



Don't Confuse me with Weight! (Mass)

Suggested time: 45 minutes

What's important in this lesson:

It is important for you to recognize how the various units of measurement are related. You must become comfortable with using common items to help you estimate the mass of an object. You will need to become comfortable with using multiplication or division to complete mass calculations.

Complete these steps:

1. Read through the Lesson portion of the package independently.
2. Complete the required 'Practice' questions.
3. If you have questions about the examples or the 'Practice' questions seek assistance from the teacher as needed.
4. Use 'Practice' Answer Keys to check your answers as they work through the package. If you are making errors, have your teacher review these questions with you.
5. Complete the Mass Assignment
6. Complete the Reflective Activity

Hand-in the following to your teacher:

1. Practice Problems from the Student Handout
2. Mass Assignment
3. Reflective Activity

A Conversation with the teacher

1. Complete the Reflective Activity and then discuss your answers with your teacher.

Questions for the teacher:



Don't Confuse me with WEIGHT! (Mass)

Review the charts of common units of mass:

Prefix	Example	Symbol
kilo	Kilogram	kg
---	Gram	g
milli	Milligram	mg

To convert FROM kg:
 $1\text{kg} = 1000\text{g} = 1,000,000\text{mg}$

To convert FROM g:
 $1\text{g} = 1000\text{mg}$

Part A - Common Masses

- Think of units of mass like this... - 1 small paperclip has a mass of about 1 gram
 (Anything lighter has a mass of less than 1000mg)
- 1 brick (red clay) has a mass of about 2kg
 - a newborn baby is often between 3 and 5kg
 - an adult male (average build) is about 80kg
 - a small vehicle is about 1200kg
 - a minivan is about 1750kg

Practice Problems

For each of the following, circle the BEST response:

1. a toddler (small child) has a mass closest to...

- A) 1g B) 10g C) 1kg D) 10kg

2. a bicycle has a mass of...

- A) 10g B) 100g C) 10kg D) 100kg

3. a penny has a mass closest to...

- A) less than 1g B) 1g C) 10g D) 100g

4. a grain of sand has a mass of about...

- A) less than 1g B) 1g C) 10g D) 100g

*** Check these answers before moving on to part B!**



Part B - Converting Units of Mass

Recall that...

Prefix	Example	Symbol
kilo	kilogram	kg
---	gram	G
milli	milligram	mg

To convert FROM kg:
 $1\text{kg} = 1000\text{g} = 1,000,000\text{mg}$

To convert FROM g:
 $1\text{g} = 1000\text{mg}$

Examples

Fill in the blanks for each example.

Going Down

1. A chocolate bar has a mass of 83g. How many milligrams is this?

$$83 \times 1000 = \underline{\hspace{2cm}} \text{mg}$$

2. A jumbo box of cereal has a mass of 0.7kg. How many grams is this?

$$0.7 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{g}$$

3. A giant jar of peanut butter is 2.4kg. How many milligrams is this?

$$2.4 \times 1,000,000 = \underline{\hspace{2cm}} \text{mg}$$

(two million, four hundred thousand)

GOING UP

4. A large bag of potato chips has a mass of 230g. How many kilograms is this?

$$230 \div 1000 = \underline{\hspace{2cm}} \text{kg}$$

5. If a textbook has a mass of 735,000mg, then what is its mass in kilograms?

$$735,000 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{kg}$$



Practice Problems

Show all your work

1. If a grain of rice has mass of 7.4mg, then...
 - a) What is the mass (in g) of 5,000 grains of rice.

 - b) How many grains are in a 2kg bag of rice?

*** Check your answers before moving on!**



Mass Assignment

This assignment will use the following label from a box of crackers:



Show all your steps!

1. What is the total mass of the crackers (in kg)?

2. If all of the crackers in a full box are divided evenly onto 12 plates, than what is the mass (in mg) that each person will get?

3. If each person gets 13 crackers, then what is the mass (in g) of 1 cracker?

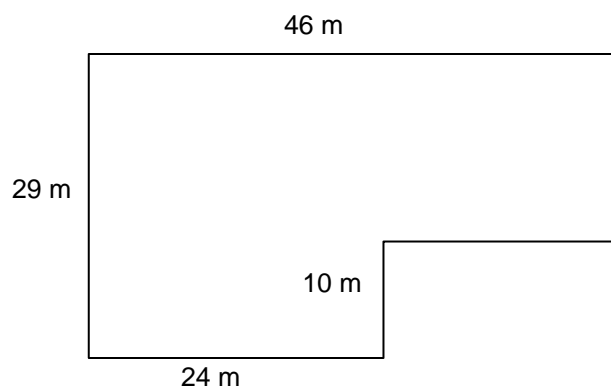
4. Does your answer to part c) make sense? Compare it to other masses that you know (from other pages).

5. How many crackers are in this box of crackers?

Reflective Activity: Unit 3



3. Describe how you would determine the area of the figure below:



4. Explain why, when you are calculating the volume of a rectangular prism, the units are written as $units^3$.