

# Qualitative and Quantitative Observations

*And Using the Metric System*

**Science**

**6<sup>th</sup> Grade**

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# Qualitative Observations



- Describe an object's **qualities**.
- Use the five senses:
  - Sight
  - Hearing
  - Touch
  - Smell
  - Taste
- Are based on facts.
- Describe what the object is **like**.

# You Try It!



Pretend you are in this picture. Describe it using qualitative observations.

# You Try It!

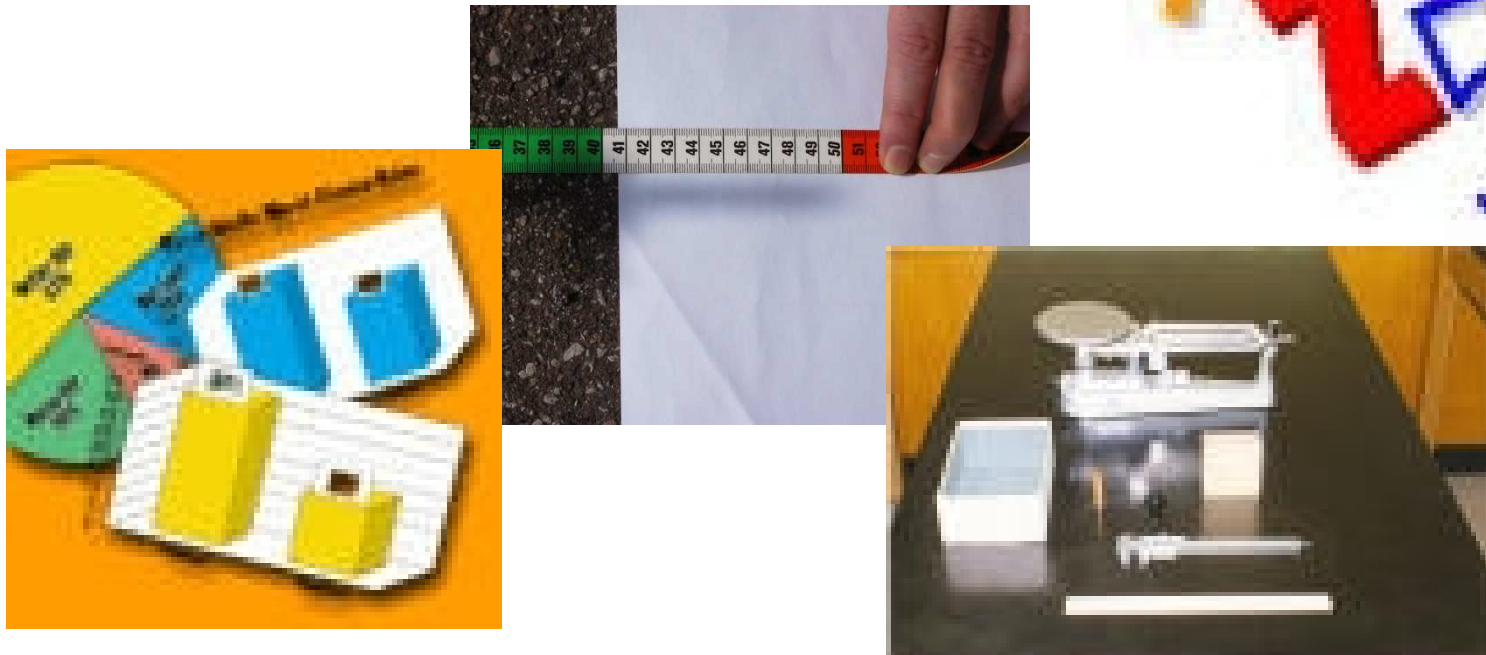


## Did you remember to describe:

- What you would see?
- What you would hear?
- What it would feel like?
- How it would taste?
- How it would smell ?

# Quantitative Observations

- Describe **quantities**.
- Use numbers as measurements or to count.
- Scientists prefer quantitative observations.



# The Metric System

- Scientists use the metric system when measuring.

The metric system is based on the number 10, so converting in the metric system is easy – just move the decimal point!

# Basic Units in the Metric System

- Meter – (m) – measure distance
- Liter – (l) – measures volume
- Gram – (g) – measures mass (weight)

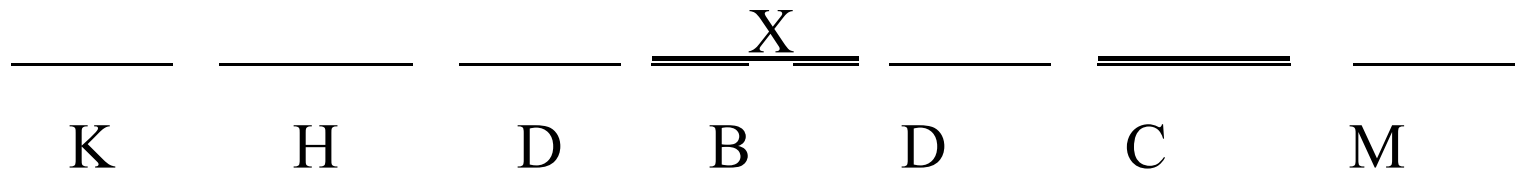
# Prefixes in the Metric System

King	Kilo (k) - base times 1000
Henry	Hecto (h) – base times 100
Died	Deca (dk) – base times 10
By	BASE (meter, liter, or gram)
Drinking	Deci (d) – base divided by 10
Chocolate	Centi (c) – base divided by 100
Milk	Milli (m) – base divided by 1000



# To Convert In the Metric System:

- Put an “X” on the amount you know.



$$36.54 \text{ m} = \underline{\underline{\quad}} \text{ cm}$$

# To Convert In the Metric System:

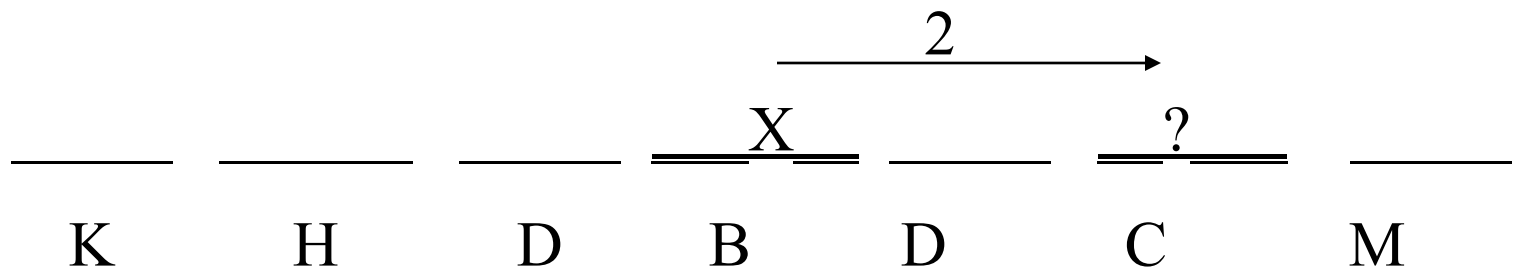
- Put an “X” on the amount you know.
- Put a “?” on the amount you are trying to find.

\_\_\_\_\_    \_\_\_\_\_    \_\_\_\_\_          X          \_\_\_\_\_          ?          \_\_\_\_\_  
K            H            D            B            D            C            M

$$36.54 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$$

# To Convert In the Metric System:

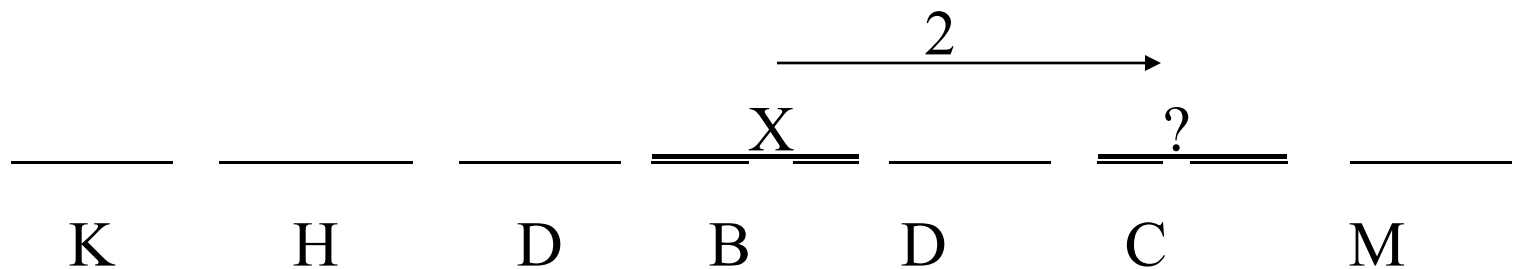
- Put an “X” on the amount you know.
- Put a “?” on the amount you are trying to find.
- Count from the “X” to the “?”.



$$36.54 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$$

# To Convert In the Metric System:

- Put an “X” on the amount you know.
- Put a “?” on the amount you are trying to find.
- Count from the “X” to the “?”.
- Move the decimal point the same number of places in the same direction.



$$36.54 \text{ m} = \underline{\underline{3654.}} \text{ cm}$$

# To Convert In the Metric System:

- Put an “X” on the amount you know.
- Put a “?” on the amount you are trying to find.
- Count from the “X” to the “?”.
- Move the decimal point the same number of places in the same direction.
- Add zeroes if necessary to be able to move the decimal point.

# To Convert In the Metric System:

- Put an “X” on the amount you know.
- Put a “?” on the amount you are trying to find.
- Count from the “X” to the “?”.
- Move the decimal point the same number of places in the same direction.
- Add zeroes if necessary to be able to move the decimal point.
- If the number doesn’t have a decimal point, put it at the end of the number.

# Teacher Page

- Science
- 6<sup>th</sup> Grade
- Created by Paula Smith
- I.A.1,5/ SC 7
- This presentation is intended to summarize and practice what has been taught in class.

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