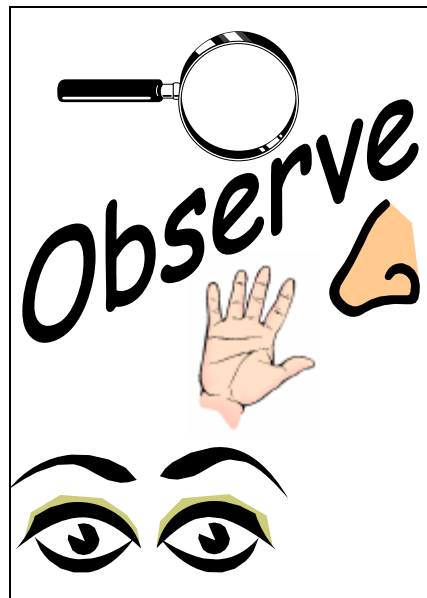
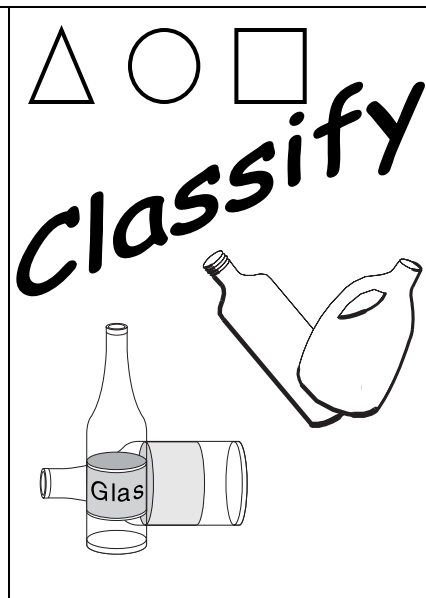


**Observe**



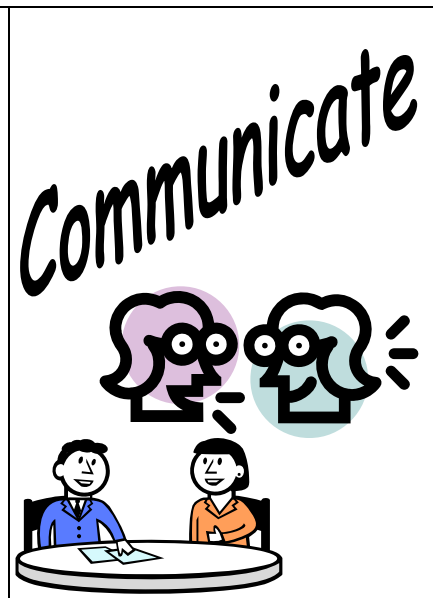
A magnifying glass is positioned at the top. Below it is a hand with fingers spread. At the bottom are a pair of large, expressive eyes.

**classify**



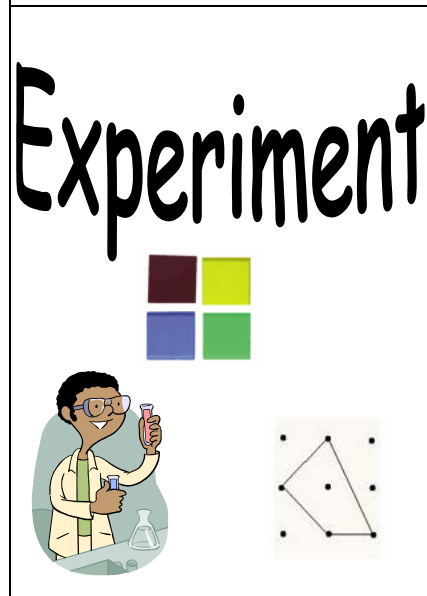
At the top are three basic geometric shapes: a triangle, a circle, and a square. Below them are two bottles, one upright and one lying on its side. The upright bottle has the word "Glas" written on it.

**Communicate**



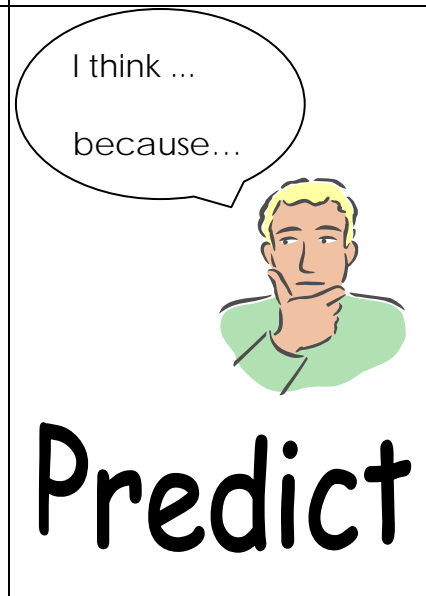
Two speech bubbles with faces inside are shown. Below them, two cartoon people, a man and a woman, are sitting at a round table with papers on it.

**Experiment**



A 2x2 grid of colored squares (brown, yellow, blue, green) is at the top. Below it is a cartoon scientist in a lab coat holding a test tube. To the right is a line graph with four data points.

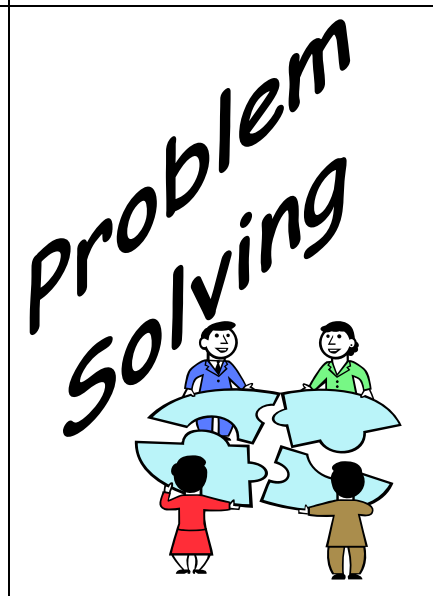
I think ...  
because...



A cartoon man with a hand on his chin is shown in a thinking pose. A speech bubble above him contains the text "I think ... because...".

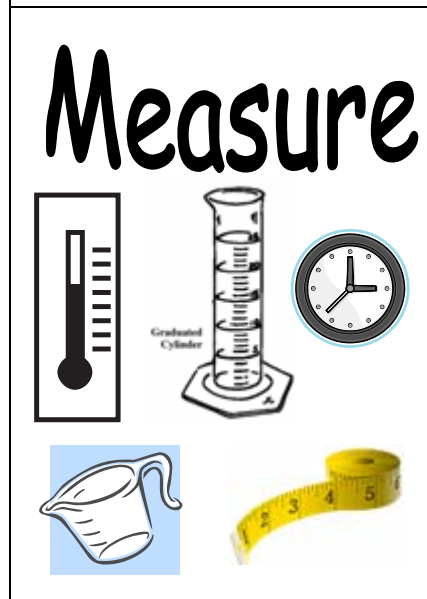
**Predict**

**Problem Solving**

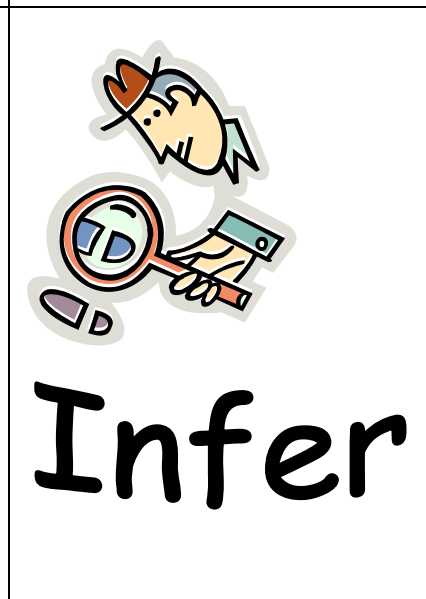


Four cartoon people are shown holding large puzzle pieces that they are trying to fit together.

**Measure**



A thermometer is on the left. In the center is a graduated cylinder with the word "Graduated Cylinder" written below it. To the right is a clock face. At the bottom left is a measuring cup, and at the bottom right is a yellow measuring tape.

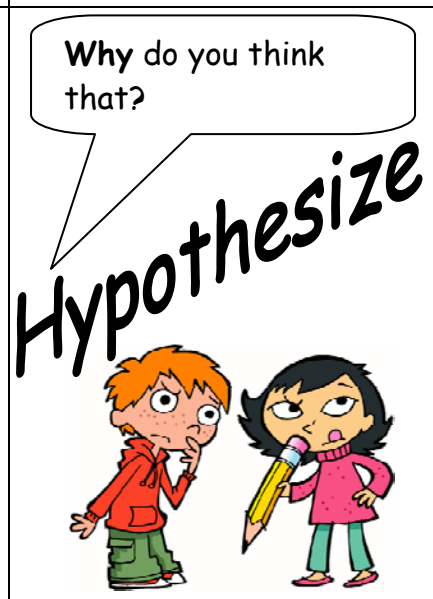


A cartoon detective wearing a hat and a magnifying glass over his eye is shown. The magnifying glass is focused on a small object.

**Infer**

Why do you think that?

**Hypothesize**



Two cartoon children are shown. The boy on the left has a hand on his chin, and the girl on the right is holding a pencil to her chin, both appearing to be in the process of thinking or hypothesizing.

**Communicate:**

Organize and consolidate mathematical and scientific thinking through communication; communicate mathematical and scientific thinking coherently and clearly to peers, teachers and others; analyze and evaluate the mathematical and scientific thinking and strategies of others; and use the language of mathematics and science to express mathematical and scientific ideas precisely.

**Problem Solving:**

Build new mathematical or scientific knowledge through problem solving; solve problems that arise in mathematics, science and in other contexts; apply and adapt a variety of appropriate strategies to solve problems; and monitor and reflect on the process of mathematical and scientific problem solving.

**Hypothesize:**

Pose a testable explanation for observations or events and state it as the expected outcome of an experiment

**Classify:**

Group or organize objects or events into categories based on specific criteria

**Predict:**

Anticipate outcomes of future events, based on patterns or experience

**Infer:**

Use logical reasoning to make conclusions based on observations

**Observe:**

Use one or more of your senses to perceive properties of objects and events; can be done directly with the senses or indirectly through the use of simple or complex instruments

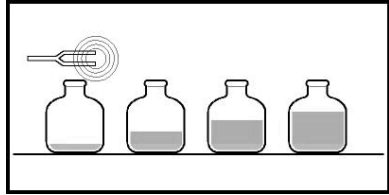
**Experiment:**

Design procedures for gathering data to test hypotheses under conditions in which variables are controlled or manipulated

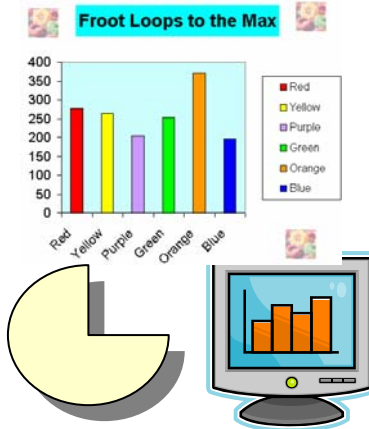
**Measure:**

Make quantitative observations using both nonstandard and standard measures

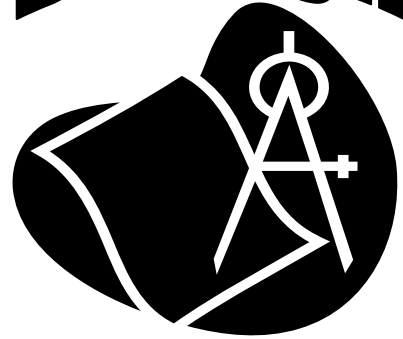
# Control Variables



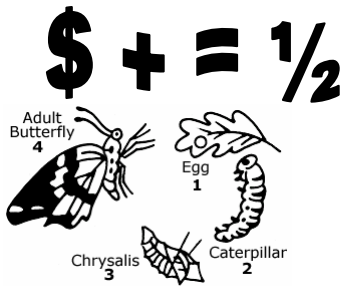
# Interpret Data



# Design



# Representation

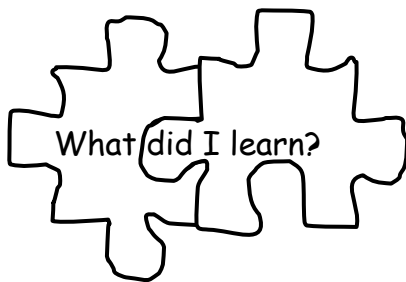


# Reasoning

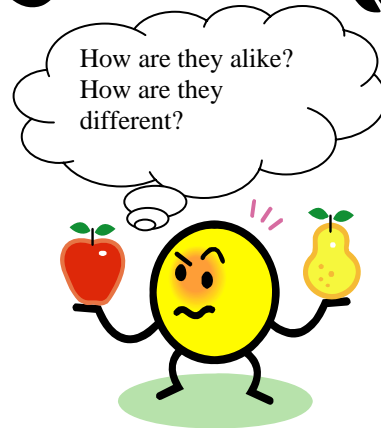


# Safety

# Connect



# Compare



# Draw



# Conclusions

## **Interpret Data:**

### **Design:**

Develop procedures for gathering data to test hypotheses.

Make observations of objects or events to make inferences or predictions; write down the observations on paper as notes or display the data in charts, tables or graphs; make predictions, inferences and hypotheses from a set of data

### **Control Variables:**

State or control factors that affect the outcome of an experiment

### **Safety:**

Make observations and using materials carefully and safely.

### **Reasoning and Proof:**

Recognize reasoning and proof as fundamental aspects of mathematics and science; make and investigate mathematical and scientific conjectures; develop and evaluate mathematical and scientific arguments and proofs; and select and use various types of reasoning and methods of proof.

### **Representation:**

Create and use representations to organize, record and communicate mathematical and scientific ideas; select, apply and translate among mathematical and scientific representations to solve problems; and use representations to model and interpret physical, social, mathematical and scientific phenomena.

### **Draw Conclusions:**

Interpret data to make conclusions; the final step of an investigation.

### **Compare:**

Identify common and distinguishing characteristics among objects or events.

### **Connect:**

Recognize and use connections among mathematical and scientific ideas; understand how mathematical and scientific ideas interconnect and build on one another to produce a coherent whole; and recognize and apply mathematics in contexts outside of mathematics and science.