

# Measuring Mass

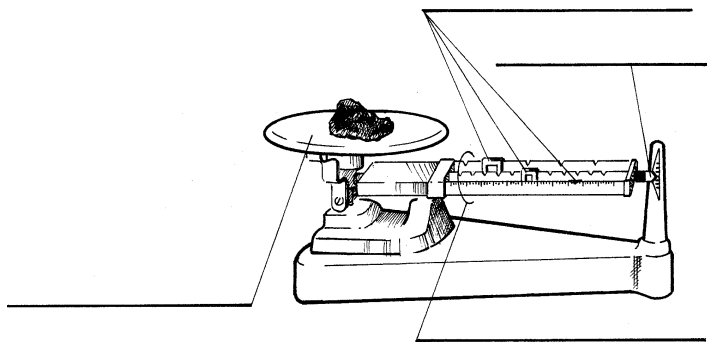


Balances and scales are used in science to find the mass of an object. Mass measures the amount of matter in an object. Mass is different from weight because weight depends on gravity and mass does not. So when you fly in the Space Shuttle there is little gravity and you are almost weightless. You may have lost your weight but you did not lose your mass. Weight is measured in pounds and ounces, while mass is measured in grams.

In the science laboratory we use a triple beam balance to measure mass. It has a pan to place the object to be massed and three beams to calculate the mass. On the beams are movable objects called riders. On the right side is a pointer that tells you when the riders are balanced.

Use the words in the word bank to label the parts of the balance below.

Word Bank			
Beams	Riders	Pan	Pointer



**Materials:** triple beam balance, pair of scissors, rock, block of wood, small graduated cylinder, notebook paper, beaker, plastic bottle, pencil, paper towel, pen

## What To Do:

- Before you start to measure anything with a balance you must **ZERO** the balance.
- To zero the balance you must do the following steps:
  - Make sure all riders are set on zero
  - Make sure nothing is on the pan
  - Make sure the pointer is pointing at the zero line.
- If you have tried to zero your balance and it will not zero, get the teacher to help you.
- Find the mass of an object by doing the following steps:
  - Place the object on the pan
  - Move the largest rider across the beam until the pointer drops.
  - \*\*\*Make sure the rider is pointing at a number - it can't be between numbers.
  - Then move this rider back one.
  - Move the next rider until the pointer goes down – then move it back one space.
  - Move the smallest rider until the pointer is as the zero line.
  - Add up all the riders to calculate the mass of the object.
- Find the mass of the objects listed below. Don't forget to write the unit for mass!

Object	Mass
1. Pair of scissors	_____
2. Rock	_____

**Object****Mass**

3. Block of wood
4. Small graduated cylinder
5. Piece of notebook paper
6. Beaker
7. Plastic bottle
8. Pencil
9. Paper towel
10. Pen

---

---

---

---

---

---

---

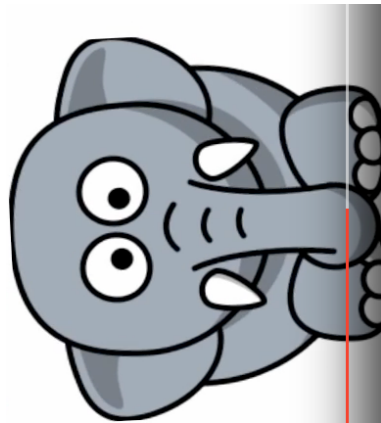
---

**Directions:** Sequence how to find the mass of an object by completing the following:

1. In the beginning \_\_\_\_\_  
\_\_\_\_\_.
2. Then you must \_\_\_\_\_  
\_\_\_\_\_.
3. Next you should \_\_\_\_\_  
\_\_\_\_\_.
4. After that you should \_\_\_\_\_  
\_\_\_\_\_.
5. Finally you should \_\_\_\_\_  
\_\_\_\_\_.

**Directions:**

1. Watch the video “The Elephant Mass Song” from [www.missdoctorbailer.com](http://www.missdoctorbailer.com)
2. Place the items that are listed in the song in the correct boxes.

Larger Mass	
Elephant	
Smaller Mass	

# Exit Ticket

## Measuring Mass

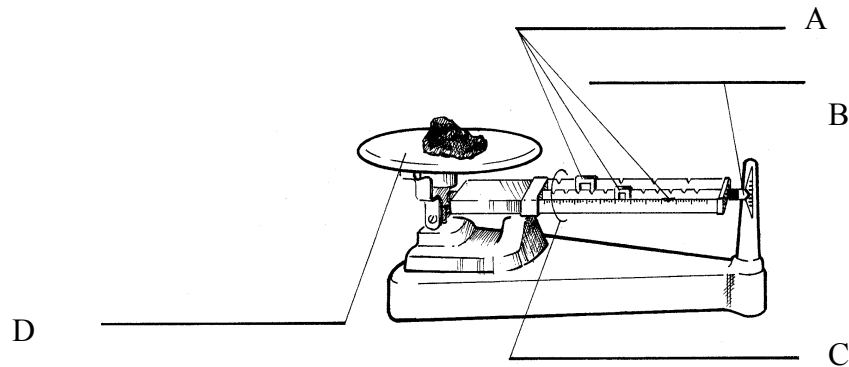


1. What is wrong with this measurement?  $14 \frac{1}{4}$  g.

\_\_\_\_\_

2. What is wrong with this measurement? 234

\_\_\_\_\_



3. Which letter is pointing to the riders? \_\_\_\_\_

4. Which letter is pointing to the pan? \_\_\_\_\_

5. Which letter is pointing to the beams? \_\_\_\_\_

**Conclusion:** ( triple beam balance, mass, weight, weightless, gram,)

In the science laboratory the amount of matter in an object is

known as its \_\_\_\_\_. The unit for mass is \_\_\_\_\_. The

instrument we use to measure mass is the \_\_\_\_\_

\_\_\_\_\_. The pull of gravity determines an object's

\_\_\_\_\_. In space someone can be come \_\_\_\_\_ but

will not lose their mass.

# Exit Ticket

## Measuring Mass

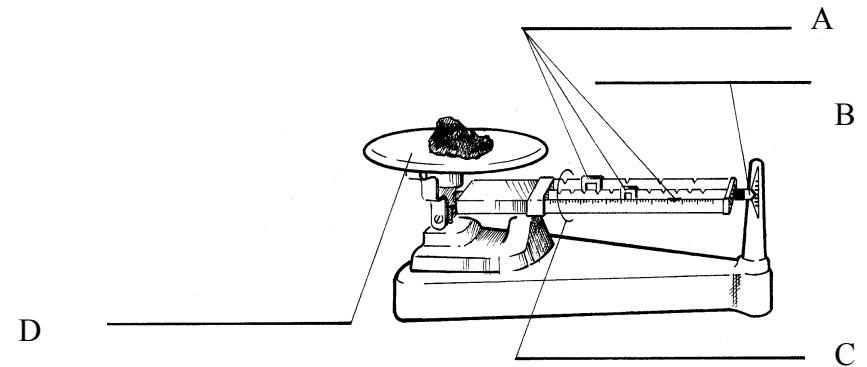


1. What is wrong with this measurement?  $14 \frac{1}{4}$  g.

\_\_\_\_\_

2. What is wrong with this measurement? 234

\_\_\_\_\_



3. Which letter is pointing to the riders? \_\_\_\_\_

4. Which letter is pointing to the pan? \_\_\_\_\_

5. Which letter is pointing to the beams? \_\_\_\_\_

**Conclusion:** ( triple beam balance, mass, weight, weightless, gram,)

In the science laboratory the amount of matter in an object is

known as its \_\_\_\_\_. The unit for mass is \_\_\_\_\_. The

instrument we use to measure mass is the \_\_\_\_\_

\_\_\_\_\_. The pull of gravity determines an object's

\_\_\_\_\_. In space someone can be come \_\_\_\_\_ but

will not lose their mass.