| Kingdom Name: **Fungi**  
| My Notes |
| Movement & Support |
| Digestion/Obtaining Nutrients |
| Nervous/Response |
| Circulation |
| Gas Exchange |
| Excretion |
| Reproduction |
Life Cycle of *Plasmodium*  
Use with Chapter 19, Section 19.1

1. Define these terms:
   a. sporozoans
   b. spore
   c. sporozoite

2. After a mosquito bites an infected person, what happens in the mosquito?

3. How do the sporozoites get from the mosquito to a human host?

4. Where do the sporozoites go once they enter a human host?

5. Explain what happens to the spores produced in the liver after they enter the bloodstream.

6. What do the spores do after they burst from red blood cells?

7. Explain what causes the symptoms of malaria in an infected person.

8. How does the disease continue to be spread from a person who has malaria?
**Life Cycle of Plasmodium**

**A** A mosquito bites a person and feeds on blood infected with Plasmodium spores.

**B** The spores inside the mosquito fuse and form a zygote.

**C** The zygote breaks open, releasing cells called sporozoites.

**D** The sporozoites invade the mosquito's salivary gland.

**E** The sporozoites are injected into a new human host when the mosquito bites again.

**F** The sporozoites reproduce asexually in the person's liver, forming different sporelike cells. These spores enter the bloodstream.

**G** The spores enter and multiply inside the red blood cells, which rupture, releasing many spores and toxins produced by the spores. The spores infect more red blood cells.
<table>
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<tbody>
<tr>
<td>Kingdom Name: Plantae</td>
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<tr>
<td>Movement &amp; Support</td>
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<td>Reproduction</td>
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### Plant Vocabulary

<table>
<thead>
<tr>
<th>Nonvascular plant</th>
<th>Vascular plant</th>
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<tbody>
<tr>
<td>Seed</td>
<td>Pollen grain</td>
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<tr>
<td>Embryo</td>
<td>Guard cell</td>
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<tr>
<td>Phloem</td>
<td>Xylem</td>
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<tr>
<td>Stomata</td>
<td>Tropism</td>
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### Protist and Fungus Vocabulary

<table>
<thead>
<tr>
<th>Asexual reproduction</th>
<th>Spore</th>
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<tbody>
<tr>
<td>Fragmentation</td>
<td>Protozoan</td>
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<tr>
<td>Alga(e)</td>
<td>Budding</td>
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<tr>
<td>Chitin</td>
<td>Lichen</td>
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<tr>
<td>Autotroph</td>
<td>Heterotroph</td>
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</table>
1. Fungi are _________.
   a. simple organisms   b. not alive   c. complex organisms

2. ________ is the green pigment that allows plants to make their own food.

3. The cell wall in a fungus is called _________.
   a. chlorophyll   b. chitin   c. membrane

4. Organisms that get their food from other living things are called _________.
   a. fungi   b. heterofungi   c. heterotrophs

5. How do fungi get their food?
   a. they eat it   b. they drink it   c. they absorb it

6. To what kingdom do fungi belong?
   a. fungi   b. hyphae   c. planta

7. Long tubular cells in a fungus are called _________.
   a. hypo   b. hyphae   c. hyper

8. How many species of fungi are there?
   a. 1 million   b. 100 thousand   c. 100 million

9. Scientists that study fungi are called _________.
   a. hyphaeologists   b. fungicologists   c. mycologists

10. A fungus' reproductive cells are known as _________.
    a. hyphae   b. spores   c. sprouts
1. Nearly all protists live in ________.
   a. dry places  b. wet places  c. cool places

2. To what kingdom do protists belong?
   a. protest  b. protista  c. planta

3. What was the earliest life form on Earth?
   a. bacteria  b. protists  c. nuclei

4. ________ is the process of trapping sunlight to make food.
   a. Protista  b. Photography  c. Photosynthesis

5. A partnership between two species is called ________.
   a. symbolic  b. symbiosis  c. synthesis

6. Organisms that make their own food are called ________.
   a. autotrophs  b. heterotrophs  c. chlorophylls

7. Photosynthetic protists produce more ________ than all the plants on Earth.
   a. seeds  b. pollen  c. oxygen

8. Protists can be any of ________ colors.
   a. 3  b. 13  c. 6

9. A multi-celled brown algae is called ________.
   a. spirogyra  b. cape  c. kelp

10. What color algae do scientists use for food?
    a. green  b. brown  c. red
# Non Seed Plant Divisions

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<thead>
<tr>
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<th>Important characteristics or unique features</th>
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### Seed Plant Divisions

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1. What area of the plant is capable of growth?
   a. root cap  b. root layer  c. root tip

2. The protective layer of tissue at the root tip is called the __________.
   a. root cap  b. root ball  c. root layer

3. Thin root cells that function by absorbing water are __________.
   a. filaments  b. fingers  c. root hairs

4. What is the protective outer layer of a leaf cell?
   a. pigment  b. epidermis  c. root tip

5. __________ is evaporation of water from a plant through the stomata.
   a. Transpiration  b. Transportation  c. Respiration

6. What process uses sunlight to make food?
   a. photography  b. photosynthesis  c. transpiration

7. What is the waxy protective covering on the epidermis of a leaf?
   a. cuticle  b. root cap  c. root wax

8. What are the small openings on the bottom of a leaf?
   a. epiderms  b. spores  c. stomata

9. The green pigment that absorbs sunlight is called __________.
   a. photosynthesis  b. chlorophyll  c. photophyll

10. Movement of a plant as a result of light is __________.
    a. photosynthesis  b. photolatitude  c. phototropism
1. What does bio- mean?
   a. death  b. two  c. life

2. What does the word "diversity" mean?
   a. different  b. opposite  c. same

3. The first plants developed ________.
   a. on mountains  b. in the ocean  c. on land

4. ________ were the first plants.

5. Plants that have special tissues are called ________.
   a. green algae  b. vascular  c. muscular

6. How long has the fern been in existence?
   a. 390 million years  b. 490 thousand years  c. 200 years

7. What kind of plant is moss?
   a. it is not a plant  b. vascular  c. non-vascular

8. Dry reproduction is possible because of ________.
   a. water  b. seeds  c. animals

9. The ________ were the first seed producers.
   a. gymnosperms  b. vasculars  c. conifers

    a. the wind  b. water  c. photosynthesis
1. When you ______ a plant, its energy is passed on to you.
   a. eat   b. touch   c. smell

2. Photoconversion is the process in which plants capture and store the energy of the sun.
   a. true   b. false

3. _______ are the first link in the food chain.
   a. Consumers   b. Producers   c. Carnivores

4. What is the second link in the food chain?
   a. conifers   b. producers   c. consumers

5. A lion is a(n) _______ in the food chain.
   a. observer   b. producer   c. consumer

6. What was the first plant to be grown for food?
   a. wheat   b. corn   c. potatoes

7. In early America, most houses were built of bricks.
   a. true   b. false

8. Where did rice come from?
   a. Asia   b. Europe   c. Africa

9. Sugar wheat came from _______.
   a. Africa   b. Asia   c. Europe

10. What country did green and yellow beans come from?
    a. China   b. United States   c. France
1. What do plants and animals rely on each other for?
   a. their basic needs   b. fertilization   c. photosynthesis

2. Species involved in a dependent relationship are called __________.
   a. a group   b. interdependent   c. a school

3. What do all living creatures have in common?
   a. hair color   b. the sun   c. what they eat

4. The sun is the ultimate source of __________ on our planet.
   a. snow   b. heat   c. energy

5. What do plants need to survive?
   a. warm temperatures, oxygen and water   b. cool temperatures, water and carbon dioxide
   c. sunlight, carbon dioxide, oxygen and water

6. An animal requires __________ to breathe.
   a. oxygen   b. food   c. water

7. Without reproduction a species becomes __________.
   a. wild   b. extinct   c. hungry

8. __________ is the process by which a plant captures energy from the sun and turns it into food.

9. A plant makes its own __________.
   a. shelter   b. water   c. food

10. From where do herbivores get energy?
    a. animals   b. plants   c. water
Medicinal Plant Brainteaser Challenge
Student Sheet

Student name: ____________________  Class/section: __________

Background Information and Directions

All around us, plants are growing, and all around us, a host of insects, rodents, molds, and other living things are trying to eat them. What's to prevent all these predators from eating every plant in sight? How can the plants still survive, stuck where they are and apparently defenseless?

One very effective way plants protect themselves is by producing poisons to repel and even kill the living things that want to devour them. Since a great variety of plant predators exists, plants have come up with an equally huge selection of poisons to drive them away. All these poisons affect living things in an enormous variety of ways. There are a lot of ways to be a poison!

Scientists are very interested in finding and learning about these plant poisons. There are so many that scientists are constantly discovering new compounds that they had never dreamed of. But why should they go to all this trouble? It turns out that poisons can actually serve as medicines. The enormous diversity of plant poisons that exists affects the human body in an equally diverse number of ways. But what might be harmful in one situation can be beneficial in another. Carefully applied in the right circumstances, in fact, plant poisons can help, not harm, us and even save lives. Whether a compound is a poison or a medicine, therefore, depends upon its dosage and how it is used.

The brainteaser challenge below illustrates this. The chart introduces 20 plants, the compounds they make, and what the compounds do to living things. Look the compound descriptions over and try to predict how we use them as medicines.

Following that are two sheets with 20 “medical cards”. Your task is to cut out and glue the “medical cards” to the appropriate plant—to the best of your ability, using the information provided, AND your power of deduction.
<table>
<thead>
<tr>
<th>Uses</th>
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</thead>
<tbody>
<tr>
<td>A powerful cancer remedy</td>
<td>Used to relax muscles during surgery</td>
<td>Used to treat heart problems</td>
</tr>
<tr>
<td>Used to treat an eye disease called glaucoma</td>
<td>Used as a laxative to relieve constipation</td>
<td>Used in birth control pills</td>
</tr>
<tr>
<td>Used to open patients’ pupils during eye exams</td>
<td>Considered the most effective pain reliever of all</td>
<td>Used to treat high blood pressure</td>
</tr>
<tr>
<td>Used as a local anesthetic and to treat sore throats</td>
<td>A powerful cancer remedy</td>
<td>Used to treat malaria, which is caused by protozoan parasites infesting human blood</td>
</tr>
</tbody>
</table>
A powerful cancer remedy

Used to treat Alzheimer's disease, a brain disorder that mainly affects older people

Used to remove blood clots

Used to treat a painful type of arthritis (joint disease) known as gout

A promising treatment for bacterial and fungal infections

Used to treat warts and some cancers

Used to treat asthma and emphysema, diseases of the respiratory system that affect how people breathe

Used to treat malaria, which is caused by protozoan parasites infesting human blood