

Name: _____
Date: _____

Teacher: _____ Period: _____
Science

Spring Semester Study Guide for Final Exam 2008 Science 7

Exam Schedule:

Monday, June 2

Period 1 Final Exam 8:50-10:30AM
All other classes will write essay
Classes are 30 minutes long

Tuesday, June 3

Period 2 Exam 8:50-10:30AM
Period 3 Exam 10:30-12:00PM

Wednesday, June 4

Period 4 Exam 8:50-10:30AM
Period 5 Exam 10:30-12:00PM

Thursday, June 5

Period 6 Exam 8:50-10:30AM
Period 7 Exam 10:30-12:00PM

Directions: You may answer your questions on this study guide, but feel free to use extra paper if you need to.

The following resources will help you complete your study guide:

- Notes
- Major Grade Tests and Quizzes
- Your textbook

Your final exam will cover the following units:

1. Sun, Moon, Earth
2. Weathering & Erosion
3. Ecosystems and Succession
4. Genetics
5. Human Body Systems

Your study guide must be completed by the end of class on Friday, May 30.

If you finish early, plan on making flashcards out of index cards or studying quietly. Good Luck and may the Science be with you!

1. Define homeostasis.

Your body's ability to maintain stable internal conditions even though external conditions change.

2. A change in the environment that causes a response is known as a stimulus.

3. A person is driving a car through the desert and begins to perspire (sweat) in response to the increased heat. This is an example of what?

Your body's attempt to maintain homeostasis

4. Give an example of an **external** stimulus?

Tardy Bell ringing (anything happening outside the body that cause you to react)

5. Give an example of an **internal** stimulus?

Bad food inside your stomach (anything inside your body that causes a reaction)

6. What is the order a nerve impulse travels through a neuron?

Dendrite→cell body→axon

7. Which function of the nervous system is described when a phone rings?

Receiving information

8. Which function of the nervous system is necessary for keeping our internal temperature around 37°C?

maintaining homeostasis

9. Which side of the heart has oxygenated blood and where does the aorta (which carries this blood) go?

Left; blood leaves the aorta to go to the body

10. Which function of the nervous system is being described?

-You pick up the ringing phone-

responding to stimulus

11. What are the 3 layers of skin in order from outer to inner layer?

Epidermis, dermis, fat layer

12. What is an action of the skin that helps the Integumentary System eliminate wastes?
Sweating (perspiring)

13. What structures in the Integumentary System function to make you sweat?
Sweat glands and pores

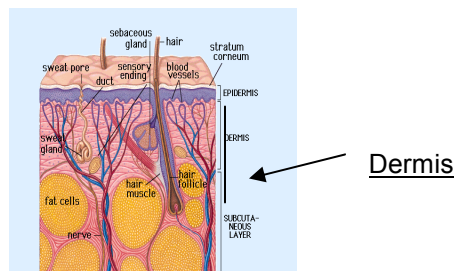
14. What type of stimulus is hunger pains in your stomach?
internal

15. What is the message that a neuron carries called?
Nerve impulse

16. What type of stimulus is the Tardy Bell?
external

17. What body system makes your muscular system respond to hunger by picking up an apple?
nervous system

18. What is the identified structure in the skin cross section below?



19. What does red marrow in bones make?
Red blood cells

20. Where in the body would you find a movable joint?
Knee, neck, shoulder, wrist, hip, ankle (any of these)

21. Why do bones have different shapes?
To protect different organs, they are shaped to match the organ they are protecting

22. What are the parts of a bone?
Marrow, spongy layer, blood vessels, nerves, compact bone, membrane

23. A bone breaks, and over time heals itself by growing new bone tissue. What is this an example of?
Your skeletal system maintaining homeostasis

24. How does a muscle know when to contract?
The nervous system tells it (sends a signal)

25. What are the 2 types of muscular action? Give an example of each.
Voluntary- you run down the street Involuntary-your stomach digests food

26. Which 2 types of muscle are **involuntary**? Cardiac and smooth

27. The heart is made up of what type of muscle?
Cardiac

28. What type of muscle is attached to and moves bones?
Skeletal muscle

29. What type of muscle function is automatic—you DO NOT control (ex. Stomach and breathing muscles)?

involuntary

30. The heart muscle continuously beats to circulate blood throughout your body. Why is this an example of homeostasis?

Because it brings oxygen and nutrients to all cells to help body function

31. What are the 3 functions of the Circulatory System?

1. bring needed substances to cells

2. take wastes away from cells

3. fight disease

32. What are the 2 functions of the Respiratory System?

1. bring oxygen into body

2. remove carbon dioxide from body

33. What are the 3 major parts of the Circulatory System?

1. blood

2. blood vessels

3. heart

34. What is the function of the heart?

To pump blood throughout the body

35. How many chambers does the human heart have and what structure separates each chamber and keeps blood flowing in only direction?

4; valves

36. Where does gas exchange occur in body?

Between alveoli in the lungs and the blood vessels (capillaries) covering the alveoli

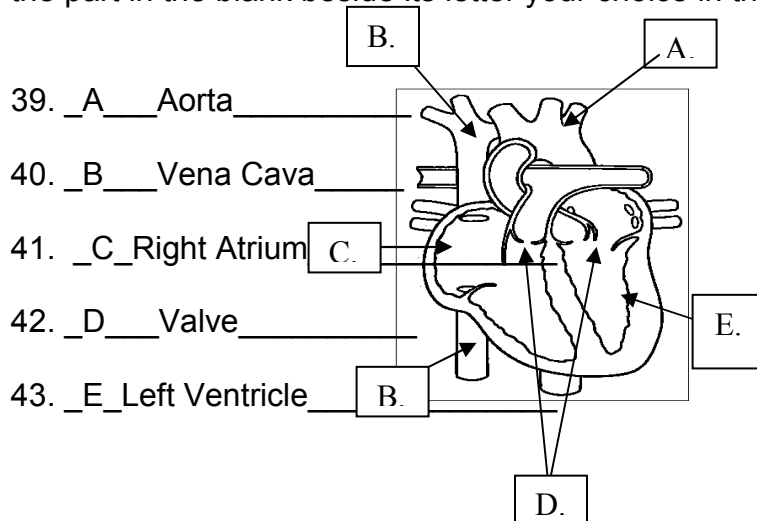
37. What gasses are exchanged between your blood and lungs (what goes in and what leaves)?

Oxygen in, Carbon dioxide out

38. Using the heart diagram below, what is the path of blood from the body through the heart back to body?

B→C→D→E→A

Using the heart diagram to the right, identify the parts of the heart. Write then name of the part in the blank beside its letter your choice in the blank beside the part's name.

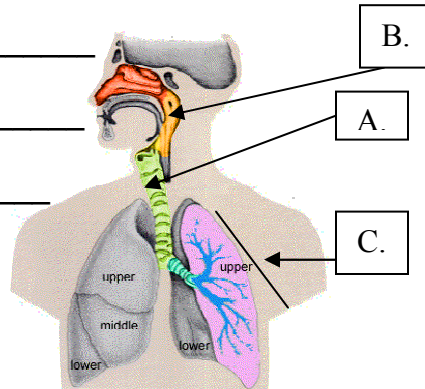


Using the Respiratory System diagram below, identify the parts of the system. Write the letter of your choice in the blank beside the part's name.

44. A trachea _____

45. B pharynx _____

46. C lung _____



47. What are the 3 functions of the Digestive System?

1. Digest food
2. Absorb nutrients
3. Eliminate wastes

48. Flow map the 3 processes that happen as food moves through the Digestive System.

(flow map should have 3 boxes)

digestion → absorption → elimination

49. What is the day and date of your final exam?

Look at the front of this study guide and then write your answer here!

50. What is mechanical digestion?

Food is broken into smaller pieces

51. What is chemical digestion?

Acids chemically breaking down food (such as saliva and stomach acid)

52. Where does **mechanical digestion** happen in your Digestive System?

Teeth and stomach

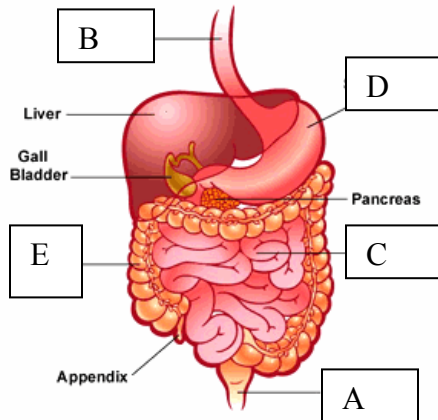
53. Where does **Chemical digestion** happen in your Digestive System?

Mouth and stomach

54. Using the Digestive System diagram below, what is the path of food through the body? B→D→C→E→A

Using the diagram below identify the parts of the Digestive System. Write the name of the part next to the letter.

55. A rectum _____
56. B esophagus _____
57. C small intestine _____
58. D stomach _____
59. E large intestine _____



60. If the Digestive System were to shut down, what would happen?

The body would not be able to maintain homeostasis because cells could not get nutrients they need

61. An offspring that is the result of asexual reproduction has how many parents?

1 parent

62. What determines the characteristics that are passed from parents to offspring?

genes

63. Who is known as the “Father of Genetics” and what did he study to discover genetic traits?

Mendel, pea plants

64. Why does a person who inherits an allele for curly hair and an allele for straight hair have curly hair? Use the words dominant and recessive in your answer.

Because curly hair is the dominant allele (gene) and straight hair is the recessive allele(gene). When a dominant gene is present it always shows up in the offspring.

65. Tall is dominant. The male parent is hybrid tall and the female is purebred short. What is the phenotype of each parent?

Male parent=tall
Female parent=short

66. Tall is dominant. The male parent is hybrid tall and the female is purebred short. What is the genotype of each parent?

Male parent=Tt
Female parent=tt

67. What are James Watson and Francis Crick given credit for discovering?
Structure of DNA

68. What is weathering? And ...What is deposition?

Weathering: breaking down of rock by wind, water, waves, ice, living organisms

Deposition: depositing (dropping off) of broken rock pieces by wind, water, ice, or animals

69. What is erosion?

Movement of broken down rock from one place to another

70. What are the 2 most important factors in determining the rate of weathering?

1. climate

2. type of rock

71. In the picture below, what does each letter represent?

A. delta

B. flood plain

C. oxbow lake

D. alluvial fan



72. What are the 4 types of mass movement? Give an example of each.

1. landslide: big and small rock moving downhill very quickly

2. mudslide: rocks, dirt, WATER (mud) moving downhill

3. slump: 1 large mass of earth suddenly moved downhill

4. creep: land slowly moves down a hill (creepy angles)

73. Which type of landform is produced by sediment deposited into a lake or ocean?

delta

74. How do plants do both mechanical and chemical weathering?

Mechanical: roots pry apart rocks

Chemical: roots produce weak acid to dissolve rock

75. What is the biggest cause of erosion that has shaped Earth's surface?

Moving water

76. The first organism in a food chain is always a producer.

77. What causes the seasons on Earth? tilt of earth as it revolves around the sun

78. What causes day and night on Earth?

Rotation of Earth on its axis once every 24 hours

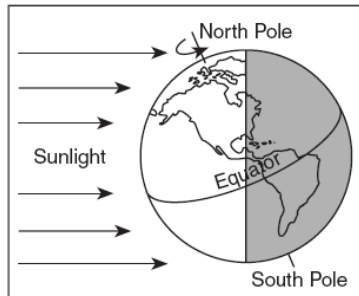
79. What makes the moon appear to be lighted?

It reflects the light of the sun

80. According to the diagram below, what season is it on the southern tip of South America(Southern Hemisphere)?

A. The season is

winter



Label the phase of the represented by each letter.

Note: The shaded part is the unlit side. The white represents the light.

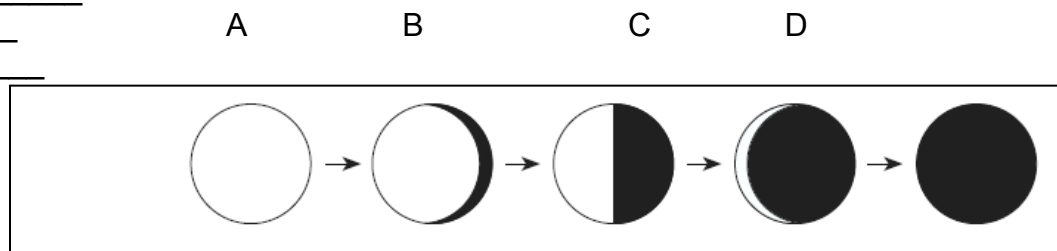
81. A full moon

82. B waning gibbous

83. C 3rd quarter

84. D waning crescent

85. E New Moon



The diagram below shows Earth at one point in its orbit around the Sun. The length of daylight experienced at different latitudes on a given date is shown on the diagram.

86. How does the length of daylight changes from the Equator to the North Pole on the date shown?

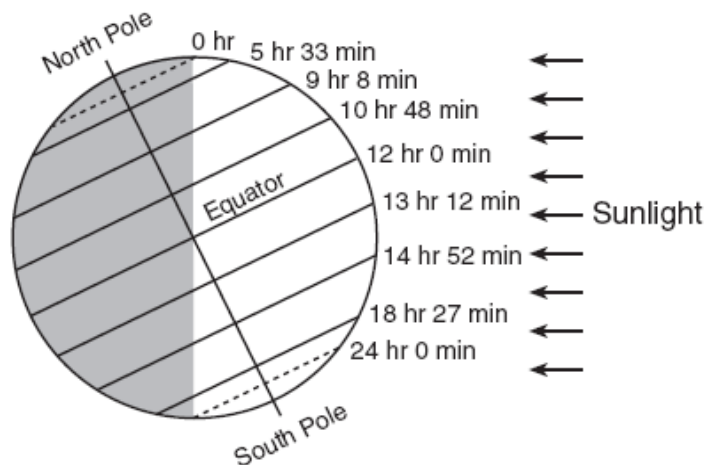
It decreases

87. What season is beginning in the Northern Hemisphere?

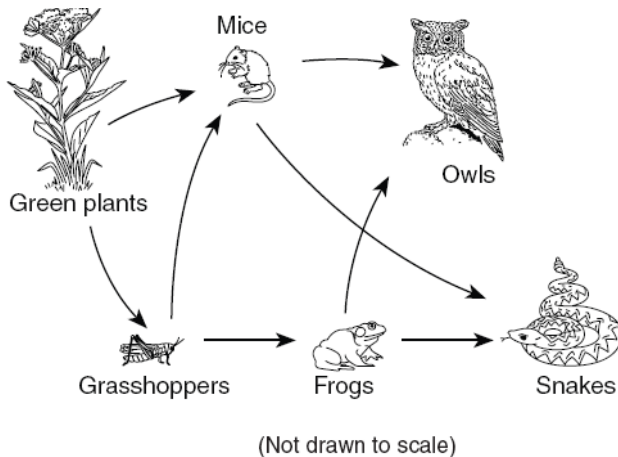
winter

88. Why does the South Pole receive 24 hours of daylight on the date shown?

It is tilted towards the sun as it is rotating 24 hours



Base your answers to questions 89 through 92 on the partial food web below and on your knowledge of science.



89. Which of the organisms are Producers?

Green plants

90. Which of the organisms are Consumers?

Mice, grasshoppers, frogs, snakes, owls

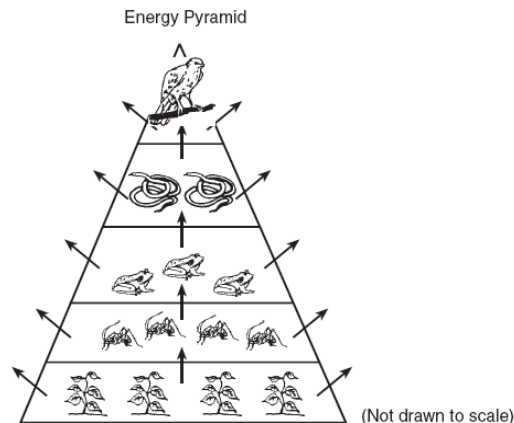
91. Which of the organisms could be Primary (or 1st level) consumers?

Grasshoppers and mice

92. What group of organisms is missing from this food web?

decomposers

Use the following Energy Pyramid to answer questions 93-96



93. If the plants die during a summer drought, what will happen to the cricket population? It will decrease

94. If the number of frogs increases, what will happen to the snake population?
It will increase

95. If another predator that preyed on snakes was introduced into the ecosystem, what will happen to the snake population?
It would decrease

96. Compare the 2 types of succession by answering the following questions:

a. What type of Succession happens the fastest?

secondary

b. What type of succession happens the slowest?

primary

c. Why does one type happen faster than the other?

Secondary succession happens faster because it is not building an ecosystem from scratch (from nothing), it is just rebuilding after a disturbance.

d. Double Bubble the 2 types of succession... include examples of each.

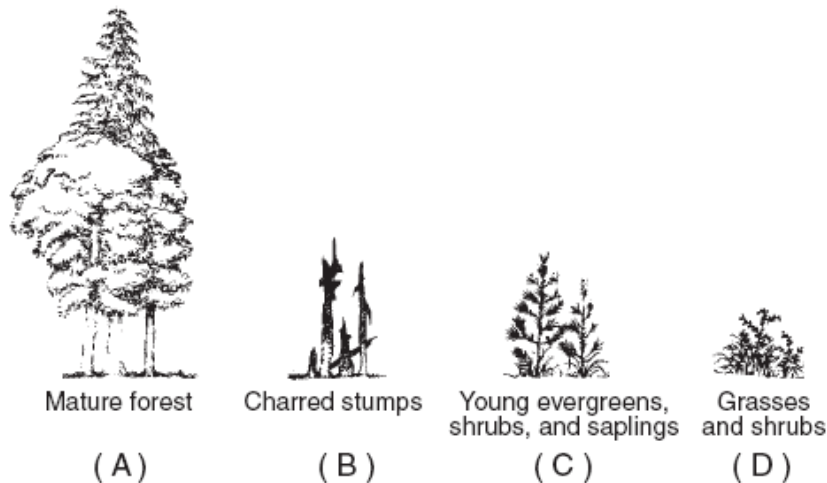
I didn't double bubble, but here is the information needed:

Primary=slow, occurs where no ecosystem has been before, pioneer species, volcano forming a new island, starts from scratch

Secondary=fast, wildfire, disturbance, tornado, occurs where an ecosystem previously existed

What they have in common: both are building an ecosystem, both have living organisms, both are change

The diagrams below show the plant communities present in the same area at different times over a 200-year period following a forest fire.



97. What is the correct sequence of these plant communities following the forest fire?

B: charred stumps→D:grasses and shrubs→C:young trees→A: mature forest

98. The series of changes that occurs after a disturbance in an existing ecosystem is called secondary succession.

99. Plants growing on a new island formed by the eruption of an undersea volcano are an example of what type of succession?

Primary succession

100. What is the name for the first species to populate an area where primary succession is taking place? Give an example of this type of species.

Pioneer species=moss and lichen

Study Guide for the Essay Portion of the Spring Final:

Please prepare to answer an essay about homeostasis and one about succession. Prepare your answers on notebook paper. Be aware all students will write BOTH essays on Monday, June 2 (from memory).

Your essays must:

1. Have essay topic written out completely above your essay.
2. Use complete sentences
3. Thoroughly explain your answer.

1) Homeostasis Option 1:

Explain how the body systems involved in moving our bodies work together to maintain homeostasis. Include at least 3 body systems in your essay.

2) Homeostasis Option 2:

Explain how at least 3 body systems are involved in eating food. Discuss how they work together to maintain homeostasis.

3) Succession:

Compare and contrast the two types of succession.

- Include the names of each type of succession.
- State the definition of each type of succession.
- Give an example of each type of succession.
- Which type of succession happens faster and why.

Homeostasis Option 1 example essay: How 3 body systems involved in moving work together to maintain homeostasis.

The nervous, muscular, and skeletal system work together in our bodies to help maintain homeostasis by allowing us to move. The nervous system sends a message to our muscles to pull on the bones of the skeletal system which makes us move. If we could not move, we would not be able to retrieve food or water for our cells to function. Also, if we could not move our diaphragm muscle we would not be able to breathe, which also is necessary for our cells to function.

Homeostasis Option 2 example essay: Explain 3 body systems involved in eating food and how they maintain homeostasis.

The nervous, digestive, and muscular system help us digest our food. The nervous system receives a signal that our cells need more nutrients and then sends a signal to the muscular system to go and get something to eat. We use our muscles to pick up food and put it into our mouths, which then begins the digestive system working. Muscles push the food down the esophagus and into the stomach, which churns our food and acids are released to chemically break down food. Muscles continue to push the broken down food through the rest of the digestive tract. Nutrients are absorbed in the digestive tract for our cells to function and then waste is eliminated out of the body.

Succession example essay: Compare and contrast the types of succession:

The two types of succession are primary and secondary succession. Primary succession is an ecosystem developing where no ecosystem had previously existed. Secondary succession is rebuilding of an ecosystem after a disturbance. An example of primary succession is a new island formed after a volcanic eruption in the ocean. An example of secondary succession is the re-growing of plants in an ecosystem that was destroyed by a fire. Secondary succession happens faster because it is the rebuilding of an ecosystem, not starting an ecosystem from "scratch" (where no ecosystem existed).

