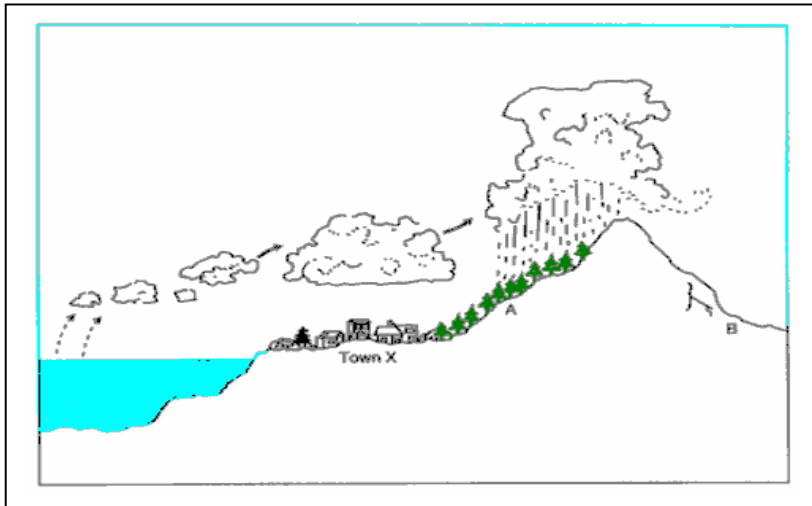


# Web Demo and Topics

## Science Grade 6 - Part 1

1) Air that is rising over a mountain tends to form clouds. Precipitation in the form of rain or snow is likely to occur before clouds pass over the mountain.



Which of the following can definitely be used to distinguish the soil found at point A from the soil found at point B?

- 1) The soil found at point A has more plant matter and bacteria than the soil at point B.
- 2) The soil found at point A has a higher concentration of salt than the soil found at point B.
- 3) The soil found at point A is made of larger particles than the soil found at point B.
- 4) The soil found at point B holds moisture longer than soil found at point A.

2) Josh watched a tractor pull an empty wagon across his aunt's field. The wagon was loaded and he watched the tractor pull the wagon back and notices that it took much longer for the tractor to get up to speed.

Why did the tractor have a harder time getting up to speed when pulling the loaded wagon?

- 1) The wagon had more momentum.
- 2) The wagon had more speed.
- 3) The wagon had more force.
- 4) The wagon had more mass.

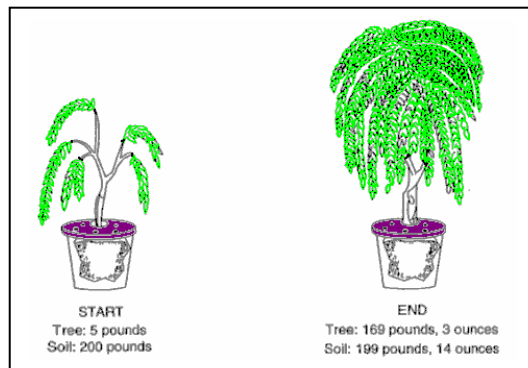
3) Norman has a projector that shines red light. When he places a red filter in front of the projector and turns it on, he sees red light pass through the filter. When he places a blue filter or a green filter in front of the projector, no light passes through the filter.

Which of the following is supported by Norman's observation?

- 1) Only red light will pass through a red filter.
- 2) Only blue light will pass through a red filter.
- 3) Green light is not absorbed by a red filter.
- 4) Red light is absorbed by a red filter

4) A scientist filled a large pot with 200 pounds of dried soil. In it, he planted a willow tree that weighed 5 pounds. He covered the pot with a metal plate that would allow water to get in and the

tree to grow. After five years, the scientists weighed the tree and the dried soil again. His results are summarized below



The scientist concluded that all but 2 ounces of the tree growth had come from water. Water was the only other growth source the scientist knew of.

The scientist's conclusion is incorrect. The tree took in other matter as an energy to grow.

Where did the tree get other matter and energy to grow?

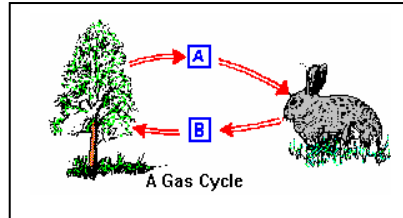
- 1) The matter came from carbon dioxide and the energy from sunlight.
  - 2) The matter came from carbon dioxide and the energy from oxygen.
  - 3) The matter came from oxygen and the energy from sunlight.
  - 4) Both the matter and the energy came from sunlight.
- 5) If you needed to move a heavy rock, why would it be easier to use a lever and a fulcrum than to just pick the rock up?
- 1) The lever decreased the weight of the rock.
  - 2) The lever decreased the amount of friction that is present.
  - 3) The lever decreased the amount of force needed to move the rock.
  - 4) The lever decreased the force of gravity that needs to be overcome.
- 6) Pam learns that a communications satellite is always above the town she lives in. Which of the following can Pam conclude about the motion of this satellite around the Earth?
- 1) It circles the Earth faster than once every 24 hours.
  - 2) It does not have a regular orbit around the Earth.
  - 3) It takes longer than 24 hours to circle the Earth.
  - 4) It circles the Earth once every 24 hours

## Science Grade 6 Questions - Part 2

This program gives students practice in the life sciences.

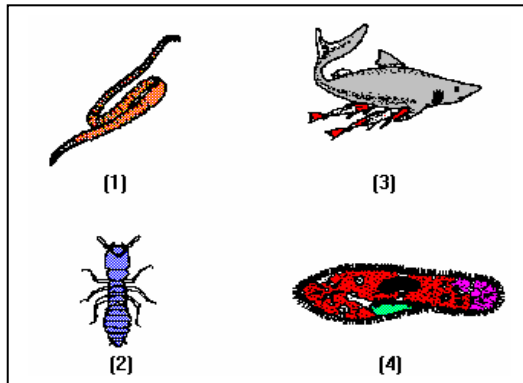
- 1) The major source of usable carbon for living organisms is
- 1) carbon compounds in igneous rocks
- 2) carbon dioxide in the atmosphere
- 3) minerals in the soil
- 4) fossil fuels

2) Base your answer to the question on the diagram.



The process that produces gas B is

- 1) transpiration
  - 2) respiration
  - 3) digestion
  - 4) photosynthesis
- 3) Chemical reactions take place in a cell
- 1) only during the day
  - 2) only at night
  - 3) twenty-four hours a day
  - 4) only during periods of activity
- 4) Which of the diagrams shown represents a protozoan?



5) An angle fish has the best chance of survival in a covered aquarium containing food and

- 1) water and sand
- 2) water and other angle fish
- 3) water and green elodea plants
- 4) water, only

6) A characteristic that makes members of the plant kingdom different from members of the animal kingdom is that plants

- 1) live only on land
- 2) cannot reproduce
- 3) can make food
- 4) have no response

7) What is contained in the core of a virus that contains the code to make a cell reproduce the virus is

- 1) aerobic
- 2) anaerobic
- 3) nucleic acid
- 4) interferon

8) Which of the following statement about green plants in the dark is most correct?

- 1) both photosynthesis and respiration stop
- 2) both photosynthesis and respiration continue
- 3) photosynthesis stops and respiration continues
- 4) photosynthesis continues and respiration stop

9) The part of the brain involved in solving a math problem would be the

- 1) cerebrum
- 2) cerebellum
- 3) medulla
- 4) spinal cord

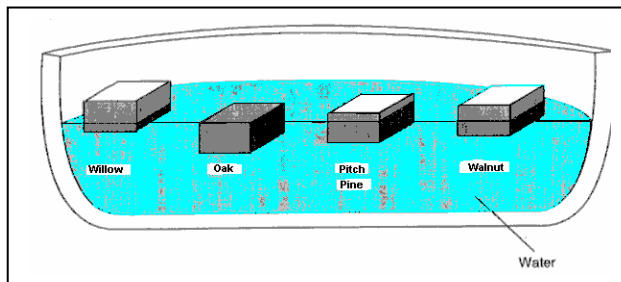
10) Which of the following organelles has been called the powerhouse of the cell?

- 1) ribosome
- 2) nucleus

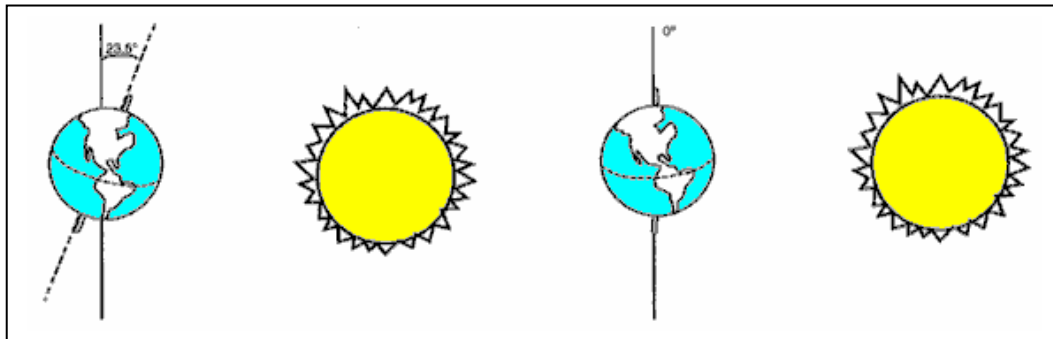
- 3) mitochondria
- 4) spindle fiber

## Science Grade 6 Essay Questions

1) The four different wood samples were tested by floating them in water. You need to make a raft; the raft must support heavy camping equipment. Using this information, state which type of wood makes the best raft. Explain your answer.

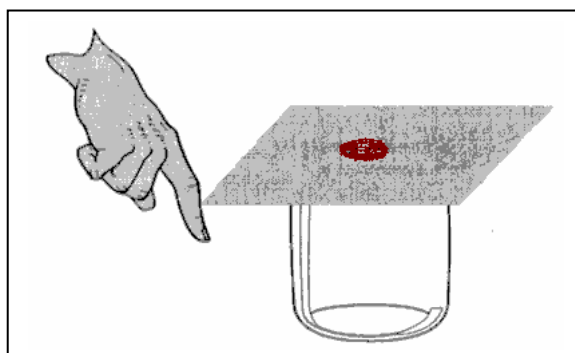


2) The diagram below shows how the earth's position would change if its tilt went from  $23.5^\circ$  (its actual tilt) to  $0^\circ$ ?



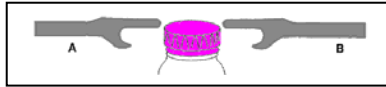
A) Tell one change that would take place to the Earth's seasons or its weather if the Earth's tilt were changed to  $0^\circ$ . Explain your answer.

3) A coin can be dropped into a bottle without anyone touching it. A piece of lightweight cardboard is cut into a square and placed on top of an open jar or bottle. A coin is placed on the cardboard over the opening of the jar. When the edge of the card is flicked hard and fast with a finger, the card moves horizontally and the coin drops into the jar.



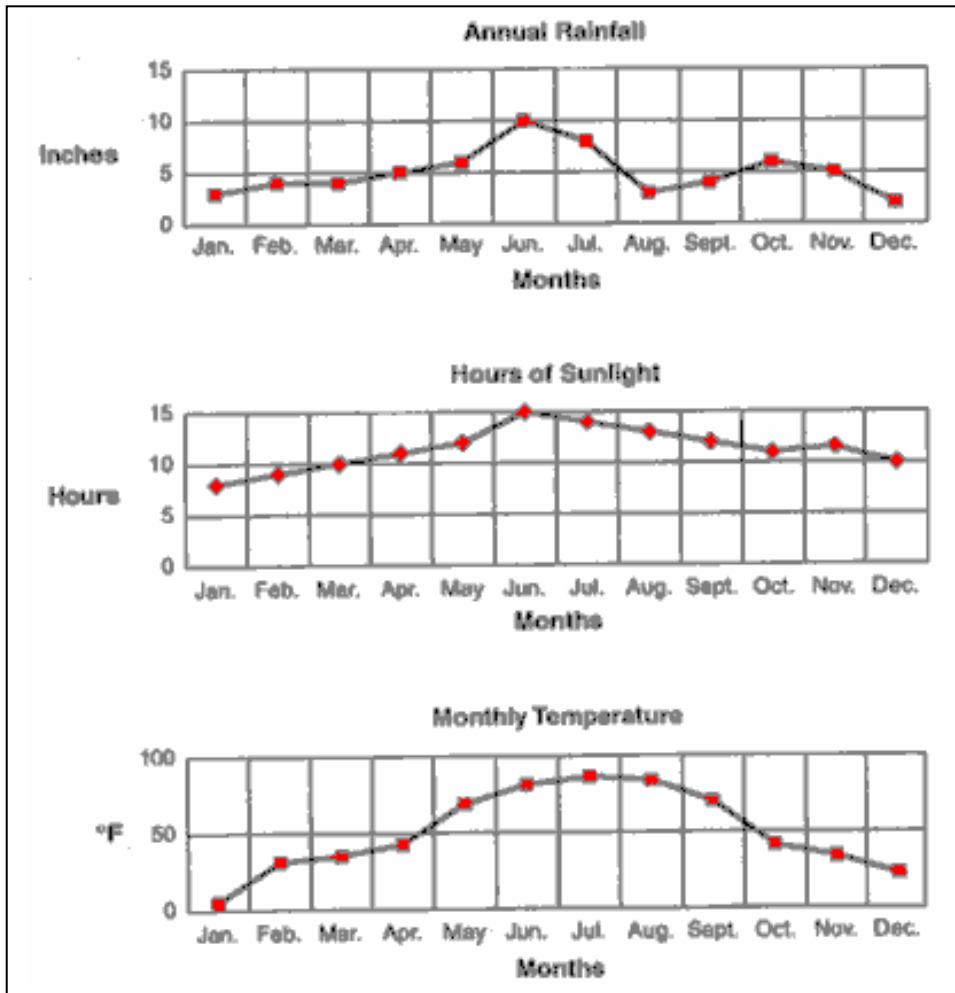
- A) What force is acting on the coin?
- B) Why did the coin drop into the jar instead of moving with the card?

4) A bottle opener works as a lever. Pat has two bottle openers can use to open a bottle. Bottle opener A is 4 inches and bottle opener B is 8 inches long.



Tell which opener would make it easier to open the bottle. Explain why that bottle opener has an advantage.

- 5) John mows grass in his town to make some money. Look at the graphs below to answer the following questions.
  - 1) In which month will Mario make the most money from lawn mowing?
  - 2) Explain why this is the best month.



# Grade 6 Science Topics - Part 1

Disease Prevention  
Earth's Rotation  
Energy Transformations  
Environmental Balance  
Environmental Habitats  
Environment - Humans  
Environment - Water  
Erosion  
Food Pyramid  
Food Web  
Gravity  
Health Habits  
Interpreting Information  
Interpreting Lab  
Levers  
Metric System  
Mohs Hardness Scale  
Lunar Eclipse  
Commensalism and Mutualism  
Pendulum  
Physical and Chemical Changes  
Pollution - Water  
Protecting the Environment  
Reflection and Refraction  
Safety - Laboratory  
Scientific Process  
Solar Eclipse  
Sound  
Succession  
Water Cycle  
Weather

# Grade 6 Science Essay Topics - Part 2

## LIFE SCIENCE - TOPICS

Essential Elements of Living Things	Land Pollution
Living Things - Need for Movement	Nuclear Pollution
Living Things - Need for Energy	Thermal Pollution
Living Things - Need for Water	Air Pollution
Living Things - Need for Food	Renewable and Nonrenewable Resources

Living Things - Irritability  
Living Things - Continuance of Life  
Living Things - Excretion  
Living Things - Respiration  
Living Things - Reproduction  
Gas Cycle  
Survival and the Environment  
Adaptation and the Environment  
Classification  
Classification Systems  
Protists  
Bacteria and Monerans  
Fungi - Mushrooms  
Virus  
Parasites  
Protists - Examples  
Molds & Yeast  
Algae  
Mosses and Liverworts  
Nonvascular and Vascular Plants  
Mollusks  
Arthropods Characteristics  
Millipedes  
Crustaceans  
Spiders  
Insects  
Metamorphosis  
Starfish  
Animals with Backbones  
Fish  
Amphibians  
Reptiles  
Birds  
Mammals  
Plants - Roots  
Plants - Stems  
Plants - Leaves  
Plants - Guard Cells  
Plants - Transpiration  
Plants - Photosynthesis  
Plants - Tropisms  
Plants - Respiration  
Foods - General  
Cell Theory  
Cell Membrane  
Nucleus  
Cytoplasm - Cell Parts  
Plants - Cell Parts - Chlorophyll

Solar Energy  
Geothermal Energy  
Forest Resources  
Wildlife Resources  
Environmental Management  
Interprets Data in Graphs/Tables/Diagrams  
Designs a Controlled Experiment  
The Cell  
Tissues  
Organs  
System  
Metabolism  
Feedback Mechanics  
Skeletal System  
Bones  
Cartilage  
Ligaments - Tendons - Joints  
Muscular System  
Types of Muscles - Skeletal Muscle  
Types of Muscle - Smooth Muscle  
Types of Muscle - Cardiac Muscle  
Nervous System  
Sensory Neurons  
Cerebrum  
Cerebellum  
Medulla  
Spinal Cord  
Motor Neurons  
Sensory Neurons  
Antennae  
Sense organs and Taste  
Behavior  
Simple Reflex  
Stimulus - Response  
Instinct  
Conditioned Response  
Habit  
Endocrine System  
Thyroid Gland  
Parathyroid Gland  
Adrenal Gland  
Pituitary Gland

Carbohydrates  
Fats  
Proteins  
Minerals  
Vitamins  
Food Tests  
Microscope  
Field Adjustments - Microscope  
Asexual - General  
Asexual - Fission  
Asexual - Budding  
Asexual - Spores  
Asexual - Regeneration  
Asexual - Vegetative Propagation  
Angiosperms - Reproduction  
Petals  
Flowering Plants - Pistil

Pancreas  
Sex Glands  
Digestive System  
Digestion - Mouth  
Digestion - Enzymes  
Digestion - Stomach  
Digestion - Small Intestine/Liver/Pancreas  
Digestion - Large Intestine  
Measuring Energy and Nutrition  
Diffusion  
Osmosis  
Plasmolysis  
Circulatory System  
Circulatory System - Heart  
Circulation - Heart & Blood Vessels  
Blood Circuits - Pulmonary Circulation  
Blood Circuits - Systemic Circulation

Flowering Plants - Stamens  
Flowering Plants - Pollination  
Seeds - Germination  
Gymnosperms - Reproduction  
Animal - Reproduction  
External fertilization  
Life Cycle  
Interdependence of Living Things  
Succession  
Ecosystem  
Population  
Ecology  
Tundra  
Deciduous Forest  
Grasslands  
Desert  
Rain Forest  
Ocean Habitat  
Energy Flow  
Habitat  
Community Relationships  
Nitrogen Cycle  
Food Chain  
Producers  
Consumers  
Decomposers  
Food Pyramid  
Food Web  
Disturbance of Nature's Balance  
Disturbance of Nature's Balance - Man  
Necessity of Conservation  
Soil Problems and Conservation  
Erosion Control  
Fossil Fuels  
Nuclear Energy  
Moving Water

Blood Vessels - Arteries  
Blood Vessels - Veins  
Blood Vessels - Capillaries  
Plasma  
Red Blood Cells  
White Blood Cells  
Blood Platelets - Blood Clotting  
Blood Types  
Lymphatic System  
Respiratory System  
Respiration With Oxygen  
Respiration Without Oxygen  
Excretory System  
Excretory System - Skin  
Excretory System - Lungs  
Excretory System - Kidneys  
Excretory System - Large Intestine  
Reproductive System  
Reproductive System - Male  
Reproductive System - Female  
Twins  
Fertilization  
Menstrual Cycle  
Pregnancy  
Predicted - Results of the Investigation  
Designs - Observation / Measurement Procedure  
Mitosis  
Meiosis  
Chromosomes  
Sex Linked Traits  
Mutations  
Inherited Traits  
Bacteria  
Virus  
Transmission of Diseases  
Body Defense - Structural Defenses  
Antibodies & Antigens  
Active Acquired Immunity  
Passive Acquired Immunity  
Antibiotics  
Disinfectants - Chemotherapy  
Diseases - Virus  
Soil  
Decay of Plants  
Undesirable Microbes & Parasites Control  
Bacteria - Food Uses

## Grade 6 Science Essay Topics - Part 3

Density  
Destructive Forces - Rain Forest  
Earth's Tilt  
Environmental Change  
Food Web  
Interpreting Graphs  
Interpreting Lab  
Lab Safety  
Levers  
Moh Scale  
Nitrogen Sources

Satellites

