

Student Guide

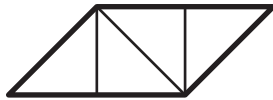
Sorting Shapes (SG pp. 310–313)

Questions 1–7

1. \* The shapes in Group 1 all have right angles and the shapes in Group 2 do not.
2. A. Yes, I agree with Peter. Every shape in Group 1 has opposite sides that are the same length.

B. Responses will vary. One possible response given for each group:

Group 1:



Group 2:



- C. Natasha's shape belongs in Group 1.
3. A. At least one set of parallel sides.
- B. I do not agree with Shannon. All the shapes in Group 1 do not have a right angle. Three of them do but two do not.
- C. I do agree with Chris. All the shapes have at least one pair of parallel sides.

### Sorting Shapes

1. Maya sorted some shapes into two groups. What properties did she use to sort the shapes?

Group 1  
Yes

Group 2  
No

2. Peter sorted some shapes into two groups.

A. Do you agree with Peter? Why or why not?

Opposite Sides are Same Length  
Group 1  
Yes

Opposite Sides are Not Same Length  
Group 2  
No

B. Draw a new shape for both groups that matches the property Peter used.

C. Natasha drew the following shape. Which group does this shape belong to and why?

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3. Liz also sorted some shapes into two groups and drew two more shapes in Group 2.

A. What properties did she use to sort the shapes?

Group 1  
Yes

Group 2  
No

B. Shannon thinks the shapes in Group 1 all have a right angle and the shapes in Group 2 do not. Do you agree? Why or why not?

C. Chris thinks the shapes in Group 1 each have at least one pair of parallel sides. Does this property describe all of the shapes in Group 1?

Parallel sides are always the same distance apart.

Like railroad tracks  
or the sides of a road.

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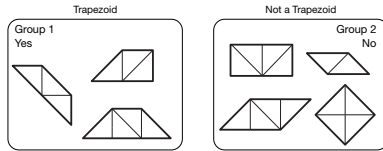
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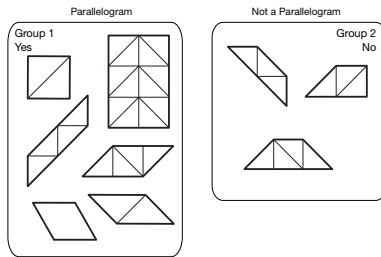
\*Answers and/or discussion are included in the lesson.

**Classifying Shapes**

4. Professor Peabody sorted the shapes from the Quadrilateral Sort Cards.



- A. Look at Professor Peabody's sorting. What are the properties of a trapezoid?
  - B. Draw another trapezoid. Explain why it is a trapezoid.
5. Professor Peabody sorted the shapes from the Quadrilateral Sort Cards again.

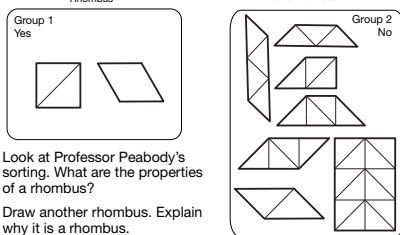


- A. Look at Professor Peabody's sorting. What are the properties of a parallelogram?
- B. Draw another parallelogram. Explain why it is a parallelogram.

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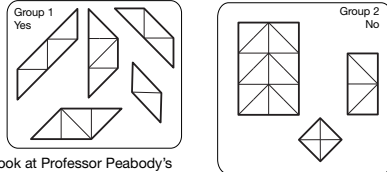
6. Professor Peabody sorted the shapes from the Quadrilateral Sort Cards again.



- A. Look at Professor Peabody's sorting. What are the properties of a rhombus?
- B. Draw another rhombus. Explain why it is a rhombus.
- C. Are all squares rhombuses?

✓ **Check-In: Question 7**

7. Professor Peabody sorted the shapes from the Quadrilateral Sort Cards again.



- A. Look at Professor Peabody's sorting. What property did he use to sort the shapes? What is true about all the shapes in Group 1?
- B. Add a shape to each group. Draw a picture and explain why it belongs in that group.

Play *Mystery Sort: Quadrilaterals* in the *Student Activity Book* to practice describing and classifying using properties of shapes.

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- 4. A. A trapezoid has one pair of parallel sides.
- B. Possible response:



The trapezoid has to have four sides and one pair of opposite sides needs to be the same distance apart or parallel. The top and the bottom of the shape I drew are parallel.

- 5. A. A parallelogram has two pairs of parallel sides.
- B. Possible response:



The top side is parallel to the bottom and the ends are parallel to each other, too. The shape is a parallelogram.

- 6. A. 4 sides, 4 angles, two pairs of parallel sides, all sides are equal, opposite angles are equal.



The shape has four equal sides and opposite angles are equal.

- C. Yes. Because a square has four equal sides and opposite angles are equal.

- 7. A. None of the shapes in Group 1 have a right angle.

B. Group 1:



This shape does not have any right angles.

Group 2:



This shape has 4 right angles like the other shapes in Group 2.

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