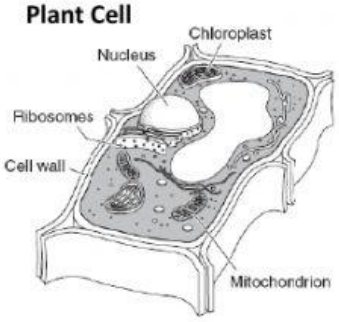
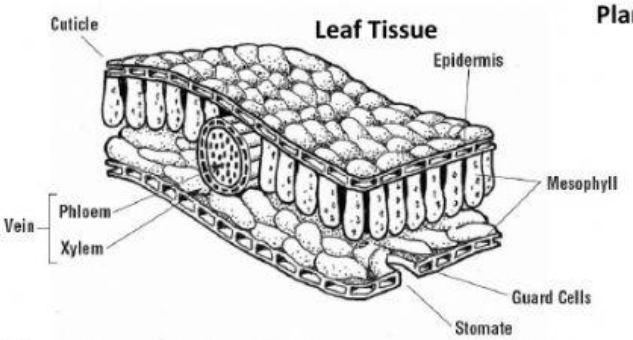
Name: _____ Date: _____ Period: _____

Homework: Plant Systems Interactions

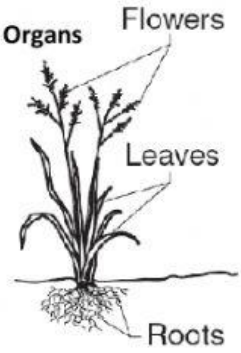
Plant Cell



Leaf Tissue



Plant Organs



Answer the following questions about plant cells, tissues, organs and systems.

1. Which organelle shown above would not be found in an animal cell?
A ribosome **B** mitochondrion **C** nucleus **D** cell wall

2. Which organelle shown in the diagram above allows plants to perform photosynthesis?
A chloroplast **B** cell wall **C** mitochondrion **D** ribosome

3. What tissue found in both the root and shoot systems of plants conducts water and minerals through the plant?
A phloem **B** mesophyll **C** xylem **D** epidermis

4. Stomata are tiny holes in the leaves of plants. These are critical to a plant's ability to perform photosynthesis because they –
A distribute sugar to the leaf cells **C** absorb the sun's solar energy
B provide the plant with nitrogen **D** allow gases to enter and leave

5. Sugars created during photosynthesis are distributed through the plant inside of which of the following types of tissue?
A xylem **B** phloem **C** mesophyll **D** epidermis

6. The cuticle is a waxy covering found on the upper surface of leaves. The primary purpose of the cuticle is prevent –
A prevent water loss from leaves **C** capture carbon dioxide from the air
B absorb sunlight for the plant **D** distribute water to all leaf cells

7. What part of the plant is responsible for absorbing water from its environment?
A roots **B** flowers **C** stems **D** leaves

8. Which of the following is the reproductive organ of vascular plants that have been classified as angiosperms?
A leaves **B** roots **C** flowers **D** stems

9. The mesophyll is a group of cells specialized to carry out photosynthesis for the plant. The mesophyll would best be classified as a –
A tissue **B** organ **C** organ system **D** organelle

LIVEWORKSHEETS

Match the following forms of tropisms with the correct stimuli.

A = *Touch* **B = *Light*** **C = *Gravity*** **D = *Water***

1. Hydrotropism _____ 2. Gravitropism _____ 3. Phototropism _____

4. Thigmotropism ____ 5. Geotropism _____

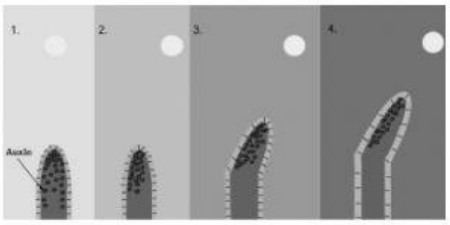
Answer the following questions about plant tropisms and nastic movements.

5. If a plant grows *towards* a stimulus, the tropism is **A** positive **B** negative

6. If a plant grows *away from* a stimulus, the tropism is **A** positive **B** negative

7. The illustration to the right shows how the hormone auxin causes a plant to grow in response to the sun over. time. This response is best classified as which of the following?

A positive geotropism **C** positive phototropism
B negative hydrotropism **D** negative thigmotropism





8. The image to the left shows the shoot system of a plant growing upwards against the force of gravity. This response would best be described as -

A positive geotropism **C** positive thigmotropism
B negative thigmotropism **D** negative geotropism

9. The roots of a plant in dry soil tend to grow towards soil that contains more moisture. This pattern of growth is known as –

A positive hydrotropism **C** negative hydrotropism
B negative phototropism **D** positive phototropism

12. When a plant grows in the shade, its stems tend to bend away from the shade because of the hormone auxin. This gives the plant a greater chance of absorbing the energy it needs to make its own food. The response shown by a plant growing this way is called –

A phototropism **B** thigmotropism **C** gravitropism **D** hydrotropism

12. The bending and growth of a plant's stems and roots is primarily directed by the actions of which of the following?

A salts and minerals **C** auxin hormones
B turgor pressure **D** chlorophyll molecules

11. Touch-me-nots (*Mimosa pudica*) are plants that rapidly respond to touch. By affecting the turgor pressure in their cells, these plants can cause their leaves to quickly droop allowing them to defend themselves from herbivorous animals. This rapid response to touch is known as –

A thigmonasty **C** photonasty
B phototropism **D** gravitropism



LIVEWORKSHEETS