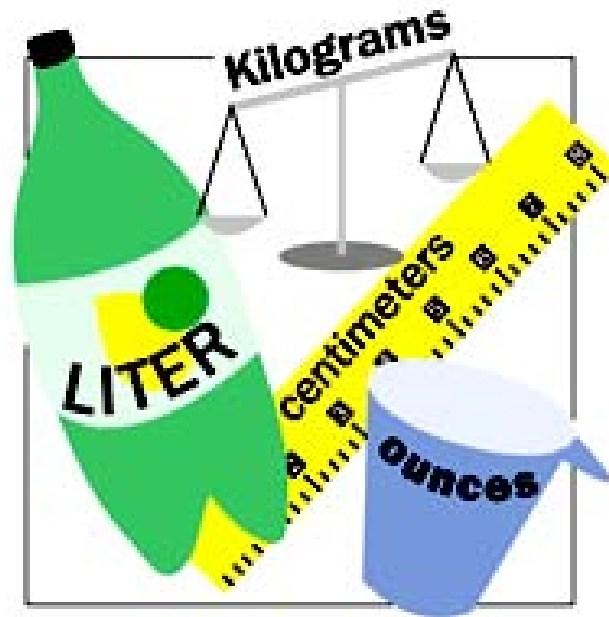


Measurement-A Common Language



Mass

Mass

Mass

- The measure of the amount of matter an object contains
- Matter: The material that all objects and substances are made up of
 - Anything that has mass and takes up space is matter

Mass

Units of Mass

The basic unit of mass in the SI system is the...

- The basic unit of mass in the SI system is the kilogram.

What are three objects (other than in the book) whose masses would be measured in kilograms.

- Car
- Teacher's Desk
- Desk Top Computer

A smaller object's mass such as a paper clip would be measured in

- Smaller objects such as a paper clip would be measure in milligrams.

Conversions

$$1 \text{ kg} = \underline{\hspace{2cm}} \text{ g}$$

$$1 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$$

Conversions

$$1 \text{ kg} = \underline{1,000} \text{ g}$$

$$1 \text{ g} = \underline{\hspace{2cm}} \text{ mg}$$

Conversions

$$1 \text{ kg} = \underline{1,000} \text{ g}$$

$$1 \text{ g} = \underline{1,000} \text{ mg}$$

Mass

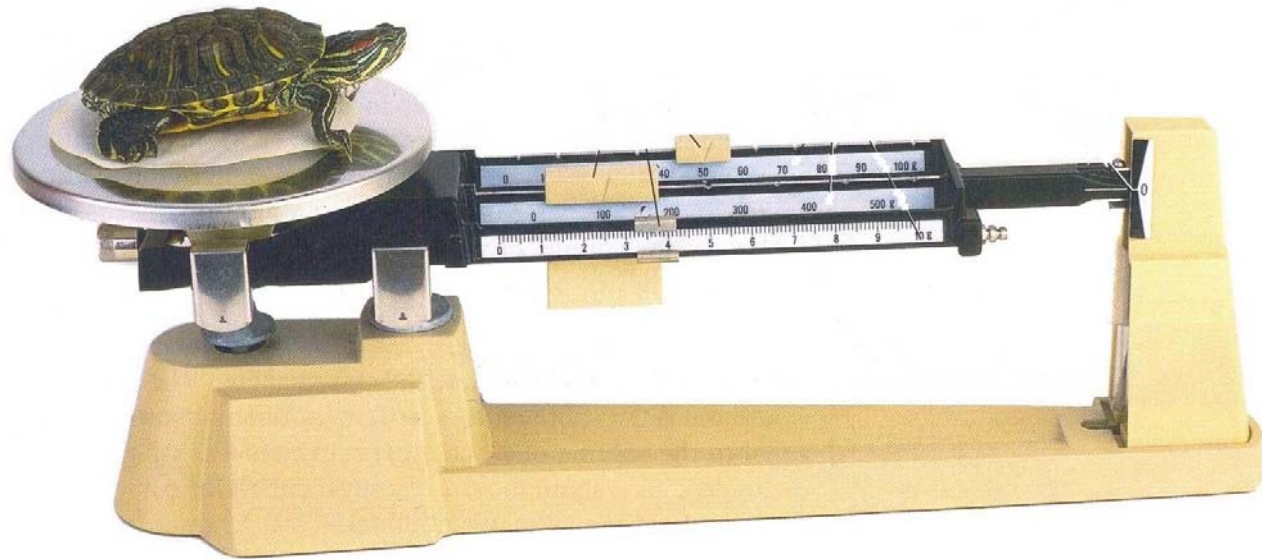
Measuring Mass

How does a triple-beam balance work?

- A triple-beam balance works by comparing the mass of the object you are measuring to a known mass
- When you use a triple-beam balance, you:
 1. Place the object on the pan
 2. Shift the riders on the beams until they balance the mass of the object
 - Start with the large rider (increments of 100)
 - Next, the medium sized rider (increments of 10)
 - Lastly, the small rider (increments of 1)

Figure 3: **Observing** - What is the mass of this turtle?

- 153.7 grams



Mass

The Difference Between Mass and Weight

How would your weight differ if you were to travel to the moon?

- If you were to travel to the moon your weight would be less.
- Your weight would be lesser because the force of gravity is less.
- Weight is a factor of the force of gravity

Why would your mass stay constant if you were to travel to the moon?

- Your mass would stay the same if you were to travel to the moon because mass is the amount of matter that an object contains
- Since you are still made up of the same amount of "stuff", your mass would not change

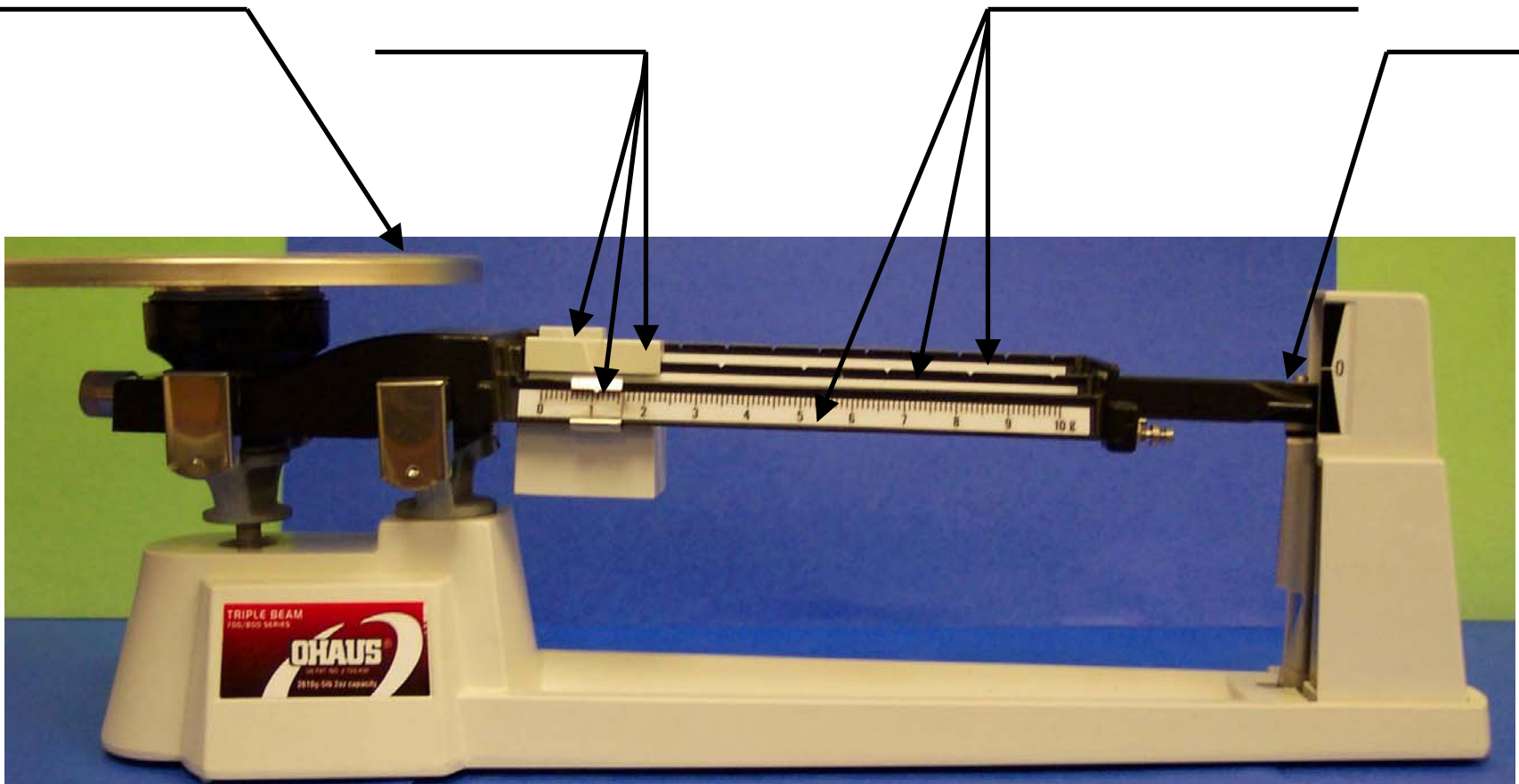
Why do scientists prefer to use the mass of an object instead of its weight?

- Scientists prefer to use an objects mass instead of its weight because mass does not change when the force of gravity does

✓ Reading Checkpoint (page 49): What is weight?

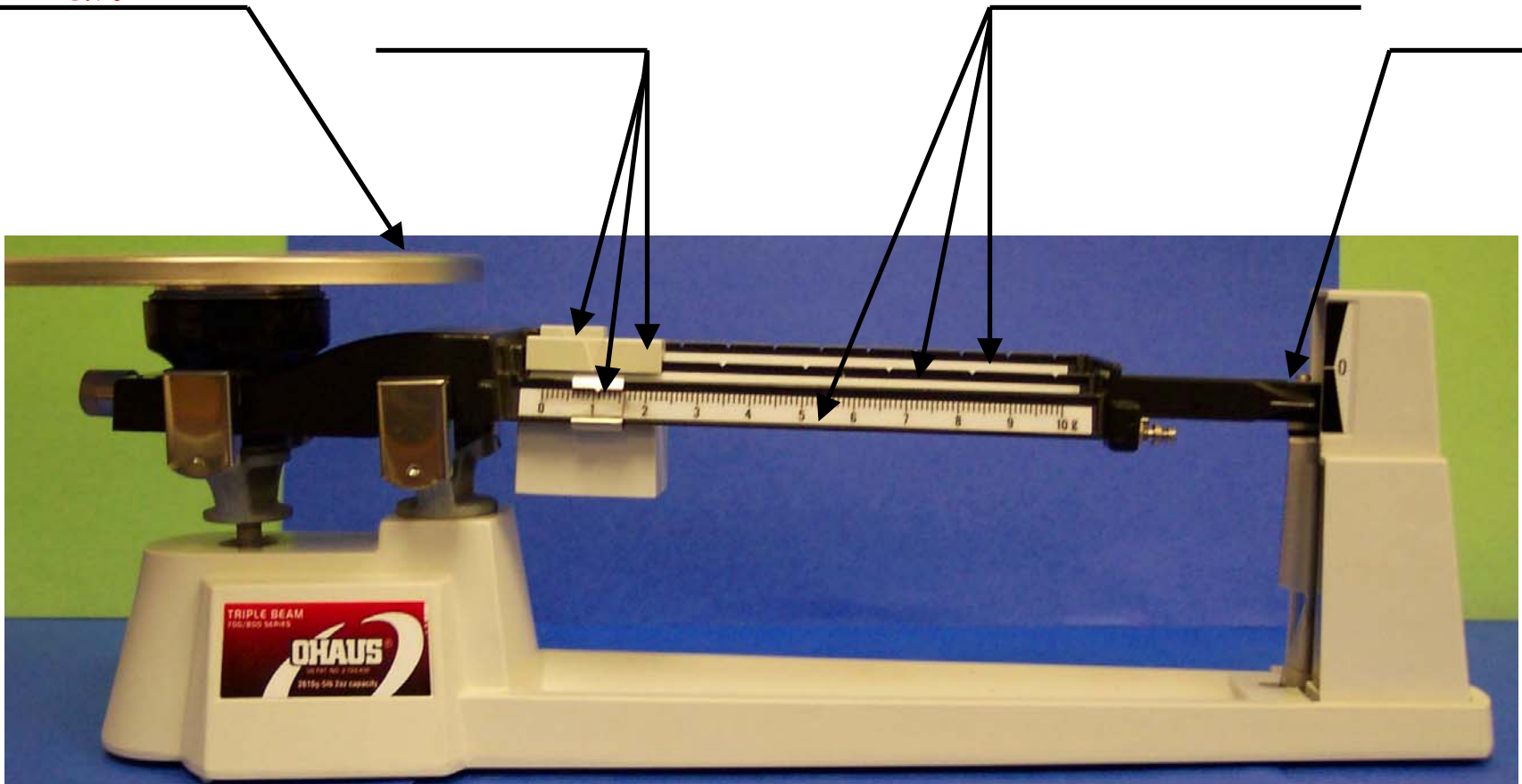
- The measure of the force of gravity acting on an object

Label the different parts of the triple-beam balance.



Label the different parts of the triple-beam balance.

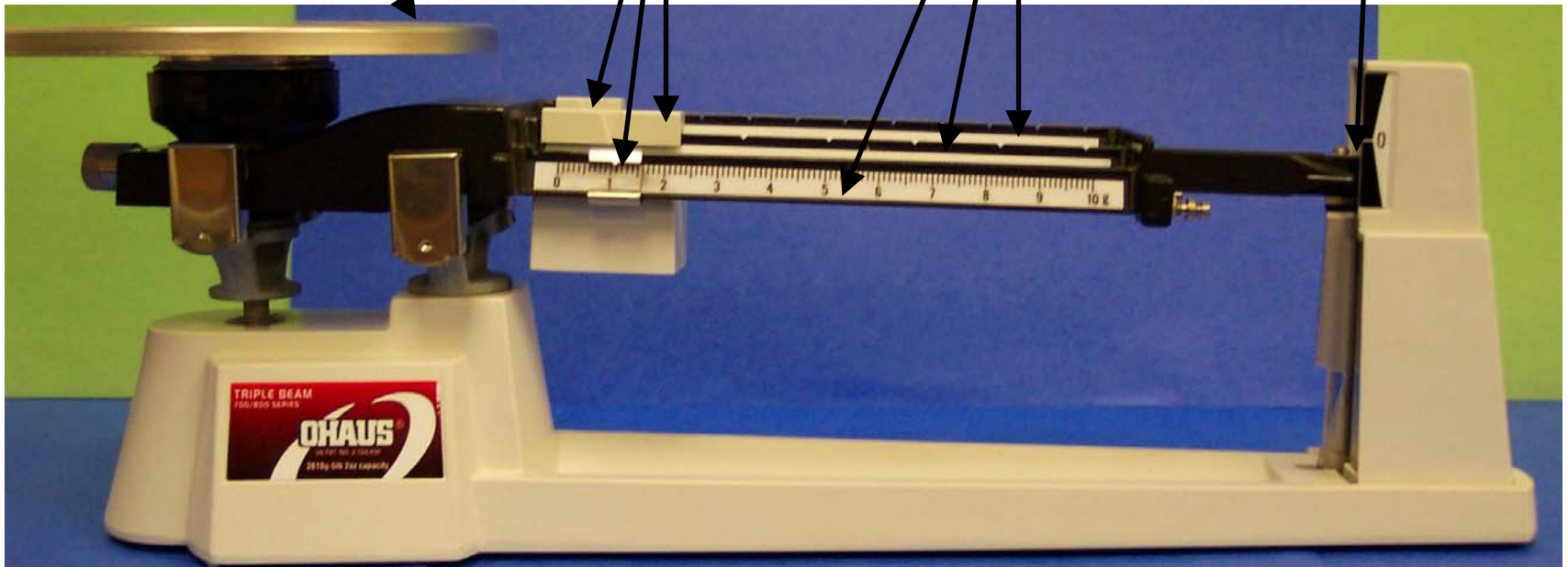
Pan



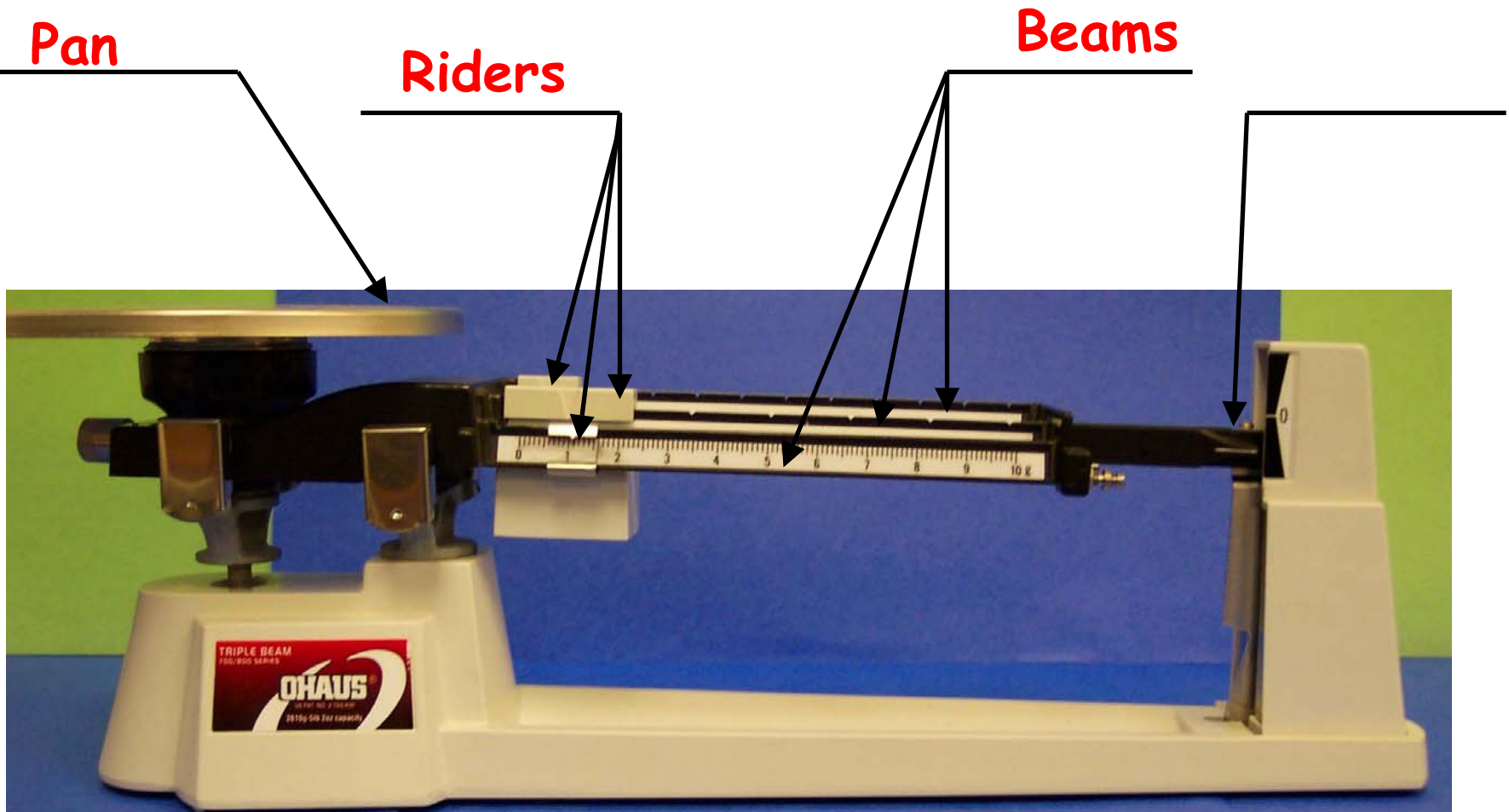
Label the different parts of the triple-beam balance.

Pan

Riders



Label the different parts of the triple-beam balance.



Label the different parts of the triple-beam balance.

