



# Observing

What do you notice about ...?

# Classifying



# Communicating

What did you learn about ...?

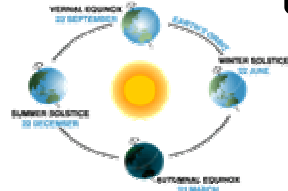
# Experimenting

How will you find out about ...?

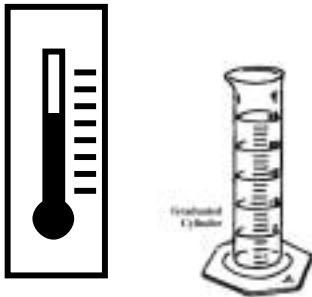
What do you think will happen if....?

# Predicting

# Using Time/Space Relationships



# Measuring



What do you think will happen?

# Inferring

Why do you think that?

# Hypothesizing

### Communicating:

Communicating involves the use of spoken and written words, graphs, drawings and diagrams to share information and ideas with others. Scientific findings have little value if they are not shared with others. This process skill serves as a link between science and the language arts.

### Using Time/Space Relationships:

Young children need help understanding objects and events taking place outside of their current space or time. Provide students with exposure to concepts such as changing seasons, life cycles, lunar cycles to help them develop an awareness of events outside of their environment.

### Hypothesizing:

A hypothesis is an educated guess that is tested experimentally. If ...then ... statements are a good way for students to phrase their hypothesis. The formulation of a hypothesis is a key skill in the scientific method.

### Classifying:

Classifying means sorting or grouping organisms, objects or events according to like characteristics. Identifying and grouping by patterns or similarities is a skill often used in science.

### Predicting:

Predicting for the scientist is forecasting future events based on observations and inferences. Accurate predicting requires many pieces of information and how they interact.

### Inferring:

An inference is a logical thought process to show a relationship between two or more observations combined with past experiences. Science seeks to identify relationships between phenomena using inference.

### Observing:

Observing is using your five senses to gather data about objects and events in your environment. Students should strive to use as many of their five senses when making observations and not rely only on what they see.

### Experimenting:

Experimenting involves using all the process skills in a scientific investigation.

### Measuring:

Scientists gather and share data about the world by using common standards of measurement; length (inches, feet, meters, light years), weight (pounds, grams), volume (quarts, gallons, liters), and time (seconds, hours, years).

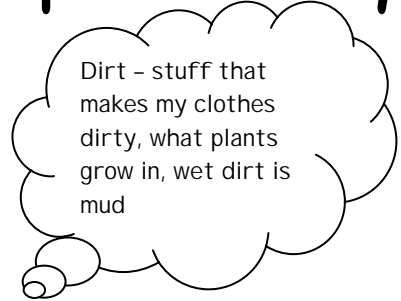
# Controlling Variables



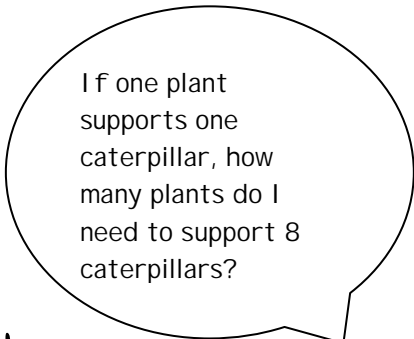
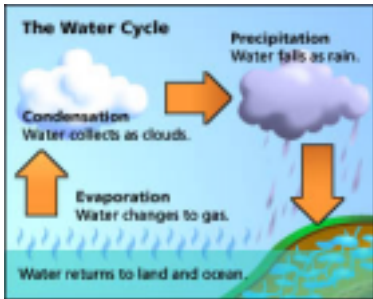
# Interpreting Data

Morning Temperatures	Afternoon Temperatures
55°	60°
53°	62°
56°	59°
48°	55°
45°	51°

# Defining Operationally



# Forming Models



# Using Numbers

### Defining Operationally:

An operational definition is a definition framed in terms of students' experiences. For example, defining an acid as an any substance that turns blue litmus red is an operational definition.

### Interpreting Data:

Interpreting involves the analysis and synthesis of data to support or refute a hypothesis.

### Controlling Variables:

In a science experiment, two conditions, alike in every way but one, are compared to determine the influence of the one missing element. In designing and conducting science experiments, students must be able to identify and control the variables in order to determine their effect on the experiment.

### Using Numbers:

Quantification is the essence of science. The ability to describe the world numerically is basic to all scientific endeavors. Science activities provide students with practical applications of the concepts they have learned in mathematics. This process skill serves as a link between science and math.

### Forming Models:

A model is a verbal, structural, or graphic representation of the physical world. Scientists develop models as a way of describing the world, then test and refine those models as more information becomes available.