

Animals

(Consumers)

Basic Needs

Food/water
Shelter
Oxygen

Classifications

Vertebrate: (cold blooded)
fish, reptiles,
amphibians, (warm blooded)
birds, mammals,
Invertebrate:
arthropods (insects-
complete/incomplete- spiders)
Mollusks (snails, clams, etc.)

Reproduce

Live: mammals,
Eggs: birds

Adaptations

Camouflage
Feet: grab, climb,
swim, perch
Legs: long (run)
wings
mouth: Birds:
crack, strain, tear, prob
Teeth: molars
(cow, horse – grind)
Sharp (tear)
good eyesight

Behaviors:

Seasonal:
Hibernate,
Migrate
Learned
Inherited
(instinct)

Habitats

Climate Zones

Polar

Temperate: 4

seasons-Kinds of
ecosystems: forests,
ponds, rivers, lakes, etc.

Tropical

Food Web

A diagram that shows
how food chains
connect and overlap.

Energy Pyramid

A diagram that shows
how much food energy
is passed from one
organism to another
along a food chain.

Plants

Basic Needs

Nutrients/water, sun, co2
space

Plant Parts

Roots: absorb nutrients/water

Stem: support, carries
nutrients/water

Leaves: make food (photosynthesis)
Trap sunlight, transpiration (give off water)

Reproduce

Germinate (sprout)

Runners, bulbs, cuttings

Seeds: Properties:
texture, color, size,
shape

Inside seeds: plant, food

Ways Spread: burrs,

Life Cycle

Flowering Plants:

Seed, seedling,
adult, flower, fruit

Provide:

Food,
shelter,
clothing,
shade,
oxygen

Tropism:

Geotropism
Phototropism
Hydrotropism

Lesson Plan

Edna King 4th grade
38 students 5 IEP Students
Science Soil 3 periods

Soil in our Environment

Objective: Students will describe the various kinds of soils and how plants and animals are affected by them.

SC-04-2.3.1 Students will classify earth materials by the ways that they are used; explain how their properties make them useful for different purposes.

SC-04-4.7.1 Students will make predictions and/or inferences based on patterns of evidence related to the survival and reproductive success of organisms in particular environments.

S-4-LS-9 Students will understand that organisms change the environment. These changes may be detrimental or beneficial.

Resources: Books, chalkboard, bulletin board, posters, science equipment, worksheets, overhead projector, computer, cd's, other technology.

URL's: <http://www.fi.edu/fellows/payton/rocks/index2.html>

http://www.oznet.ksu.edu/fieldday/kids/soil_pit/soil.htm

<http://www.fieldmuseum.org/undergroundadventure/kidzone/index.shtml>

Procedures:

Strategies and activities to involve students to accomplish the objectives:

Question/Answer, worksheets, guided instruction, view url's.

Trigger prior knowledge: discuss our on going experiment with tomato seeds planted in humus, clay, and sand.

Strategies to meet individual student needs: Students create power points working at their level, allow more time for IEP students, peer tutors.

Soil

Discuss uses for soil: planting, habitats, protect plants/animals, flood control (dams), septic systems, painting, pottery, bricks making.

Activity: cut an apple in fourths, $\frac{3}{4}$ represents the amount of the earth that is water, $\frac{1}{2}$ of the $\frac{1}{4}$ left is too cold, dry, mountainous to use. What is left (about 10%) is used for food production, houses, parking, roads, recreation so it is important to take care of soil.

Discussion:

How do we get soil?

1. Organisms – dead plants and animals (organic).
2. Climate – weathering, rain, chemicals (acid rain).
3. Rocks
4. Topography – slope, flat, steep.

Activity: Test clay, humus, and sand for pH, phosphorus, nitrogen, potassium, porosity using a soil test kit.

Water Cycle:

Have 9 stations and beads of different colors at each station. Each student is given a chenille wire on which they will place a bead from the station they go to. At each station is also a big dice on which are pictures of the 9 stations (ground water, clouds, glaciers, living things, rivers, lakes, streams, oceans, soil). The students roll the die at each station, put the bead there on his wire, roll the die and goes to whatever station is pictured. If he is at the station that is pictured he puts another bead of that color on his wire.

Following this activity have the students observe the color of beads on their wires and their order. Discuss the effect the water cycle has going from one environment to another.

Lesson Plan

Edna King 4th grade
38 students 5 IEP Students
Science Plants 8 periods

Plants in Their Environments

Objective: Students will describe the basic needs of plants, scoring at least a 3 on a 4-point rubric.

SC-04-4.7.1 Students will make predictions and/or inferences based on patterns of evidence related to the survival and reproductive success of organisms in particular environments.

S-4-LS-8 Students will understand that all animals depend on plants for food

Resources: Books, videos (Plants, How They Grow), chalkboard, bulletin board, posters, science equipment, worksheets, overhead projector, computer, cd's, other technology.

URL's: <http://www.realtrees4kids.org/threefive.htm>

<http://www.clayhillforest.org/>

<http://www.bbc.co.uk/schools/revisewise/science/living/>

<http://www.zoomschool.com/subjects/rainforest/>, <http://www.mbgnet.net/>

Procedures:

Strategies and activities to involve students to accomplish the objectives:

Question/Answer, worksheets, guided instruction, games, view url's, cd's.

Trigger prior knowledge: view and discuss plant power points made by the 5th grade.

Strategies to meet individual student needs: Students create power points working at their level, allow more time for IEP students, peer tutors.

Plant Activities

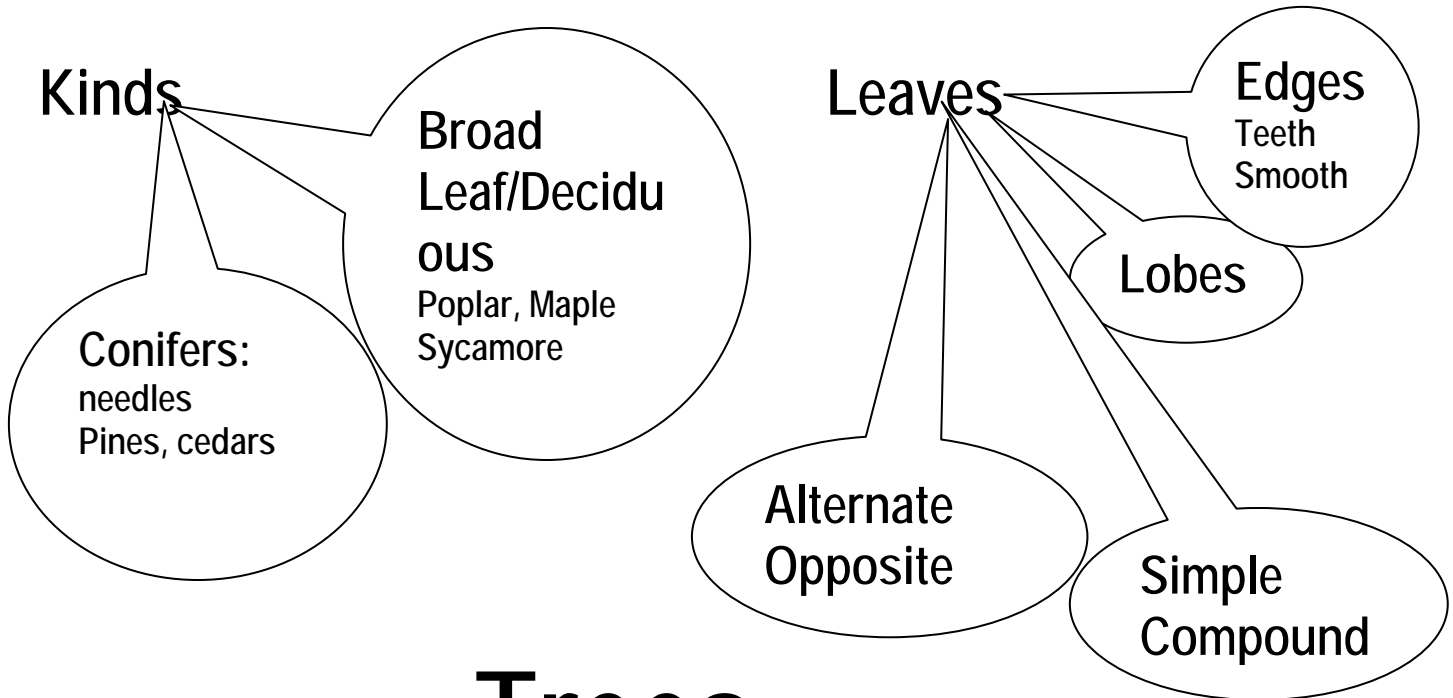
Discussion: (have samples of leaves, bark, and branches from several trees)
Discuss how to identify trees by their leaves, bark, and branches.

Activities:

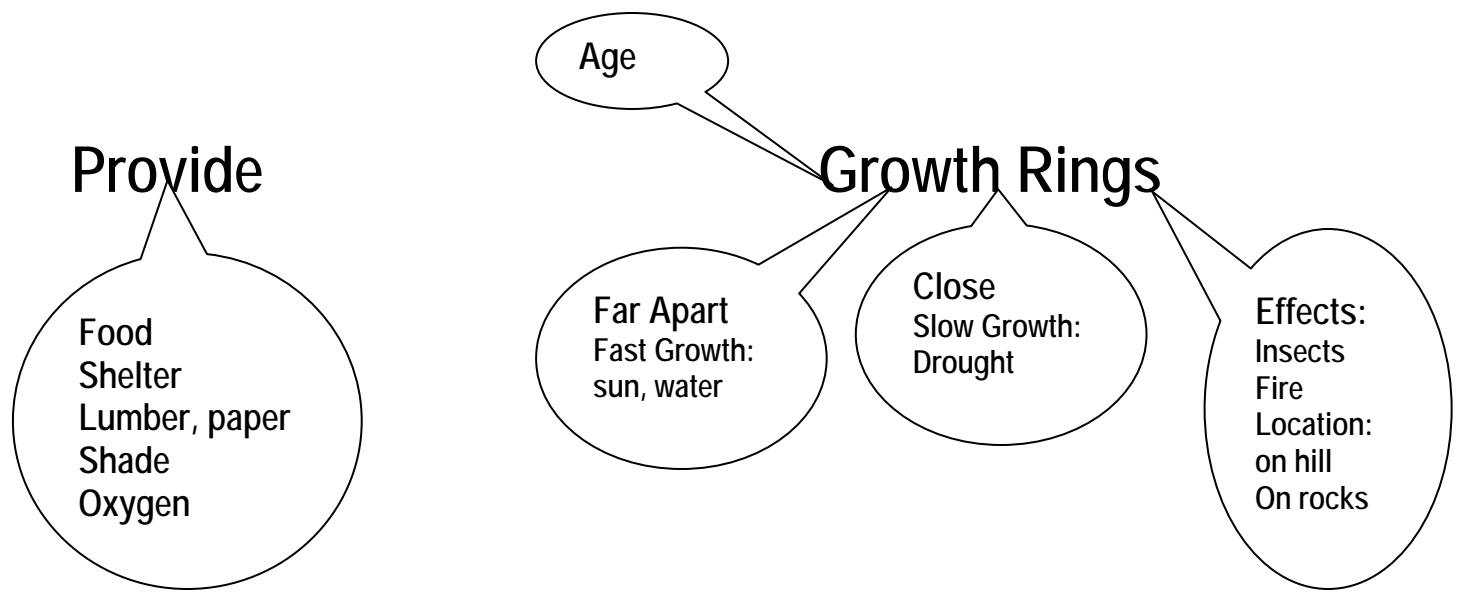
Students bring in leaves and identify them if they can by using a dichotomous key.

Walk on our 2 nature trails and identify the trees at each numbered post. Describe the soil, plants, light, and any other conditions that may contribute to the reason the trees are at their location.

View tree cookies: note the tree's age by counting its rings, why some rings are farther apart than others, reason for other makings that are observed.



Trees



Unit of Study

Teacher: Edna King

Grades: 4 , 38 students, All Title 1, 5 IEP

Language: English

Classroom setting: Collaborative, in and out door

Resources: Computers, overhead projector, books, handouts, posters, T.V., hands-on equipment, etc.

Supportive help: Resource Teacher, classroom teacher, peer (student) tutors

Animals, Soil, Trees

Essential Question: How do animals, soil, and trees affect our environment?

SC-04-4.7.1 Students will make predictions and/or inferences based on patterns of evidence related to the survival and reproductive success of organisms in particular environments.

SC-04-2.3.1 Students will classify earth materials by the ways that they are used; explain how their properties make them useful for different purposes.

S-4-LS-8 Students will understand that all animals depend on plants for food.

S-4-LS-9 Students will understand that organisms change the environment. These changes may be detrimental or beneficial.

Academic Expectation 2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

2.4 Students understand that under certain conditions nature tends to remain the same or move toward a balance.

Objectives:

- ❖ Students will describe the basic needs of plants and animals, scoring at least a 3 on a 4-point rubric.
- ❖ Students will be able to predict and/or infer what environmental factors must be present for organisms to survive and reproduce, scoring at least 3 on a 4-point rubric.

- ❖ Students will explain how organisms change their environment either detrimentally or beneficially, scoring at least 3 on a 4-point rubric.

Student Performance Expected: DOK 2&3
Comprehend, apply, analyze, synthesize, evaluate

Communication:

How information provided prior to instruction: bulletin board, hall walls, handouts, letters to parents, observations made in outdoor classroom and on the nature trails, books, students bring in items.

During Instruction: question/answer, circulate/observe, grade papers.

After the post test: students bring in items and relate their gained knowledge

Assessment Plan:

Pre-Assessment:

Match and multiple choice questions.

DOK 2

Objective: Students will describe the basic needs of plants and animals.

Formative Assessment:

Observe paper and pencil and hands on activities

DOK 2 and 3

Students will be able to predict and/or infer what environmental factors must be present for organisms to survive and reproduce.

Summative Assessment:

Match, multiple choice, and open response questions.

Students will explain how organisms change their environment either detrimentally or beneficially, scoring at least 3 on a 4-point rubric.

Role of Student Self-Assessment:

Students will assess their work by scoring it on a 4-point rubric.

Students will do a power point covering our three objectives.

Student progress will be monitored by their open response questions, hands on activities, journal entries, and power point presentations.

Assessment accommodations: peer tutors, more time permitted for the various activities.

