

## Science

Science is taught twice a week, but is often incorporated at story time, as well as general observations made throughout the day. The students will be asked to bring in objects to be used for science. The scientific process of collecting data, observing, and charting data will be used. These are the big units that are taught throughout the year, but mini units may also be taught because of student's interest in a subject.

Textbook: Discoveryworks, Houghton Mifflin Science Copyright 2000

### I. Kinds of living things

Overview: The similarities and differences between plants and animals; classifying plants and animals according to one characteristic; life cycles of plants and animals.

- A. Identify a variety of plants and animals that can be found in the schoolyard environment
  - 1. collect and record data about the location of plants and animals
  - 2. Discuss why certain animals and plants are found only in specific places
- B. Differentiate between plants and animals
  - 1. Identify the properties of plants and animals
- C. Compare a variety of animals that live on the earth
  - 1. Sort plants and animals according to the environment they might live
- D. Identify the similarities among some plants
  - 1. Sort plants according to one characteristic
  - 2. Watch *The Magic School Bus Plants a Seed*
  - 3. Identify leaves, cones and needles
- E. Identify the various kinds of animals
  - 1. Group animals according to their body coverings
  - 2. Identify skin, hair, feathers, and scales
  - 3. Watch *The Magic School Bus Going Batty*
  - 4. Group animals according to how they eat
  - 5. Group animals according to how they move
- F. Identify different kinds of animal homes
  - 1. Infer the values of each kind of animal home for it's animal user
  - 2. Identify how certain animals make their homes
- G. Compare two kinds of teeth- those for biting and those for chewing
  - 1. Compare different animals and observe that different mouth parts help them eat different kinds of food
- H. Classify animals according to one characteristic
  - 1. Identify vertebrates and invertebrates
  - 2. Identify mammals, birds, amphibians and fish
- I. Construct a system to classify various animals
  - 1. Construct a chart for classifying animals
- J. Observe and discuss the life cycles of various living things
  - 1. Discuss that animals change and grow
  - 2. Make a chart of the life cycle of a butterfly
  - 3. Chart the life cycle of a sunflower seed

### II. Earth's Land and Water

Overview: Properties of soil and rocks; how water and soil mix, how water flows; recycling soil, water and rocks.

- A. Compare the different kinds of soil that compose the earth's surface
  - 1. Students bring in soil and it is compared
  - 2. Students will identify sandy soil, clay soil, rocky soil and top soil
  - 3. Students will determine where each type of soil might be found
- B. Examine and group different components of soil
  - 1. Examine fresh top soil and chart what was found
  - 2. Determine if things found in soil are living or nonliving
  - 3. Classify living things and once-living things
  - 4. Predict what might be found in the soil under an old log, rock, and leaves
- C. Observe how water is absorbed by soil
  - 1. Identify how water is use and wasted at school, home, and in the work places
  - 2. Observe how water is absorbed into the soil when the soil is dry, damp, and already soaked
  - 3. Observe how water puddles seem to disappear
  - 4. Learn the water cycle
- D. Discover that water flows downhill and in waves
  - 1. Discuss how water flows downhill, and into lakes
  - 2. Discuss how water moves in waves in the ocean
- E. Discover ways to conserve water
  - 1. Discuss how to conserve water in the home and at school

### III. Weather and Seasons

Overview: Factors that affect the weather; seasonal changes; how people plants and animals respond to weather conditions.

- A. Recognize factors that affect weather such as temperature, wind, precipitation, and clouds.
  - 1. Chart weather over a two week period using weather symbols and words
  - 2. Chart the temperature over a two week period
- B. Infer that areas receiving direct sunlight are warmer than shaded areas.
  - 1. Take temperature in warm and shaded area
  - 2. Observe what happens to chocolate left in a shaded and sunny area
- C. Demonstrate that some materials absorb more of the sun's heat than do other materials.
  - 1. Make a chart of the best places to be on a sunny day
  - 2. Check surface of lawn, sidewalk, asphalt and wood table for temperature
- D. Demonstrate that wind, or moving air, can make objects move.
  - 1. Infer that wind can blow fast or slow
  - 2. Watch Magic School Bus Kicks up a Storm Video
  - 3. Make pinwheels and experiment on different ways to make them move
  - 4. Introduce calm, breeze and strong wind

- E. Infer that water changes from water vapor to liquid water when air touches a cold surface.
  - 1. Identify a variety of weather conditions involving water in different forms
  - 2. Do experiment with ice, water and a metal can
  - 3. Infer why we have condensation on windows
  - 4. Introduce vocabulary of fog, clouds, hail, sleet and snow
- F. Describe the four seasons, including weather and other signs that are associated with them
  - 1. Collect items outdoors related to the season
  - 2. Make pictures for each season and how it changes during the year
- G. Explain some things that people can do to cool off or warm up.
  - 1. Describe how people adjust to the weather conditions during different seasons
  - 2. Experiment to determine how a thick winter coat protects the body from cold
  - 3. Describe some ways that animals change in response to weather conditions during different seasons
- H. Observe how temperature affects the sprouting of seeds.
  - 1. Describe how some plants change because of a change in weather

#### IV. Changes Over Time

Overview: Characteristics of different dinosaurs; how to trace fossils and fossil remains provide clues about the earth's history; changes in the day and night sky.

- A. Compare the characteristics of different types of dinosaurs
  - 1. Watch *The Magic School Bus, The Busasaurus*
  - 2. Compare plastic models for several types of dinosaurs
  - 3. Discuss the word extinct
- B. Compare dinosaurs with animals alive today
- C. Discuss the size of dinosaurs
  - 1. Compare the size of a dinosaur to a child
  - 2. Compare a dinosaur to objects about the same size
- D. Model scientific behavior by digging up buried remains
  - 1. Read Digging Up Dinosaurs
  - 2. Make fossils with shells and plaster of paris
  - 3. Hide and find fossils in a clay mixture
- E. Infer the shape of a dinosaur from its skeleton
- F. Compare fossil remains with trace fossils
- G. Infer what kinds of living things became fossils
- H. Compare the kinds of teeth that are good for plant grinding with the teeth that are good for tearing meat
  - 1. Conclude that fossil dinosaurs teeth provide clues to what dinosaurs ate
  - 2. Use wooden blocks and golf tees to represent flat and sharp teeth and grind or tear food
- I. Use a model to observe the changes that cause the sunrise and sunsets
  - 1. Conclude that it takes the earth 24 hours to spin completely around

2. Watch *The Magic School Bus Lost in the Solar system*
- J. Observe the appearance of the moon changes
  1. Conclude that the moon's phases make up a pattern that repeats about every 28 days
  2. Introduce vocabulary of rotates, sunrise, sunset
- K. Discuss the stars
  1. Discuss how a star is born and dies
  2. Show pictures of constellations
  3. Read books about the sun