


Name _____ Date _____

Compare and Order Masses



Predict which objects have the most mass and which have the least. Line up the objects from most mass to least mass. Draw and label the order of your objects.

Most Mass \longrightarrow Least Mass

Compare masses on the two-pan balance. Record your results in the table.

Comparing Masses Data Table


Object in Pan 1	Object in Pan 2	Most Mass

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Mass Order Data Table

Mass Order	Name of Object
Most Mass	steel sphere
↓	glass sphere
↓	wood sphere
Least Mass	connecting cube

1. Which objects are the same size and shape?

2. Do these two objects have the same mass? Why?

3. Are the wood and steel spheres the same shape?

4. Which is smaller: the wood or steel sphere? _____
5. Which has more mass: the wood or steel sphere?

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

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**Compare and Order Masses
(SAB pp. 383–387)**

Questions 1–12

* Figure 1 in this lesson for a sample drawing showing the predicted mass order of the four objects.

* Comparing Masses Data Table

Object in Pan 1	Object in Pan 2	Most Mass
steel	glass	steel
steel	wood	steel
steel	cube	steel
glass	wood	glass
glass	cube	glass
wood	cube	wood

Mass Order Data Table

Mass Order	Name of Object
Most Mass	steel sphere
↓	glass sphere
↓	wood sphere
Least Mass	connecting cube


1. glass sphere and wood sphere
2. No. They are made of different materials.
3. Yes
4. steel sphere
5. steel sphere

6. No. It is impossible to tell which sphere has more mass because we do not know the materials that make up the illustrated objects.
7. Picture 1

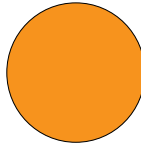
8. $A < B$
9. $A = B$
10. You cannot tell which object has more mass just by looking at them.

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6. Two new spheres are shown. Can you tell by looking at the pictures which one has more mass? Explain.

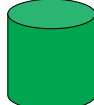


A

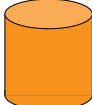


B

7. Cylinder A and Cylinder B are the same shape and size. Cylinder A is made of steel and Cylinder B is made of paper.




A




B

Circle the picture that shows what will happen.




A **B**

Picture 1



A **B**

Picture 2



A **B**

Picture 3

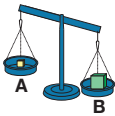
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8. Rosa placed two objects on a two-pan balance. The picture shows what happened.



A **B**

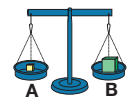
> greater than
< less than
= equal to



Circle the true statement about the objects' masses:

$A > B$ $A < B$ $A = B$

9. Levi placed two different cubes on a two-pan balance. The picture shows what happened.



A **B**

Circle the true statement about the objects' masses:

$A > B$ $A < B$ $A = B$

10. Circle the true statement.

A. Larger objects always have more mass than smaller objects.

B. Smaller objects always have more mass than larger objects.

C. You cannot tell which objects have more mass just by looking at them.

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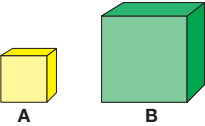
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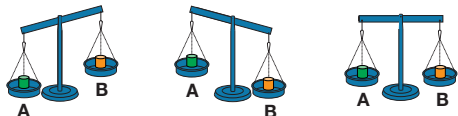
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✓ **Check-In: Questions 11-12**

11. **A.** Do the objects have the same shape? _____
B. Are the objects the same size? _____
C. Can you tell which one has more mass? Explain.



12. Object A is made of wood and Object B is made of steel.
A. Circle the picture that shows what will happen if you placed the two cubes on the two-pan balance.



Picture 1 **Picture 2** **Picture 3**

B. Fill in the circle with $>$, $<$, or $=$ to make the statement true.
 Object A's Mass Object B's Mass

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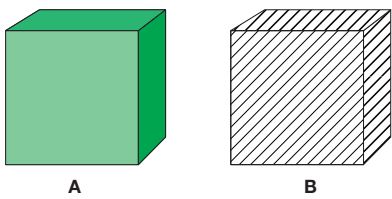
11. **A.** yes
B. no
C. You cannot tell which object has more mass because we do not know what they are made of.
12. **A.** Picture 2
B. Object A's Mass $<$ Object B's Mass

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Analyze Masses

1. Does Block A have more mass than Block B? Explain.



A **B**

2. What did you learn about finding the mass of different objects?

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**Analyze Masses (SAB p. 389)
 Questions 1–2**

- 1.* Possible response: You can't tell which block has more mass. You have to put them on a two-pan balance.
- 2.* Answers will vary. Some possible responses:
- Larger objects do not always have more mass.
 - Smaller objects do not always have less mass.
 - Same size objects do not always have the same mass.
 - An object's mass depends on its material, size, and shape.
 - A two-pan balance can tell you which object has more mass if they are the same size and shape.

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