Turtle Symmetry

Grade 1 - Mathematics

Turtle Guardians

Turtle Symmetry

Lesson Details

Grade Level:	1	**Curriculum Links:**	Mathematics, Visual Arts	**Time Needed:**	45 minutes
Learning Goal	To practice using a symmetry mirror and to correctly colour the corresponding side of the turtle. To understand what symmetry is and how to identify it in everyday objects.				
Success Criteria	By the end of this lesson, students will have practiced using a symmetry mirror, successfully coloured their turtle, and identified other objects around them that have symmetry.				
Specific Expectations	*Mathematics – Geometry and Spatial Sense* • Locate shapes in the environment that have symmetry, and describe the symmetry; • Create symmetrical designs and pictures, using concrete materials, and describe the relative locations of the parts. *Visual Arts – Elements of Design* • Use a variety of materials, tools, and techniques to respond to design challenges: drawing, mixed media, painting, printmaking, sculpture.				
Materials Needed	Worksheet (attached), Pencil, Symmetry Mirror, Colouring Pencils, Markers, Crayons.				

Lesson Description

Overview	Using a symmetry mirror, students will re-create and properly colour the other half of the turtle on the provided worksheet. Students will also generate a list of objects that have symmetry.
Activity	1. To begin, hand out the attached worksheet. 2. Explain what symmetry is and ask the students if they can spot objects in the classroom that have symmetry (E.g. desk, pencil, a shape, chair, etc.) 3. Next ask if the students can think of objects or animals in nature that have symmetry (E.g. tree, flower, butterfly, turtle, etc.) 4. Hand out the symmetry mirrors and colouring utensils, and have the students complete the attached worksheet.
Background Information	**Symmetry** is defined by an object looking exactly the same on both sides when a central dividing line (or mirror line) can be drawn on it. Turtles have symmetry. The top shell of a turtle is called a **carapace**. Many turtles have distinct carapace shapes or markings that can be used to identify them. The triangular (or geometric) sections on the carapace are called **scutes**. **Marginal scutes** are found around the carapace and **ridges** are the nodes/connections between them. The scutes of a turtle's carapace are arranged in longitudinal rows with strict bilateral symmetry in organization. The colours and characteristics of the scutes vary from species to species. For example, the Spotted Turtle, although symmetrical in scute layout, has a random assortment of spots on the carapace.
Blacklist Masters	• Worksheet (attached) • Video Link(s): Ontario Turtle Identification • For more information, please visit https://www.turtleguardians.com/sample-page/id-turtles/

Lesson Description

Place-Based Learning	Students are encouraged to go for a walk in nature and identify things that have symmetry.
Inquiry-Based Learning	Using **Confirmation Inquiry**, the students will investigate objects around them and in nature to determine if it has symmetry, all while using a symmetry mirror to complete an illustration. Ask the students: • What is symmetry? • What objects have symmetry? • How does a turtle have symmetry?
Turtle Stories	Try drawing a picture of a turtle's habitat with just symmetrical objects found in nature. Students are encouraged to share their experiences, pictures, and worksheets on the Turtle Stories website, found here: https://www.turtlestories.ca/
Turtle Guardian Program Links	In **Level 1** (Ontario Turtle Identification) of the **Turtle Guardian Program**, students will learn how to identify all 8 species of Ontario's turtles. For more information, please visit https://www.turtleguardians.com/what-is-a-turtle-guardian/

My Notes

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Turtle Symmetry

List objects in the classroom that have symmetry.

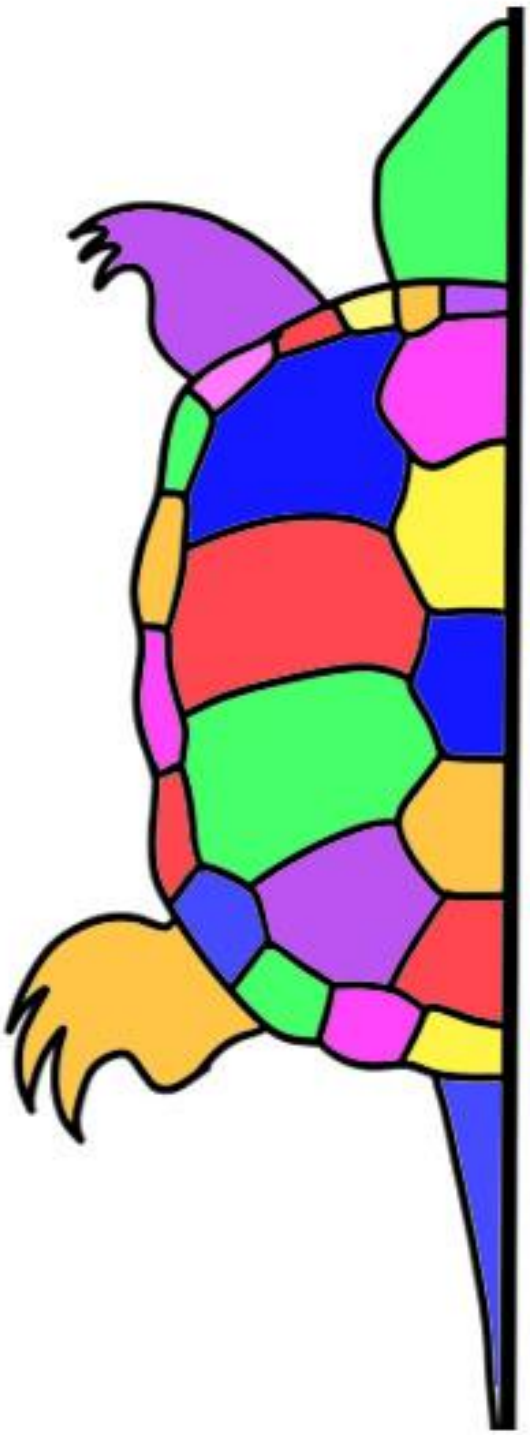
1. E.g. Desk
2. E.g. Pencil
3. E.g. Triangle
4. _____
5. _____
6. _____
7. _____
8. _____

List objects in nature that have symmetry.

1. E.g. Tree
2. E.g. Flower
3. E.g. Butterfly
4. _____
5. _____
6. _____
7. _____
8. _____

On the next page, use your symmetry mirror to draw the missing side of the turtle.

Then, colour the turtle side that you just drew to match.



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Turtle Symmetry

List objects in the classroom that have symmetry.

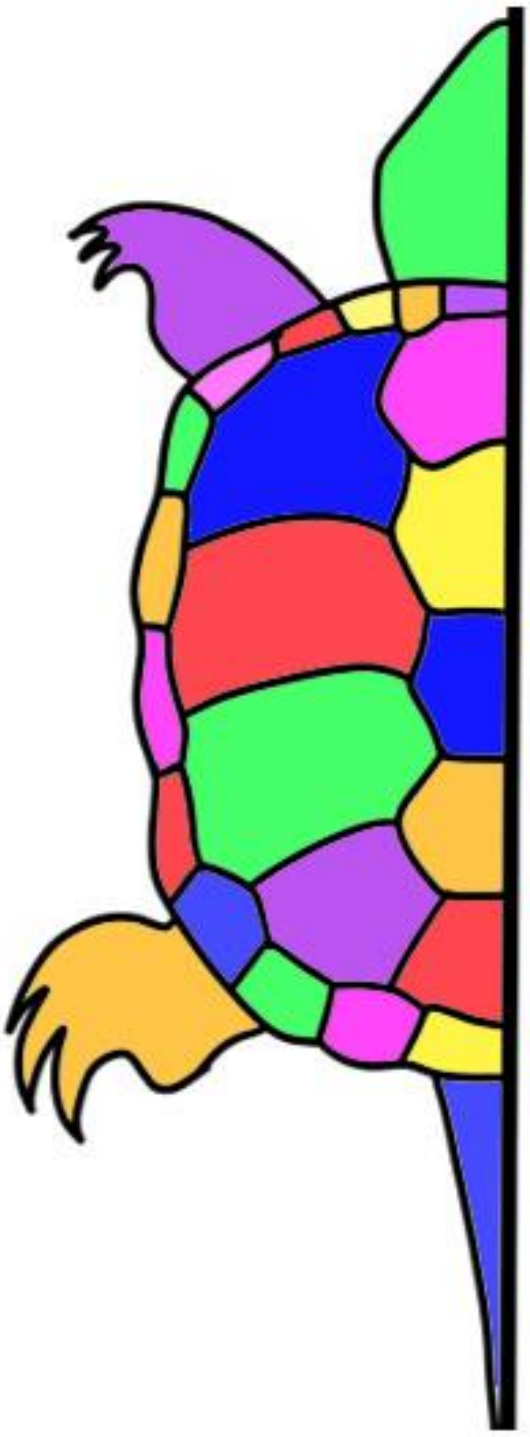
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

List objects in nature that have symmetry.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

On the next page, use your symmetry mirror to draw the missing side of the turtle.

Then, colour the turtle side that you just drew to match.



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