LESSON PLANS: SASKATCHEWAN

Grade 4: Space and Shape

Symmetry

45 MINS

powered by Mathletics

Outcome: SS4.4

- Demonstrate an understanding of line symmetry by:
  - identifying symmetrical 2D shapes
  - creating symmetrical 2D shapes
  - drawing one or more lines of symmetry in a 2D shape.

Introduction to Lesson — 10 MINS

Teacher Background:

Students should log into their own Student Consoles on laptops or in the computer lab. Introduce the topic of symmetry. Have them explore Mathletics to investigate and determine what it means for a shape to be symmetrical or non-symmetrical. Then, introduce the term parallel. Have students investigate this term and discuss in their table groups what it means for a shape to have parallel sides.

Ask prompting questions:

- How do you know if a shape is symmetrical?
- How could we test this?
- What would make a shape non-symmetrical?
- What shapes have parallel sides?
- What does this mean?
- How can you determine what shapes do not have parallel sides?
- Have students explore 2D quadrilaterals and 3D shapes.

ITEMS NEEDED

- ✔ Mathletics teacher login
- ✔ Interactive whiteboard
- ✔ Mathletics eBooks
- ✔ Dot paper
- ✔ Rulers
- ✔ Paper for folding
- ✔ Computers/tablets

ASSESSMENTS

- ✔ View "Are you ready?" results for a pre-assessment of learning.
- ✔ Check Results section for curriculum activity marks.
- ✔ Group work and participation.

ACCOMMODATIONS/ MODIFICATIONS

- ✔ Ability/levelled groups.
- ✔ Encourage students to use the "Something Easier" or "Something Harder" options when completing curriculum activities.

EXTENSION OF LEARNING

- ✔ Art: Draw a picture that is symmetrical using only 2D shapes.
- ✔ Grade 4: Shape, Space and Position

LESSON PLANS: SASKATCHEWAN

Grade 4: Space and Shape

Symmetry

powered by Mathletics

The Lesson

30-35 MINS

Centres

- Teachers can add more centres to the ones indicated below: for example, the main resource used in the classroom. For the eBook centre, please review which pages you would like the students to complete. Depending on how much work students can get done with each centre, rotation can occur about every 10 minutes. Groups will vary depending on class size.
  - **Centre 1: Symmetry Folding**—Print out page 8 of **eBooks > Grade 4 > Space, Shape and Position**, page 8. Students should have two copies of this page. For question 1, students need to cut out the shapes and fold in half as many times as they can. They can then draw as many lines of symmetry as the shape has on their second copy of that page. **Ask students:** Can we fold the shape anyway we want? Why do we have to fold it in half? How do you know this is a line of symmetry? What makes it symmetrical? If there is time, have students complete the symmetrical challenges on page 9 of the same eBook.
  - **Centre 2: Math Journals/Word Wall Creation**—Have students log into their Student Consoles and look up symmetry, parallel, perpendicular, 2D shape, vertices, edges, transformation, tessellation, rotation, etc. in **Concept Search** and **Animated Maths Dictionary**. If using journals, students should write down their own definition of the word, an example, and a picture. If journals are not used in your classroom, students can generate a word wall of specific terms and concepts that will be covered during this unit. Each group can be responsible for 1–3 words to look up on Mathletics, and find a definition, example, and picture to add to the word wall. Students can write these on blank pieces of paper or index cards and add them to the bulletin board. **Note**: If laptops are not available for all students, have groups explore these concepts on the interactive whiteboard using the teacher login.
  - **Centre 3: Rainforest Maths/Activities**—Students should log into their Student Console and work in Rainforest Maths for review and practice. Have students work on Grade 3 for review, and then try Grade 4: 2D shapes. On the left-hand side, there are different sections they can try. Once they feel comfortable, students should begin completing some activities in Shape and Space.
    Suggested activities: Are you Ready?, Symmetry, Faces, Edges and Vertices 1.
    This will give you a good understand of where students are currently at and allow students to practice what has been introduced today.

After the lesson

5-10 MINS

- Students should find objects in the classroom that have lines of symmetry.
- Have them trace with their hands where the line of symmetry could be.
- Challenge students by asking them: Can you find an item that has more than 1 line of symmetry? What shape could it be? Can you find an irregular polygon? Do you think this shape/object will have a line of symmetry? Where can you find symmetry on your body? Is it perfect symmetry?