

The Scientific Process

1. Something that is kept the same or changed in an experiment. Three examples of these are controlled, manipulated, and responding. (If you do an experiment about molding bread, something that is controlled can be the size of the bags the bread is in. Something that is manipulated can be the type of bread. Something that responds is the amount of mold.)

- a. experiment
- b. trial
- c. variable

2. To either tell someone or write down what you notice about something. You are telling me about how something looks, smells, sounds, or feels.

- a. data collection
- b. describe
- c. illustrate

3. This describes something that is small.

- a. classify
- b. compare and contrast
- c. microscopic

4. This is a collection of results on a chart or graph.

- a. compare and contrast
- b. data collection
- c. experiment

5. This means to put into a category.

- a. classify
- b. compare and contrast
- c. data collection

6. This means to see what is the same or different about something. You write down details about the objects you are comparing and then what they share in a chart or Venn diagram.

- a. compare and contrast
- b. predict and infer
- c. variable

7. This means to take what happened during an experiment and write what happens in the end. You write down whether the results of your project supported your hypothesis or not.

- a. conclude
- b. data collection
- c. predict and infer

8. This means to draw something in detail.

- a. classify
- b. describe
- c. illustrate

9. You must have three of these in an experiment. You label them #1, #2, and #3. In launching rockets, for example, your rocket could have launched 120 feet, 130 feet, and 120 feet. You then compare the results.

- a. experiment
- b. trial
- c. variable

10. This means to look at what can happen next in an experiment. This means to take what you know (your schema) and make a smart guess.

- a. classify
- b. conclude
- c. predict and infer

11. This is what you do when you take an idea and make it into a project that you can observe.

- a. experiment
- b. trial
- c. variable

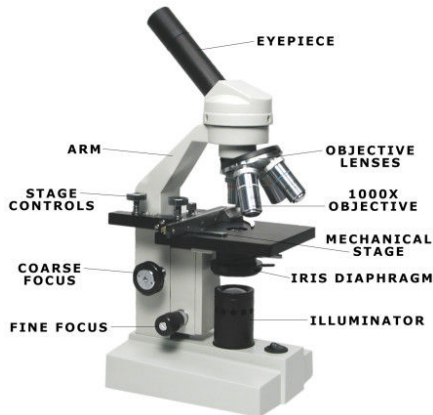
Score for this section- ____/11 correct
(9-11- Outstanding, 5-8- Coming Along,
Less than 5- Need to review)

Scientific Tools

Name the tool you see in each photo below.

Word Bank: hand lens, microscope, thermometer, triple beam balance

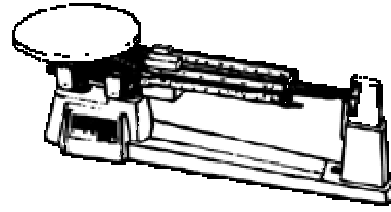
12.



This is a:

What is this tool used for?

13.



This is a:

This tool is used for measuring objects in:

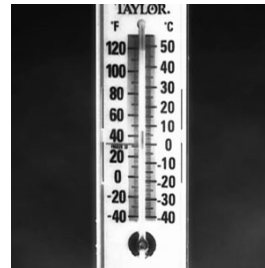
- a. liters
- b. grams
- c. ounces

14.



This is a:

15.



This is a:

This tool measures temperature in Fahrenheit and _____.

Score for this section- ____/4 correct

(You should get all 4 correct.)

Vertebrates and Invertebrates



16. Think about animals with backbones. Animals with backbones are called (vertebrates/ invertebrates).

17. Animals without backbones, on the other hand, are called (vertebrates/ invertebrates).

Respond whether the animals below are vertebrates or invertebrates.

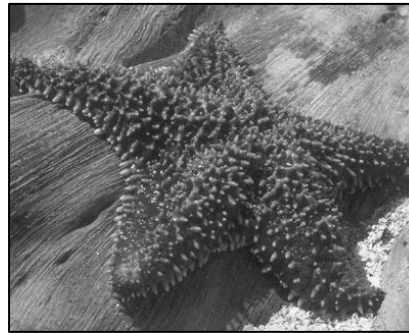
Word Bank:
vertebrate, invertebrate



18. American Alligator:



19. Burmese Python:



20. Starfish:

Words You Learned At The Environmental Center

Word Bank:
Diurnal, fibrous roots, field guides, nocturnal, taproots

21. People read books called _____ all the time to see the different plants and animals that live in a certain habitat.

22. _____ means "living during the day".

23. _____ is just the opposite; it means "living during the night".

24. There are two types of roots. One type, _____, branch out like fibers when they grow.

25. On the other hand, the second type, _____, are very straight when they grow from the ground.

How Do Animals Adapt?

An **adaptation** is something that helps an animal to survive. Some adaptations help animals get food. Other adaptations help animals avoid predators.

26. A box turtle's shell...
a. Is an adaptation for getting food
b. Is an adaptation for avoiding predators

27. A heron's long, sharp beak...
a. Is an adaptation for getting food
b. Is an adaptation for avoiding predators

28. A hummingbird's long, narrow beak...
a. Is an adaptation for getting food
b. Is an adaptation for avoiding predators

29. A Mandarin fish's bright colors...
a. Is an adaptation for getting food
b. Is an adaptation for avoiding predators

Plants

Respond to the multiple choice questions below.

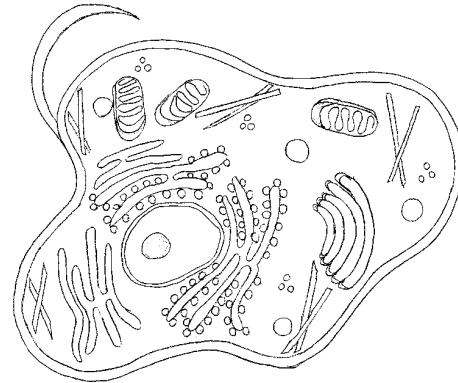
30. The process by which plants make sugar is called:
a. carbon dioxide
b. chromatography
c. photosynthesis
d. respiration

31. _____ is the substance in plants (the pigment) that captures the Sun's energy. This pigment gives the plant its green color.

- a. Carbon dioxide
- b. Carotenoid
- c. Chlorophyll
- d. Chromatography

Plant Cell

Look at the diagram of the plant cell below.



32. The center of the cell (the control center) is called the:

- a. Cell
- b. Chloroplast
- c. Nucleus
- d. Cytoplasm

33. This is the smallest unit of a living thing that performs all life processes. They have a nucleus, cytoplasm, cell wall, and many other parts.

- a. Cell
- b. Chloroplast
- c. Nucleus
- d. Cytoplasm

34. This is the gel-like liquid in a cell.

- a. Cell
- b. Chloroplast
- c. Nucleus
- d. Cytoplasm

35. This is the cell part that traps the Sun's energy.

- a. Cell
- b. Chloroplast
- c. Nucleus
- d. Cytoplasm

Life Cycle of Plants

36. A seed stays

_____ if it does not have the right conditions to germinate.

- a. Dormant
- b. Growing

37. A spore must land on

_____ ground to begin growing (germinate).

- a. Dry
- b. Wet

Omnivores, Herbivores, Decomposers, and Carnivores

38. These are consumers that only eat plants.

- a. carnivores
- b. decomposers
- c. herbivores
- d. omnivores

39. These are consumers that only eat animals.

- a. carnivores
- b. decomposers
- c. herbivores
- d. omnivores

40. These are consumers that eat plants and animals.

- a. carnivores
- b. decomposers
- c. herbivores
- d. omnivores

41. These are consumers that digest waste and remains of dead plants and animals.

- a. carnivores
- b. decomposers
- c. herbivores
- d. omnivores

42. TRUE or FALSE:

Decay always happens at the same rate in ecosystems.

Short Response

43. What is the difference between something that is a threatened, endangered, and extinct species? Explain in at least two sentences. Try to provide an example.

Ecosystems

Word Bank:

Competition, succession, parasite, host, hazardous waste

44. A flea on a dog is a...

- a. host
- b. parasite

45. Wolves and coyotes are consistently in _____ for the resources in their ecosystem.

- a. competition
- b. succession

46. _____ is still occurring in the environment that was disturbed when Mount St. Helens erupted in 1980. Even though the eruption occurred, some plants did not have their roots torn from the ground. They resprouted and grew again.
a. competition
b. succession

47. Poisonous and disease-causing trash is called...
a. Hazardous waste
b. Succession

Interaction and Change in Ecosystems

48. Succession (change) in an ecosystem normally occurs...
a. All at once
b. Over time, in stages

49. Lichens are fungi and _____ that live together.
a. Algae
b. Mosses

50. What do you think **intrusive** means?
HINT: Air potatoes are intrusive because they can grow and choke out the growing plants that are surrounding it.

Geology

Rocks

There are three types of rocks: igneous, metamorphic, and sedimentary.

Word Bank:
Igneous, metamorphic, sedimentary

51. This type of rock is formed by heat and pressure.
a. igneous
b. metamorphic
c. sedimentary

52. This type of rock is formed when layers of particles cement together and harden. These particles are eroded material that settles in places.
a. igneous
b. metamorphic
c. sedimentary

53. This type of rock is formed when molten rock cools and hardens.
a. igneous
b. metamorphic
c. sedimentary

Change with Rocks

54. This is a type of sedimentary rock formed from materials that were once living. There are shells and other eroded sediment in the rock. It is the rock that forms Florida's rock bed.
a. limestone
b. sandstone

55. This is the process that breaks down rocks. Two types are physical and chemical.
a. deposition
b. erosion
c. sediment
d. weathering

56. This is the movement of weathered rock. One example is a landslide.

- a. deposition
- b. erosion
- c. sediment
- d. weathering

57. This is a rapid, downhill movement of rock and soil.

- a. delta
- b. deposition
- c. erosion
- d. landslide

58. This is the dropping, laying down, (or depositing) of Earth's materials.

- a. deposition
- b. erosion
- c. sediment
- d. weathering

Chemical or Physical Weathering...?

Weathering is caused by many things. There are two types, chemical and physical. Tell me which type of weathering is explained below.

59. Acids in rainwater

- a. Chemical weathering
- b. Physical weathering

60. Temperature changes (warmer or cooler)

- a. Chemical weathering
- b. Physical weathering

61. Water freezing in the cracks of a rock

- a. Chemical weathering
- b. Physical weathering

62. Chemicals from plants

- a. Chemical weathering
- b. Physical weathering

Natural Disasters

Word Bank: active volcano, dormant volcano, earthquake, epicenter

63. This is a cone-shaped landform that can erupt at any time without warning. It may have erupted recently.

- a. Active volcano
- b. Dormant volcano
- c. Earthquake
- d. Epicenter

64. This is a sudden movement that causes Earth's crust to shake.

- a. Active volcano
- b. Dormant volcano
- c. Earthquake
- d. Epicenter

65. This is a cone-shaped landform that has not erupted in many, many years.

- a. Active volcano
- b. Dormant volcano
- c. Earthquake
- d. Epicenter

66. This is the point on the Earth's surface directly above an earthquake's focus.

- a. Active volcano
- b. Dormant volcano
- c. Earthquake
- d. Epicenter

Resources

There are two types of resources: renewable and nonrenewable. Tell me which type of resource is described below.

67. Trees

- a. Renewable resource
- b. Nonrenewable resource

68. Petroleum gasoline

- a. Renewable resource
- b. Nonrenewable resource

69. Solar (sun) energy
a. Renewable resource
b. Nonrenewable resource

70. Explain in at least one or two sentences what is means to *conserve* Earth's resources.

Human Body

Muscles, Tissues, Organs

71. These are muscles that you can control.
a. Involuntary muscle
b. Voluntary muscle

72. Cells that work together form...
a. Tissues
b. Organs

73. Name two examples of *organs* in the human body.

Systems

There are many systems of the human body. Decide which system is described below for each question.

74. This system is made up of the bones and tissues of the human body.
a. circulatory system
b. digestive system
c. respiratory system
d. skeletal system

75. This system has our lungs, diaphragm, air sacs, bronchial tube, and trachea.
a. circulatory system
b. digestive system
c. respiratory system
d. skeletal system

76. This system has our heart, blood vessels, and blood.
a. circulatory system
b. digestive system
c. respiratory system
d. skeletal system

77. This system deals with our stomach, liver, and intestines. It deals with how our body takes in food.
a. circulatory system
b. digestive system
c. respiratory system
d. skeletal system

78. Explain how the skeletal system provides *support* for the human body.

BONUS:

If you know this for fifth grade, you are going to do really incredible.

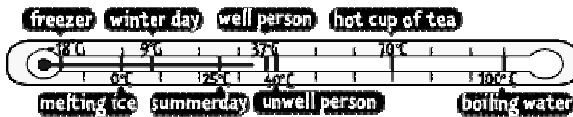
-What is the name of the system that deals with our skin?

-What are the three layers of the skin? One is the subcutaneous.

States of Matter

There are three states of matter: solids, liquids, and gases.

79. What happens during the process of evaporation?
- A gas changes to a liquid
 - A solid changes to a liquid
 - A liquid changes to a gas
80. Butter going soft and runny on a hot day is an example of:
- freezing
 - melting
 - condensing
81. Clouds are formed when:
- Rain is falling
 - Warm or heated air is rising
 - Water vapor is going through condensation
82. Which of these processes is the opposite of condensation? Condensation is when gas turns into a liquid. (You are looking for the process of when a liquid turns into a gas.)
- Melting
 - Freezing
 - Evaporation



Freezer	-18°C
Ice starts to melt	0°C
Cold winter day	9°C
Warm summer day	25°C
Well person	37°C
Unwell person	40°C
Hot cup of tea	70°C
Boiling water	100°C

Look at the charts and answer the questions below.

83. When the temperature rises above 100 degrees Celsius, the state of matter is a:
- Solid
 - Liquid
 - Gas
84. When the temperature goes below negative 18 degrees Celsius (or 32 degrees Fahrenheit), the state of matter is a:
- Solid
 - Liquid
 - Gas

Space

85. This is an imaginary pole that goes through Earth's center.
- axis
 - orbit
 - rotation
 - revolution
86. This is the path that Earth takes around the Sun.
- axis
 - orbit
 - rotation
 - revolution

Moon Phases

Label the phase of the moon shown below.

87.



July 2004				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

88. Which moon phase occurred on July 16, 2004?

- a. Waxing gibbous
- b. New moon
- c. Full moon
- d. First quarter

89. Write down the dates where there was a full moon in July 2004. You should have four dates.

90. Write down the dates where there was a new moon in July 2004. You should have four dates.

Galaxy, Solar System, and Universe

Word bank:
Galaxy, solar system, universe

91. This is all of space and everything in it.

- a. Galaxy
- b. Solar system
- c. Universe

92. This is a system of billions of stars, gases, and dust.

- a. Galaxy
- b. Solar system
- c. Universe

93. This is the Sun, their planets, their moons, and other objects.

- a. Galaxy
- b. Solar system
- c. Universe

94. The gases in the air relate to...

A _____

95. Which material has a greatest density? (Which one is thicker and more dense?)

- a. water
- b. cooking oil
- c. vinegar
- d. salt water

Energy

Word Bank:
kinetic energy, potential energy, energy transfer

96. This is the energy of motion.

- a. kinetic energy
- b. potential energy
- c. energy transfer

97. This is the flow in a food chain from the producer to the prey to the predator.

- a. kinetic energy
- b. potential energy
- c. energy transfer

98. This is stored energy. For example, when you look at the ride Phoenix at Busch Gardens, it pauses for a moment and then comes down fast.

- a. kinetic energy
- b. potential energy
- c. energy transfer

Motion

Word Bank:

force, friction, gravity, inertia, matter, velocity

99. This is the speed and direction that an object is moving.

- a. force
- b. friction
- c. gravity
- d. inertia
- e. matter
- f. velocity

100. Any push or pull is called a...

- a. force
- b. friction
- c. gravity
- d. inertia
- e. matter
- f. velocity

101. This is anything that takes up space and has mass.

- a. force
- b. friction
- c. gravity
- d. inertia
- e. matter
- f. velocity

102. This is what makes a ball roll in the same straight path and not go in any other direction.

- a. force
- b. friction
- c. gravity
- d. inertia
- e. matter
- f. velocity

103. This is the force that keeps us from floating in the air and pulls us towards the core of the Earth.

- a. force
- b. friction
- c. gravity
- d. inertia
- e. matter
- f. velocity

104. This is the force when two surfaces rub together, like your hands. Some things can lessen this.

- a. force
- b. friction
- c. gravity
- d. inertia
- e. matter
- f. velocity

Light

Word Bank:

reflection, refraction, opaque, translucent, transparent

105. This occurs when light rays bounce off a surface and back to your eyes.

- a. reflection
- b. refraction
- c. opaque
- d. translucent
- e. transparent

106. This occurs when light rays are taken in by an object.

- a. reflection
- b. refraction
- c. opaque
- d. translucent
- e. transparent

107. This is a material you can see through completely.

- a. reflection
- b. refraction
- c. opaque
- d. translucent
- e. transparent

108. This is a material you can see through almost completely.

- a. reflection
- b. refraction
- c. opaque
- d. translucent
- e. transparent

109. This is a material that does not let any light pass through.

- a. reflection
- b. refraction
- c. opaque
- d. translucent
- e. transparent

Simple Machines

First, identify the type of simple machine pictured below.

110. Another word for this simple machine is a ramp. This type of simple machine can be as simple as the driveway leading to your school or as sophisticated as the staircase in the Empire State Building. A ramp works by helping you lift things more easily up to a higher level.

Which type of simple machine is this?

- a. inclined plane
- b. lever
- c. pulley
- d. screw
- e. wedge
- f. wheel and axle

111. This type of simple machine helps you to split or cut something. The blades of a knife or shovel are this type of simple machine. These simple machines can also be round, like the tip of a nail or the tines on your fork.

Which type of simple machine is this?

- a. inclined plane
- b. lever
- c. pulley
- d. screw
- e. wedge
- f. wheel and axle

112. This simple machine is used in many different places to hold things together. A spiral staircase is also an example of this type of simple machine.

What type of simple machine is this?

- a. inclined plane
- b. lever
- c. pulley
- d. screw
- e. wedge
- f. wheel and axle

113. This type of simple machine is like a seesaw. In its simplest form, this simple machine is a stick that is free to pivot or move back and forth at a certain point. They are probably the most common simple machine. Just about anything that has a handle on it has one of these attached.

What type of simple machine is this?

- a. inclined plane
- b. lever
- c. pulley
- d. screw
- e. wedge
- f. wheel and axle

114. This type of simple machine is the easiest to remember because of its name. Bicycles, vehicles, and wagons have these. Wheels help you move an object across the ground because they cut down on the amount of friction between what you're trying to move and the surface you're pulling it against.

What type of simple machine is this?

- a. inclined plane
- b. lever
- c. pulley
- d. screw
- e. wedge
- f. wheel and axle

115. When someone raises and lowers a flag or blinds on a window, they use this type of simple machine.

What type of simple machine is this?

- a. inclined plane
- b. lever
- c. pulley
- d. screw
- e. wedge
- f. wheel and axle

Scoring

The Scientific Process

____/11 correct

Scientific Tools

____/4 correct

Vertebrates and Invertebrates

____/5 correct

Words From The Environmental Center

____/5 correct

Animal Adaptations

____/4 correct

Plants

____/8 correct

Types of Consumers

____/6 correct

Ecosystems

____/7 correct

Geology and Earth's Resources

____/20 correct

Human Body

____/8 correct

States of Matter

____/6 correct

Space

____/10 correct

Energy

____/3 correct

Motion

____/6 correct

Light

____/5 correct

Simple Machines

____/6 correct