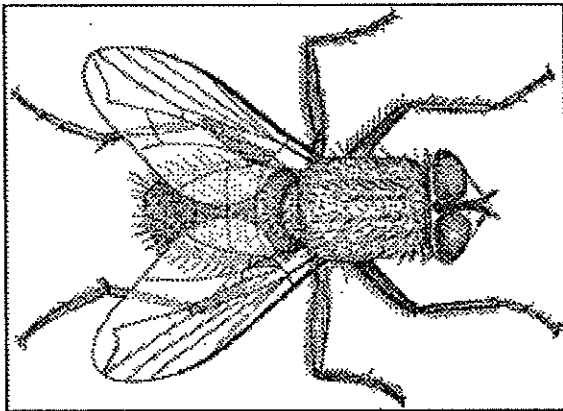
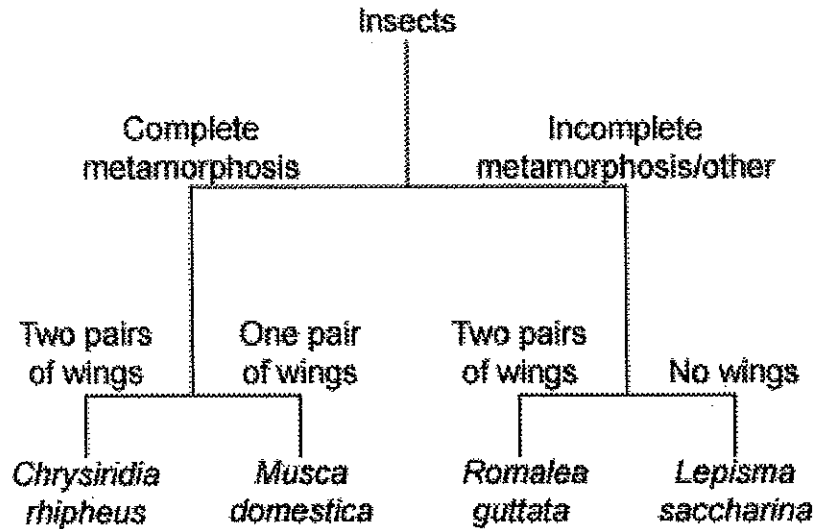


7th Grade Study Guide _____ December 10, 2019

1 Organisms classified using a dichotomous key are based on

- A. physical characteristics.
- B. geographic area.
- C. behaviors.
- D. genes.

2 The dichotomous key classifies types of insects, and the picture shows an unknown insect.

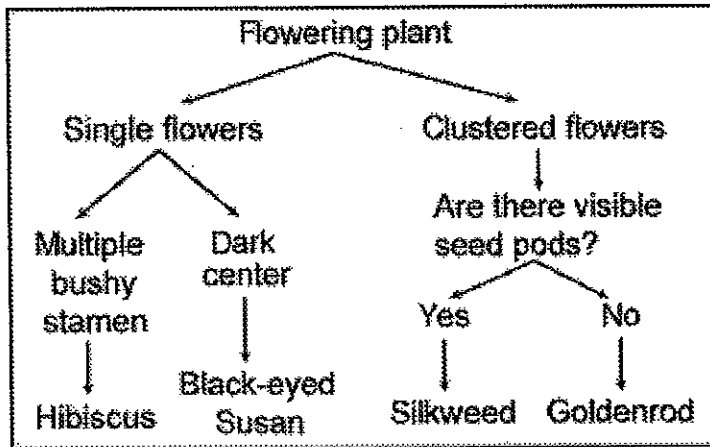


Source: Public Domain

Using the dichotomous key, which type of insect is pictured?

- A. *Musca domestica*
- B. *Chrysidia rhipheus*
- C. *Romalea guttata*
- D. *Lepisma saccharina*

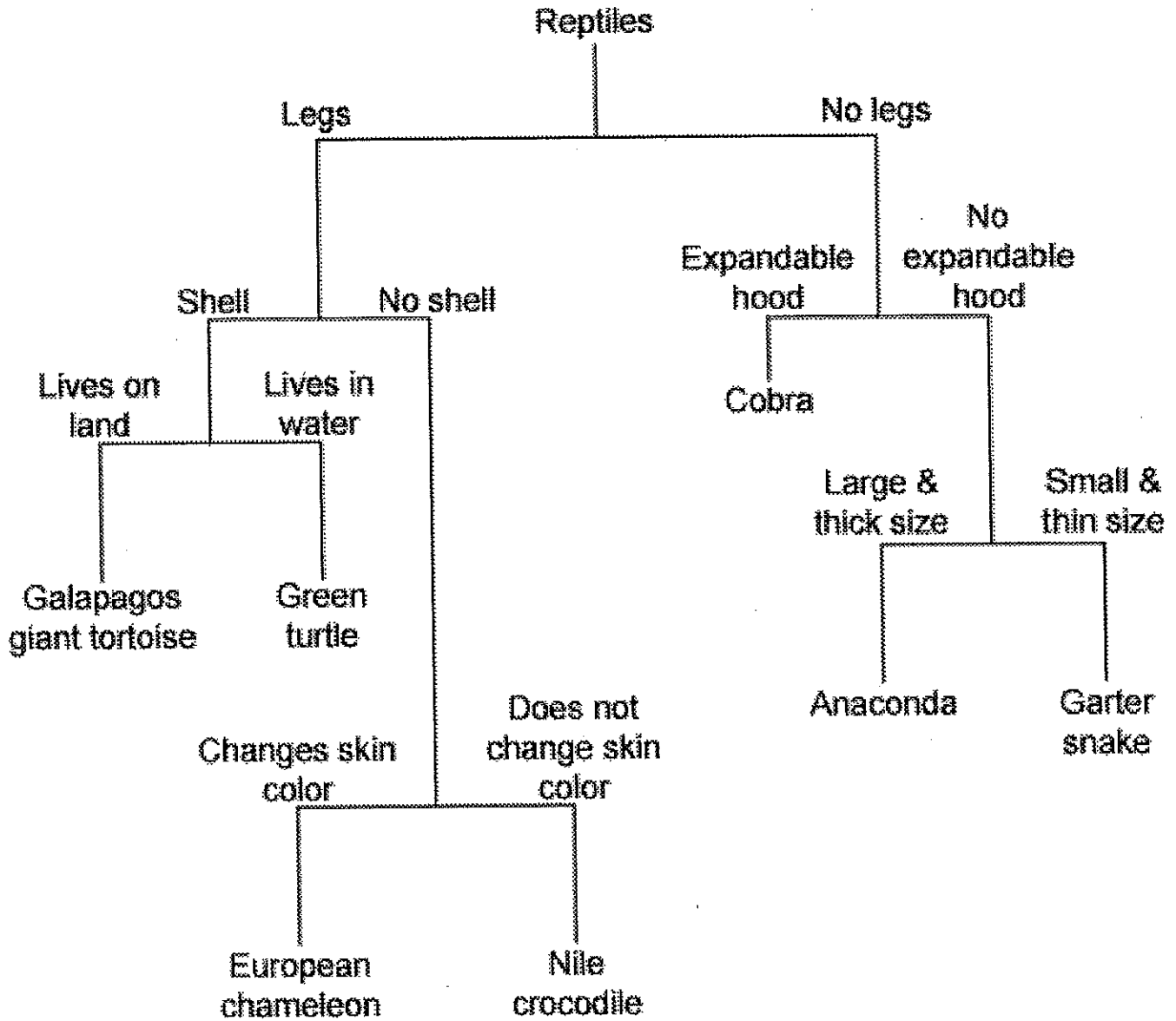
- 3 Soo Hwan found a flowering plant at school and used a classification key to help him classify the plant. The flowers of the plant are not clustered, and they have a deep brown center.



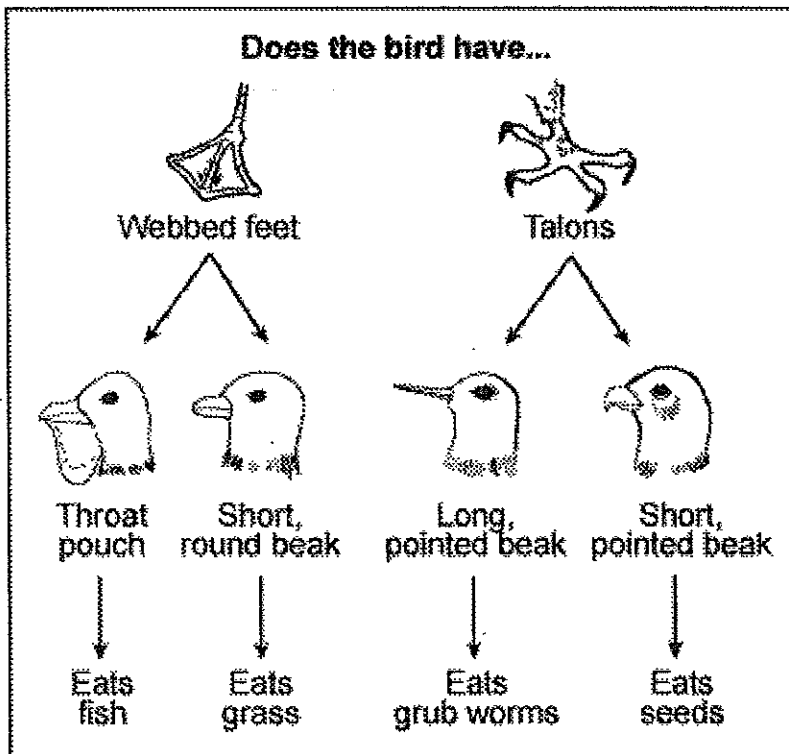
What type of plant did Soo Hwan find?

- A. hibiscus
 - B. black-eyed Susan
 - C. silkweed
 - D. goldenrod
- 4 A student wants to develop a model that categorizes various plants and animals as either heterotrophs or autotrophs. Which statement provides the BEST criteria for distinguishing which category the various organisms should be placed in within the model?
- A. Autotrophs are multicellular organisms that reproduce sexually; heterotrophs are unicellular organisms that reproduce asexually.
 - B. Heterotrophs are multicellular organisms that reproduce sexually; autotrophs are unicellular organisms that reproduce asexually.
 - C. Heterotrophs can produce their own food from inorganic sources such as carbon dioxide; autotrophs need to consume other organisms in the food chain for sustenance.
 - D. Heterotrophs need to consume other organisms in the food chain for sustenance; autotrophs can produce their own food from inorganic sources such as carbon dioxide.

Directions: The dichotomous key below classifies types of reptiles. Use the dichotomous key to answer any questions that follow.



- 6 Solange found a bird that fell out of its nest. She used a dichotomous key to help her decide what type of food it eats. She concluded that the bird she found eats grub worms.



What information about the bird led her to this conclusion?

- A. The bird has talons and a short, pointed beak.
- B. The bird has webbed feet and a throat pouch.
- C. The bird has webbed feet and a short, round beak.
- D. The bird has talons and a long, pointed beak.

- 5 The picture below shows a type of reptile.



Source: Public Domain

Using the dichotomous key, which type of reptile is pictured?

- A. European chameleon
- B. green turtle
- C. Galapagos giant tortoise
- D. cobra

Classification of Living Things

Taxonomy is the practice of classifying and naming living things into categories or groups based on similar characteristics. In 1758, biologist Carl Linnaeus created a system for classification that was used for hundreds of years. He gave each species two names (for example, *Homo sapiens*), showing their genus and species. He then grouped each genus into families, then orders, then classes, then phyla, and finally into two kingdoms: plants and animals. Linnaeus based kingdom classification on whether the organism moved or not. This system changed very little until the 1960's, when scientist R.H. Whittaker proposed a six Kingdom classification system where living things were grouped as plants, animals, fungi, protists, or monera (eubacteria and archeobacteria).

- 8 Classification in the 1700's was mostly based on what organisms looked like. With the invention of the microscope, scientists began to observe characteristics that ultimately led to changes in the way organisms were classified. Which characteristic changed based on this discovery?
- A. the number of cells found in the organism
 - B. the route an organism uses to obtain energy
 - C. the method an organism uses to move
 - D. the way an organism reproduces

- 7 Grace is creating a dichotomous key for her science class. The table shows the list of steps Grace took when creating her dichotomous key.

Steps	Action Taken
first step	research characteristics of multiple species
second step	narrow down relationships based on characteristics of species
third step	end with a single species
fourth step	inform teacher that the key would never change

What did Grace do incorrectly?

- A. Grace should not have ended her dichotomous key with a single species.
- B. Grace should not have researched the information in the dichotomous key.
- C. Grace should not have assumed her dichotomous key would never change.
- D. Grace should not have narrowed down relationships based on characteristics of species.

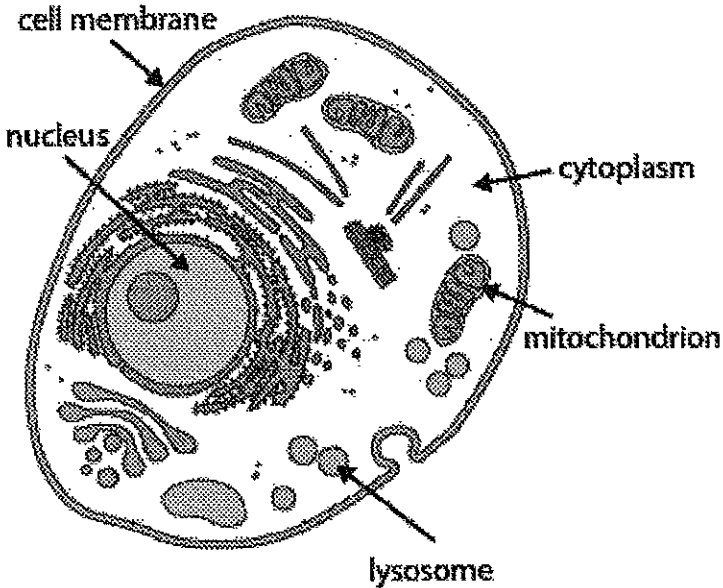
9 Into which kingdom are mushrooms, yeast, and the causal agent of athlete's feet found?

- A. Protista
- B. Monera
- C. Fungi
- D. Plantae

10 Which of the following contains a nucleus?

- A. prokaryotes
- B. bacteria
- C. eukaryotes
- D. organelles

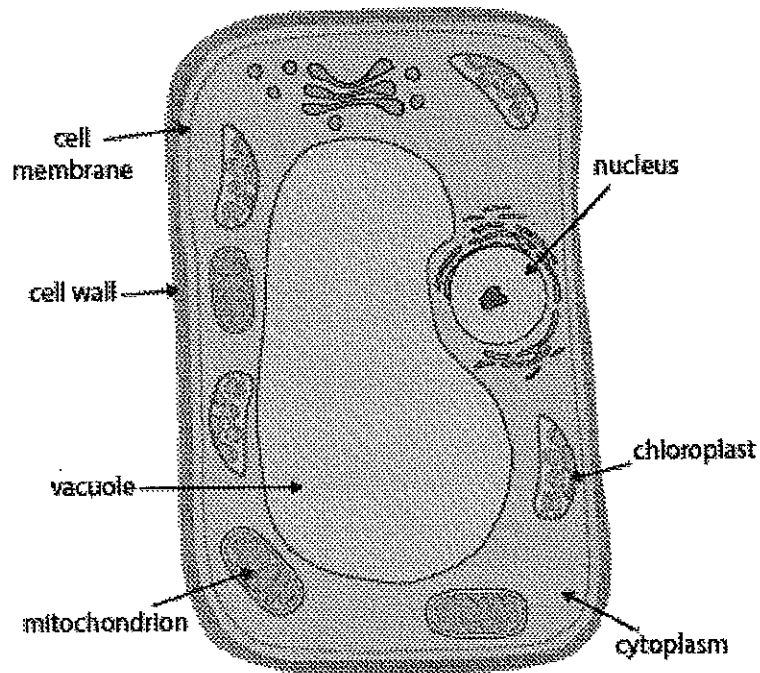
11 The model shows a simple animal cell.



Which statement correctly describes how an organelle contributes to the ability of the cell to perform life functions?

- A. The cytoplasm stores the genetic instructions for the cell.
- B. The mitochondrion responds to chemical messages in the cell.
- C. The lysosomes digest food and break down cell parts when they die.
- D. The cell membrane prevents all harmful substances from entering the cell.

- 12 The model shows a plant cell.

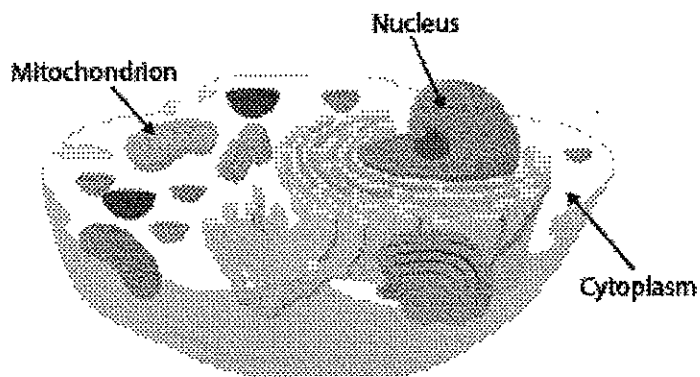


Which statement correctly describes a function of the organelles in this model?

- A. The mitochondria and chloroplasts are sources of energy for the cell.
- B. The cytoplasm and the cell membrane deliver nutrients around the cell.
- C. The mitochondria and the cell wall sort and package proteins for the cell.
- D. The chloroplasts and cytoplasm send and receive messages around the cell.

Cell Organelles

Organelles within a cell work together to maintain homeostasis. The model shows an animal cell with the nucleus, cytoplasm, and a mitochondrion labelled.



13 Which BEST describes the role of mitochondria in maintaining homeostasis for the cell?

- A. Mitochondria control what crosses into and out of the cell.
- B. Mitochondria manufacture and deliver proteins for the cell.
- C. Mitochondria aid in the movement of organelles around the cell.
- D. Mitochondria produce most of the energy that is used by the cell.

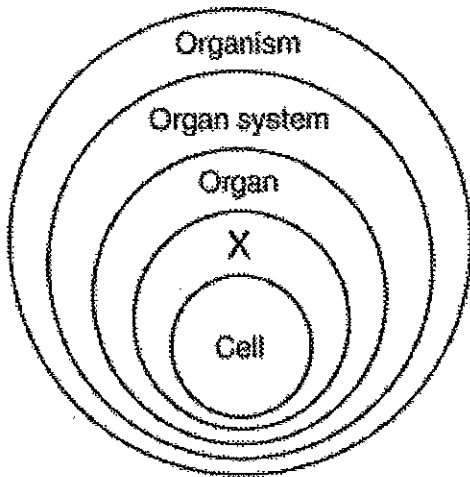
14 How does the nucleus contribute to maintaining homeostasis for the cell?

- A. The nucleus stores water and food for the cell.
- B. The nucleus directs cellular activities for the cell.
- C. The nucleus produces chemical energy for the cell.
- D. The nucleus packages and sorts proteins for the cell.

15 A student wants to develop a model of an organism's cell that lacks chloroplasts. Which statement BEST explains how the lack of chloroplasts affects an organism?

- A. An organism's cells would not be able to be clear of debris since the chloroplasts contain digestive enzymes.
- B. An organism that lacks chloroplasts would not be able to convert sunlight into chemical energy through photosynthesis.
- C. An organism's cells would not be able to reproduce since the chloroplasts contain the genetic material.
- D. An organism that lacks chloroplasts would not be able to manufacture all the protein required by its cells.

16 The diagram represents levels of organization in living things.



Which term would **best** represent X?

- A. membrane
- B. chloroplast
- C. tissue
- D. organelle

17 The tissues of vascular plants are organized into more complex structures that carry out a variety of functions in the plant. What structure is formed by a group of tissues that work together to carry out a specific function?

- A. cell
- B. organ system
- C. organism
- D. organ

18 The smallest unit of life is described as a

- A. virus.
- B. nucleus.
- C. organelle.
- D. cell.

19 Harriet is learning about the levels of organization in multi-celled organisms. Harriet describes what she is learning to her mother by comparing parts of their house to levels of organization. She creates the following table.

Level of Organization	Comparison
cells	the materials that are used to build the walls
tissues	the walls that form the rooms
organs	the rooms that are inside the house
organ systems	X
organism	the house

Which comparison **best** fits in Harriet's table in place of X?

- A. the roof that protects the entire house
- B. the hallways that connect the rooms
- C. the doors that lead to the rooms
- D. the carpet that covers the floors

20 The digestive system includes groups of tissues that absorb nutrients from food that has already been broken down. What is the **best** way to classify this group of tissues?

- A. an organ
- B. an organ system
- C. an organelle
- D. an individual organism

- 21 The table shows the organ systems and their function.

System	Function
Skeletal	protects internal organs and assists in locomotion
Reproductive	responsible for the production of offspring
Respiratory	removes carbon dioxide while supplying the blood with oxygen
Endocrine	secretes hormones into the blood that control growth, metabolism, and stress response
Digestive	obtains nutrients for the body by breaking down food, absorbing water, and eliminating waste
Excretory	maintains water and chemical balance by eliminating waste products

According to the chart, if Holly complained to her mother that her stomach hurt and she could not breathe, which organ systems are **most likely** being affected?

- A. skeletal and respiratory
- B. reproductive and excretory
- C. digestive and respiratory
- D. endocrine and skeletal
- 22 Which two systems interact **most** to supply the body with nutrients?
- A. The endocrine system produces hormones that regulate hunger, and the muscular system assists the body in moving food into the stomach.
- B. The digestive system breaks down the food to make it available for absorption, and the circulatory system transports the nutrients to parts of the body.
- C. The nervous system stimulates the appetite, and the excretory system removes waste that was not absorbed by the body.
- D. The skeletal system absorbs all the nutrients needed for the body, and the integumentary system removes excess liquid from food.
- 23 The major systems of the human body interact with each other to maintain homeostasis. Which statement **best** describes how the circulatory and immune systems work together?
- A. The circulatory system influences the body's metabolism, and the immune system destroys it.
- B. The circulatory system returns oxygen-poor blood back to the lungs, where the immune system adds oxygen-rich blood.
- C. The immune system fights infections and the circulatory system transports white blood cells in the blood.
- D. The immune system produces voluntary responses in the body, while the circulatory system produces red blood cells to fight infections.

24 After entering the body, food is transformed by enzymes into nutrients. Anything remaining is released as waste to maintain homeostasis. Select the **two** systems involved in this process.

- A. respiratory
- B. digestive
- C. skeletal
- D. excretory
- E. immune
- F. integumentary

25 Which system works in conjunction with the digestive system to move food through the digestive tract?

- A. respiratory system
- B. skeletal system
- C. integumentary system
- D. muscular system

- 1 A (1)
- 2 A (3)
- 3 B (2)
- 4 D (2)
- 5 C (2)
- 6 D (2)
- 7 C (3)
- 8 A (2)
- 9 C (2)
- 10 C (1)
- 11 C (3)
- 12 A (2)
- 13 D (2)
- 14 B (2)
- 15 B (2)
- 16 C (2)
- 17 D (1)
- 18 D (1)
- 19 B (3)
- 20 A (2)

- 21 C (3)
- 22 B (3)
- 23 C (2)
- 24 BD (2)
- 25 D (2)

Answer key to
Semester Exam
2019
7th Grade Science
Eagles Landing Middle

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