

“How Symmetrical Can It Be?”

Objective:

By the end of the activity, the students will be able to:

- Recognize a line of symmetry.
- Identify line-symmetric figures.
- Draw lines of symmetry.

Materials:

- “Line of Symmetry” activity sheet
- Mirror(s)
- Rulers
- Glue sticks



Teacher Preparation:

- Copy the “Line of Symmetry” activity sheet.

Introduction:

Have a student or students look into a mirror.

Question(s):

- What do you see in the mirror?
- How does a mirror work? Can it show you something if it is not there?

Activity:

Allow the students to cut the outline of their shapes.

Question(s):

- Do you see a line that divides the basketball ball court perfectly in half? Briefly talk about the midcourt line.
- Then, have the students analyze the outline of the basketball court. Do you see a line that divides the basketball court perfectly in half?
- Briefly talk about the midcourt line showing pictures or videos of how it is used in basketball.

South Carolina College- and Career-Ready Standards for Mathematics:

4.G.4 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Directions for each analyzing each shape one at a time:

1. Have the students cut out the shapes.
2. Direct the students in picking up one shape at a time.
3. Talk about how the shape is associated with basketball, and have the students fold the shape in half so that each side is exactly the same. *Bring them back into how they explained a mirror works.*
4. Hold up different students’ folded pictures. For pictures that have more than one line of symmetry, hold up more than one student example. Discuss what makes each folded picture represent a line of symmetry.
5. Have the students draw their line(s) of symmetry on the object, and then glue it in their notes.

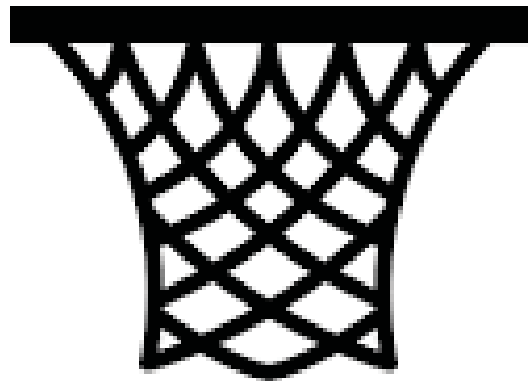
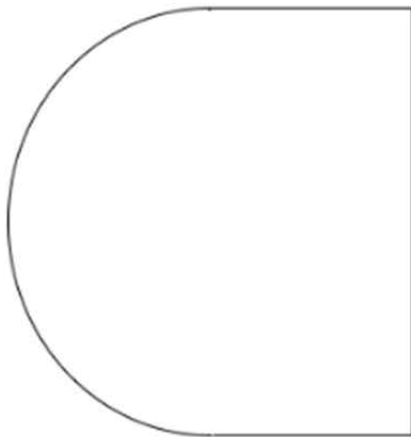
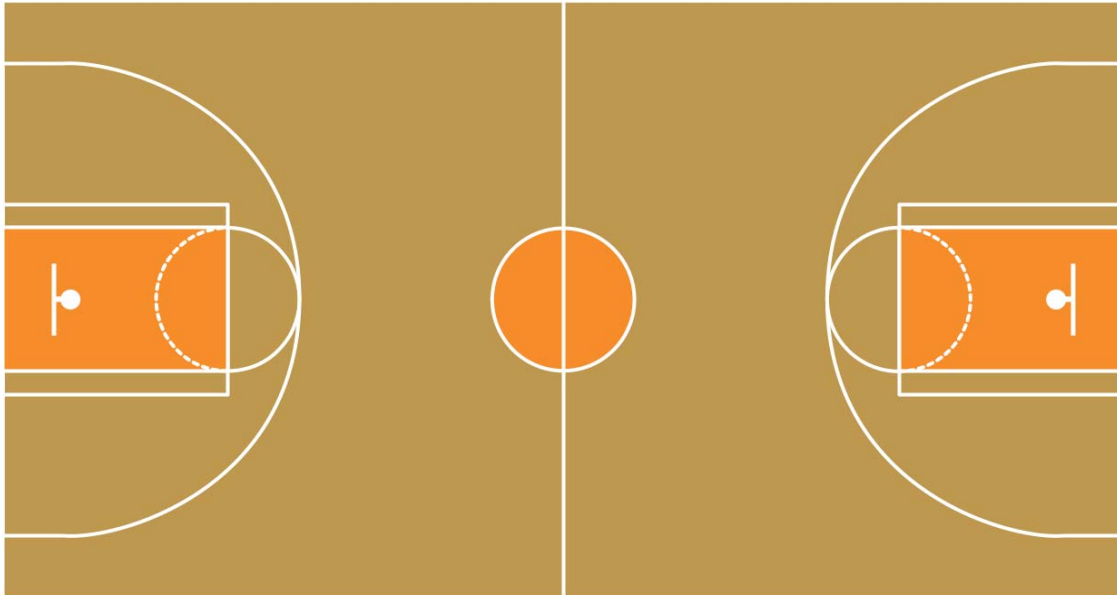
For a non-example, have the students fold the basket outline so that it does not show a line of symmetry. Encourage the students to discuss and share what makes it non-symmetrical.

Question(s):

- How do you know your fold does not show a line of symmetry?
- Do all pictures have a line of symmetry? Show an example.
- Can a picture have more than one line of symmetry? Show an example.

“Line of Symmetry”

These shapes can be found in basketball.



Extensions

- Have the students cut out examples and non-examples of pictures from magazines with a line of symmetry. Have them categorize their pictures into the two categories and draw the line(s) of symmetry on them.
- Let the students try finding the line of symmetry using a letter in their name. *If typed, have the letters in a font that is easily read.*