

# Plant Tissues and Growth Worksheet

Name \_\_\_\_\_

Write true if the statement is true or false if the statement is false.

- F 1. Root hairs and guard cells are produced by ground tissue. (epidermal)
- T 2. A tissue is made of a group of cells that have the same job.
- F 3. Instead of having a cell membrane, plant cells have a cell wall. (both)
- T 4. A plant's central vacuole is typically large.
- T 5. Some types of parenchymal cells are photosynthetic cells.
- T 6. Cell walls of sclerenchyma are very thick and give extra support.
- F 7. Xylem and phloem are types of dermal tissue. (vascular)
- T 8. The plant cuticle protects and waterproofs the above-ground parts of the plant.
- F 9. The meristem is made of differentiated cells. (undifferentiated)
- F 10. The plant cell wall is located just inside the plant's cell membrane. (outside)

Circle the letter of the correct choice.

1. Which of the following types of cells would be best at storing food for a plant?
  - ☒ (a) parenchymal
  - (b) sclerenchymal
  - (c) collenchyma
  - (d) prokaryotic
2. The organelle that maintains pressure against the cell wall, so that the plant cell keeps its shape, is the:
  - ☒ (a) central vacuole.
  - (b) endoplasmic reticulum.
  - (c) golgi bodies.
  - (d) nucleus.
3. The plant cuticle
  - (a) coats the surface of the root.
  - (b) is made by ground tissue.
  - (c) transports sugars throughout the plant.
  - ☒ (d) is made by epidermal cells.
4. Xylem and phloem are
  - (a) dermal tissue.
  - (b) ground tissue.
  - ☒ (c) vascular tissue.
  - (d) epidermal tissue.
5. The meristem consists of
  - (a) cells with a thick cuticle.
  - (b) differentiated cells.
  - ☒ (c) undifferentiated cells.
  - (d) all of the above.

# Terms

cell wall ✓	chloroplast ✓	dermal tissue	galls ✓	parenchyma ✓
central vacuole ✓	cuticle	transpiration	vascular tissue ✓	sclerenchyma ✓
thylakoids ✓	glucose ✓	granum	transpiration	photosynthesis ✓
xylem ✓	phloem	adhesion ✓	cohesion	diffusion
root hair	auxin ✓	ground tissue ✓	root pressure ✓	meristem ✓

Fill in the blank with the appropriate term from above. Terms may be used once, more than once or not at all.

- The chloroplast is a membrane-bound, pigment containing (chlorophyll) organelle that conducts photosynthesis.
- The meristem contains dividing, undifferentiated cells.
- Parenchyma consists of loosely packed cells with thin cell walls and carries out both storage and photosynthesis.
- The tissue type that makes up most of the plant's interior of roots, stems and leaves is ground tissue.
- Plant galls are similar to tumours, because they are produced by the abnormal growth of cells.
- The cell wall provides support for individual plant cells and for the entire plant. It is a cellulose-containing structure that covers the plant cell membrane.
- The water-filled, membrane-bound central vacuole occupies the majority of space inside a mature plant cell and maintains a positive pressure against the plant cell wall.
- Sclerenchyma helps support the plant and provides wind-resistance; its cells have irregularly thickened cell walls.
- Xylem functions in the transport of water.
- Celery strings are made of vascular tissue.
- Adhesion is the term used to describe water's ability to stick to surfaces.
- Another term for "push from below" which describes the movement of water is root pressure.
- Auxin is a plant hormone that regulates growth.
- The individual sacs within the chloroplasts that capture photons of light are called thylakoids.
- Photosynthesis is the process that takes carbon dioxide from the air, water from the ground and sunlight, to produce glucose and oxygen.