

Learning About Scientific Classification

Lesson Plan

Submitted by: Gail Champion- Special Education Teacher
San Ardo Union Elementary School

Objective: The student will learn to classify things into groups according to their similarities or differences. This concept is known as scientific classification.

Curriculum Areas: Science, Art, Critical Thinking Skills, 4th-6th grade level

Materials: list of petroleum products, magazines

Procedures:

1. Give a definition of Scientific Classification.
2. List 10 living things on the board and discuss the best way to show similarities and differences in the things.
3. Put on board the title: Living Things
Discuss: Plants and Animals and the logical way of classifying the list of words associated with them.
4. Give a brief history of products that were created from oil and how they have helped mankind through the ages.
Ask the students, "Do you know any other interesting oil facts that you can share with the class?"
5. The students are grouped in pairs and are given a list of twenty products made from petroleum. They are to work together to come up with at least 5 categories and then list the products that belong in each group. The student will define why he has grouped his/her products under each category. For example: texture, flexibility, color, liquid, solid, the environment where the product is used, how the product is used, etc.
6. When all students are finished the whole class will work together and discuss the categories chosen and used. The teacher will list the categories most often used by the groups and the students will work together to list the products under the correct group.
7. **Homework Assignment**- compile a list of petroleum products using outside sources.
8. **Follow-up Activity #1**- The student will categorize products from the "Petroleum In Our Lives" worksheet.
9. **Follow-up Activity #2**- The student will cut up magazines to make a collage using words and pictures that depict petroleum products.

Guided Lesson Plan

1. Definition of Scientific Classification:

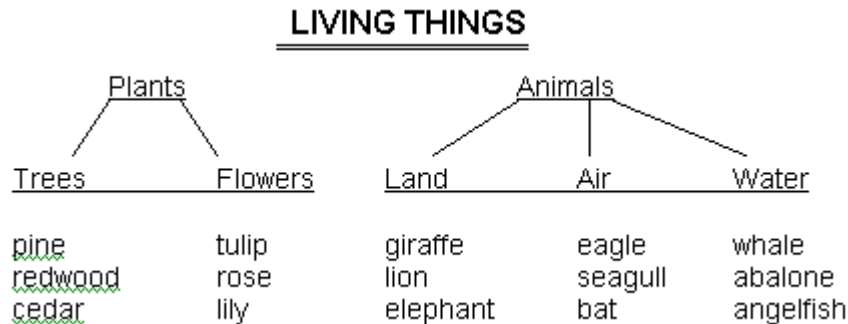
The organization of things into groups according to ways in which they have similar or different characteristics.

2. Example of Living Things:

List:

seagull	tulip	giraffe	water
trees	angelfish	eagle	cedar
lion	pine	rose	lily
flowers	redwood	whale	elephant
abalone	land	air	bat

3. As a class discuss and decide appropriate categories for the following words. Think about the similarities and the differences of each thing.



4. History of Oil

The ancient Romans gave us the official word for oil: petroleum. This word comes from two Latin words meaning "rock" and "oil". They gave it this name because they saw oil bubbling out of rocks.

Oil is also known as black gold. Like gold, petroleum is a very valuable resource, particularly since humans began inventing new uses for it in the late 1800's.

In ancient times, the corpses of wealthy Egyptians were prepared for burial by wrapping them tightly in strips of cloth coated with pitch (a solid form of oil). This helped the body from decaying.

In the ancient city of Babylon, the streets were paved with asphalt.

The ancient Chinese uses long bamboo tubes to draw oil from the ground. Oil was used to waterproof homes and boats.

In ancient Rome, pitch was used to seal wine jars. They also put oil on cuts and wounds and on bandages they wrapped around injured arms or legs. Some Romans drank a little oil to aid in digestion.

In ancient Persia, the warriors used oil in their battles. They wrapped their arrows in oil soaked cloth, lit the cloth, and shot these burning arrows into cities and camps of their enemies.

Native American used oil to mix into medicines, made it into war paint, and waterproofed woven baskets.

The invention of the gasoline-powered automobile changed forever the American's dependency on oil in their daily lives.

By the 1850's, oil producers made two products: kerosene for oil lamps and gasoline for stoves, lamps and the automobile engine.

In 1859, Edwin L. Drake was the first person in America to drill for oil. He struck oil in Titusville, Pennsylvania. By 1900, prospectors had found oil fields all over the country. Oil was measured by the barrel. Each barrel contained 42 gallons. Drake's discovery had helped make oil big business. Today, there are over 6,000 products we use in our daily lives that are made from petroleum.

5. and 6. The students are given a list of products made from petroleum. They pick a partner and they determine the best categories for the following products. They are to be able to relate to the teacher WHY they have placed a product under their chosen category.

List of products made from petroleum:

trash bags
shaving cream
fishing boots
scotch tape
ice cube trays
crayons

soft contact lenses
detergents
perfumes
vitamin capsules
sunglasses
plastic rulers

plastic curlers
life jackets
ballpoint pens
floor wax
golf balls
nail polish

7. Homework Assignment: For homework, the student will compile a list of at least 20 products they can find that are made from petroleum. Some helpful places to look are: find sites on the Internet, read labels found in the kitchen and medicine cabinet, products found in the garage, and talk with adults.

8. Follow-up Activity #1

The student will classify the petroleum products from the handout titled PETROLEUM IN OUR LIVES. They are to decide on the category and be prepared to explain why they listed the product in that category.

9. Follow-up Activity #2

The student will look through magazines and find products made from petroleum and words that are related to oil. They will make a collage displaying the pictures and words that will cover the entire paper. The teacher will laminate and display the art projects.

PETROLEUM IN OUR LIVES

ammonia
anesthetics
antifreeze
antihistamines
antiseptics
artificial turf
artificial limbs
aspirin
awnings
balloons
ballpoint pens
bandages
beach umbrellas
boats
combs
crayons
credit cards
curtains
dashboards
dentures
deodorant
detergents
dice

fishing lures
fishing rods
floor wax
folding doors
food preservatives
footballs
glue
glycerin
golf bags
golf balls
guitar strings
hair curlers
hair coloring
hand lotion
heart valves
house paint
ice cube trays
ice buckets
ink
insect repellent
life jackets
linoleum
lipstick

purses
putty
refrigerators
skateboard wheels
roofing
rubber cement
rubbing alcohol
pillows
safety glass
salad bowls
shag rugs
shampoo
shaving cream
shoe polish
shower curtains
skies
slacks
soap dishes
contact lenses
solvents
sports car bodies
sunglasses
sweaters