vocabulary such as impermanence, post activity with real world problem with impermanence; draw their own nature mandala

On Target: visuals, sample of mandalas, independent exploration and collection of natural materials

Below Target: Use of visuals both with the book, pictures, and a sample of a mandalas; use of partnerships that will help guide student through role modeling in collection of natural materials; work one-on-one or in small group with some students while they collect their nature items and/or place them in the mandala.

5Cs Focal Areas for Instruction:



Note: (T) teacher directed, (G) Group/Class activity, (S) Student Practice
(D) Differentiation items, (A) assessment

***This lesson plan can unfold over the course of 2-3 days depending on the focus and the needs of the class.**

Vocabulary

Key Terms:

- nature mandala
- impermanence
- symmetry
- patterns






Strategies to support vocabulary development:

The Mandala Book: Patterns of the Universe
Visual pictures and/or samples of mandalas

ENGAGEMENT (15 minutes)

Bloom's Taxonomy Levels

Remembering Understanding Applying Analyzing Evaluating Creating

<div style="display: flex; flex-direction: column; gap: 10px;"> <div style="display: flex; align-items: center;"> <input checked="" type="checkbox"/>  </div> <div style="display: flex; align-items: center;"> <input checked="" type="checkbox"/>  </div> <div style="display: flex; align-items: center;"> <input checked="" type="checkbox"/>  </div> <div style="display: flex; align-items: center;"> <input checked="" type="checkbox"/>  </div> <div style="display: flex; align-items: center;"> <input type="checkbox"/>  </div> </div>	<ul style="list-style-type: none"> ● Bring the class outside to an area where they can collect items from nature and create their mandalas. ● Join them together in a circle, either seated or standing. ● Invite them to calm their bodies and take a few deep breaths. ● Have students notice the clouds. ● Ask them, "What is happening to the clouds?" Listen to their responses, and explain that the clouds are moving and changing. ● Have them notice the air or wind on their skin. ● Ask, "What is happening to the wind?" Listen to their responses, and explain that the wind is moving and changing. ● Ask the class, "What else in nature is created and then changes?" Build upon their answers, then offer some examples that were not shared, such as leaves on the trees in autumn, rain, or sounds that come and go. ● Ask, "Is there anything in nature that stays around forever?" Explain that almost nothing in nature stays the same forever; everything is always changing! ● Share with students that this concept is called impermanence, which means that nothing is permanent, or around forever, and things are always changing. ● Ask them to repeat the word "impermanence" after you. ● Open to some pages of The Mandala Book to show some examples of mandalas. ● Pause and ask the class, "What do you notice? What do you wonder?" ● Explain that these images are called "mandalas." ● Show the front cover of the book. ● Point to the word "Mandala," and ask them to repeat the word. ● Tell students that mandalas are created from items in nature. Then, they are left out in nature as a reminder that nothing is permanent. ● Ask, "What word do we use when we talk about how nothing is permanent?" Have the class repeat the word "impermanence."
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EXPLORATION






Bloom's Taxonomy Levels






Remembering Understanding Applying Analyzing Evaluating Creating













Explicit Instruction/Teacher modeling (10 minutes)

- Tell students that they will work with partners to collect items in nature, such as rocks, leaves, flowers, and feathers. Then, they will come back together and use the items they collected to create one large nature mandala.
- Ask the class to come up with a set of rules to follow when they're choosing items in nature. Build upon their answers, and say, "Keep your hands and feet safe, go slow, and use mindfulness."
- Inform them that everything they collect will go into their brown paper bag. Remind them to only pick up safe objects, and to stay clear of animals and three-leaf plants if you have poison ivy in your area. Also, emphasize that they should be gentle with plants.
- Model how to choose items in nature, going slow, choosing 10 safe objects, and placing each in your brown paper bag.
- Divide the class into partners, and distribute paper bags.
- Set boundaries for how far they may go to collect their items.
- Explain that they will have 10 minutes to collect, and you will ring the chime when it's time to return.
- Dismiss partners, and remind each student to choose 10 items to bring back to class.

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<p>EXPLANATION</p> <p>Bloom's Taxonomy Levels</p> <p> <input checked="" type="checkbox"/> Remembering <input checked="" type="checkbox"/> Understanding <input checked="" type="checkbox"/> Applying <input checked="" type="checkbox"/> Analyzing <input checked="" type="checkbox"/> Evaluating <input type="checkbox"/> Creating </p>	
<input checked="" type="checkbox"/>  <input checked="" type="checkbox"/>  <input checked="" type="checkbox"/>  <input checked="" type="checkbox"/>  <input type="checkbox"/> 	<ul style="list-style-type: none"> • Tell the class to silently stand in a circle for a minute, and to notice all of the details in their class mandala. Have them reflect on the colors, shapes, sizes and patterns. Reinforce concepts of symmetry and patterns in nature as well as in their mandala. • Ask them what they notice. Take a few comments. • Share with the students that their mandala will be left in nature, but you will take a photo of it. • Explain that even though the photo will capture the mandala, at the end of the day, the mandala is impermanent and won't last forever (just like everything else). • Ask, "What can we learn from impermanence? Why is it important to learn about impermanence?" • Emphasize that understanding impermanence is important because it teaches us that any good or bad moment, experience, or place won't last forever. It can be useful to remember this when we are going through a tough time, and it can help us appreciate the beautiful moments while we are experiencing.

<p>ELABORATION</p> <p>Bloom’s Taxonomy Levels</p> <p>☒ Remembering ☒ Understanding ☒ Applying ☒ Analyzing ☒ Evaluating ☒ Creating</p>	
<p>☒ </p> <p>☒ </p> <p>☒ </p> <p>☒ </p> <p>☒ </p>	<p>Independent working time (20 minutes)</p> <ul style="list-style-type: none"> • Remain outside or return to the classroom, and reflect on students connections emotionally to creating and sharing the mandala. How might this activity help them in their own life? • Students complete a nature journal entry that includes a written description and sketch focused on a natural item in nature that reflects the mandala pattern and/or complete the Mandala coloring worksheet. Be sure to have the students place the date, time, and location on the entry. • If returning to the classroom and selecting the coloring activity, pass out the Mandala Coloring worksheet. • Have students color in their nature mandalas and draw their understanding of impermanence. <p>Review and closing (5 minutes)</p> <ul style="list-style-type: none"> • Gather students back in a circle, and ask them to share what they learned today. Take 2–3 comments. • Build upon their answers, and remind them of the definition of impermanence from the beginning of class. (Impermanence means that nothing is permanent, and things are always changing.) • Explain the importance of understanding impermanence: "When we are having a challenging time, we can remind ourselves that the experience won't last forever. Instead, we can savor the good times and positive experiences we have."
<p>EVALUATION</p> <p>Bloom’s Taxonomy Levels</p> <p>☒ Remembering ☒ Understanding ☒ Applying ☒ Analyzing ☒ Evaluating ☒ Creating</p>	

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Assessment

(P) - **Pre-assessment (Diagnostic):** Observation and recording of student engagement in giving information to the discussion and “thumbs up or down” to collect basic understanding and/or misconceptions

(F) - **Formative:** Contributions to the discussion, nature journal entry and creation of the nature mandala

(S) – **Summative:** Nature journal entry and/or Independent mandala and response on Mandala activity sheet

Differentiation Results

Above Target: High level thinking responses to the connection of mental well-being and impermanence; creation and contribution of symmetrical and pattern coinciding with the mandala

On Target: Understanding of impermanence with general examples in nature and in our emotional well-being; basic pattern and symmetry work on the nature mandala and the final activity sheet

Below Target: Difficulty in understanding the idea of change in nature and our feelings or connecting these concepts; difficulty contributing items to the mandala that are part of the pattern and symmetry started

Resources

Mandala coloring sheet: <https://drive.google.com/file/d/1rLDK-ZH8Q-hBh10bCc3chkwOK8Eajkk3/view?usp=sharing>

Education.com with the search under Mandala (lesson plans and activities)

Creating a Mandala in Nature <https://www.youtube.com/watch?v=z6lvXB0xTqI>

Nature Mandalas by Royal Botanical Gardens:
<https://www.youtube.com/watch?v=DLz9mTJWwBU>

How to Make Nature Mandalas by Mary Makes Good:
<https://marymakesgood.com/2020/05/nature-mandalas.html>

Nature Mandalas by The Arboretum

Reflection