

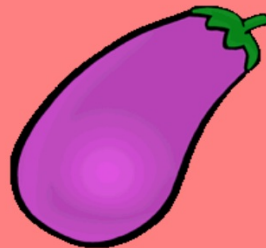
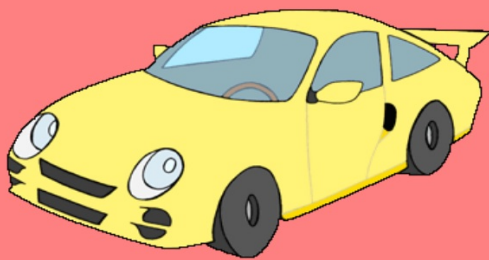


**When we make observations we
gain knowledge
When we use our senses, we are
making **qualitative** observations.**

**Let's make some
qualitative observations.**



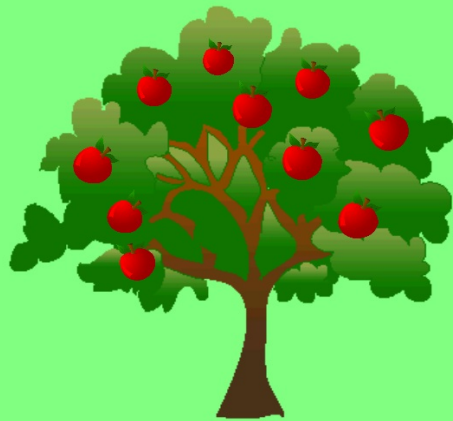
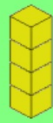
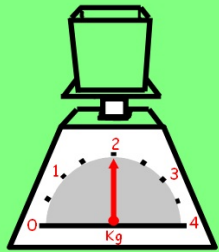
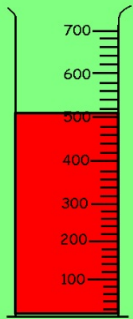
What could you observe about these items with your senses?



Sometimes a scientist needs a more precise observation. Observations that involve measurement or numbers are called **quantitative observations.**

Let's make some quantitative observations.







Decide whether each statement below is a qualitative or quantitative observation.

- 1. The bowling ball weighs 8lbs.**
- 2. The cat's fur is soft.**
- 3. Matthew's jacket is blue and red.**
- 4. The jelly beans are sweet.**
- 5. There are six buttons on her shirt.**
- 6. Her towel is wet.**
- 7. Tom's desk is 2 1/2 feet wide.**
- 8. The skin on the rhino is rough.**

Inferring

***Sometimes scientists make decisions about items and events that they observe.**

***They use their observations and their experience or things they already know to make their decision.**

***This is called an inference.**



**Inferences are not always right.
They may be our best guess
based on our observation and
things we already know.**

**Let's make some observations
and use them to infer.**





This cup of liquid has steam rising from it. What would you infer from your observation and things you already know?

Observations:

Inferences:



What is an observation you can make from this picture?

What is an inference you can make from your observations and what you already know?

**What is an observation
you can make from this
picture?**



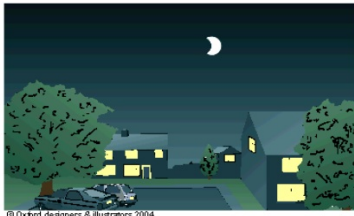
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**What is an inference you
can make from your
observations and what
you already know?**



Harry is cooking food for a friend.

There are decorations on the cake.



The families that live here are still awake.

___ Sean is not in school today.

___ Sean must be sick.

___ Mr. Newton is wearing a coat.

___ It must be cold outside.

___ Christine was wearing a cast.

___ Christine hurt her leg.

Label each statement with an O for observation or an I for inference.

___ She must be rich.

___ Our flag is red, white, and blue.

___ CO2 bubbled out of the beaker.

___ The cocoa looked too hot to drink.

___ The plants needed watering.

___ The plants' leaves were wilted.

___ The water in the aquarium was dingy.

___ The fish will soon die.

___ The two-liter bottles were clear.

Place a ? by an inference
and a 🔍 by an observation.

Let's Recap.....

- 1. observation - any information obtained by using one's senses**
- 2. inference - a logical conclusion made from factual knowledge or evidence**

?

Journal Assignment....

1) In your science journals create 10 statements that show either an inference or an observation (both qualitative and quantitative). Do not tell what kind of statement they are...just write the statement only.

2) On the back of the paper, create an answer key.

3)Your partner will read them and determine if they are inferences or observations (qualitative, or quantitative).