

Science Homework #14

SECTIONS 3A, B, C, D, & E

DECEMBER 1-5, 2025

Homework

- Review and complete the Study Guide by Thursday, 12/4.

Vocabulary

[Topic 3 Plants & Environment Vocabulary Quizlet](#)



Reminders

- Homework # 14 due Monday, 12/8

- Topic 3 Test Thursday, 12/4

Contact Me

laura.hernandez@archimedean.org

3rd Grade Science Plants & Environment Study Guide

1. Parts of a Plant

Plants have many parts, and each part has an important job that helps the plant live and grow.

Roots

- Found *underground*
- **Job:**
 - Hold the plant in place
 - Take in water and nutrients from the soil
 - Store food for the plant

Stem

- The plant's "support system"
- **Job:**
 - Holds up the plant
 - Carries water and nutrients from the roots to the leaves
 - Moves food from the leaves to the rest of the plant

Leaves

- Usually green
- **Job:**
 - Make food for the plant using **sunlight, water, and air** (photosynthesis)

Flower

- The colorful part of the plant
- **Job:**
 - Helps the plant make seeds

- Attracts animals and insects for pollination

Fruit

- Grows from the flower
- **Job:**
 - Protects and holds the seeds

Seeds

- Found inside fruits
- **Job:**
 - Can grow into a new plant
 - Hold the baby plant inside (embryo)

2. How Seeds Start to Grow (Germination)

Plants begin life as a seed. When a seed gets **water**, it swells and becomes larger. This creates a **force** that splits open the **seed coat**.

Inside the seed:

- **Radicle** = baby root
- **Plumule** = baby shoot

These begin to grow once the seed coat opens.

This process is called germination.

3. Forces That Affect How Plants Grow

Plants respond to different forces as they grow.

Gravity

Gravity pulls things downward. Plants react to gravity in special ways:

- **Roots show positive geotropism**
→ They grow **downward** *toward* gravity.
- **Stems show negative geotropism**
→ They grow **upward** *against* gravity.

Turgor Pressure

Inside plant cells, water fills a space called the **vacuole**.

When the vacuole is full:

- It pushes against the **cell wall**
- This keeps the plant **upright, firm, and healthy**

When the plant **loses water**:

- Turgor pressure goes down
- The plant **wilts** or droops

When you water it again:

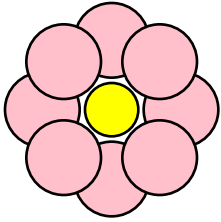
- Turgor pressure increases
- The plant becomes firm again

4. What Happens When a Plant Is Turned Sideways?

If a plant grows sideways (like in the science investigation from the document):

- The **stem bends upward** (negative geotropism).
- The **roots bend downward** (positive geotropism).

The plant adjusts its growth because it is responding to **gravity**.



Plant Parts & Plant Growth – Worksheet

Name: _____ Date: _____

Part 1: Fill in the Blanks

1. The part of the plant that absorbs water from the soil is the _____.

2. The _____ supports the plant and moves water and nutrients.

3. The _____ make food for the plant.

4. The _____ helps the plant make seeds.

5. The _____ protects and holds the seeds.

6. A _____ can grow into a new plant.

Germination

7. When a seed begins to grow, it is called _____.

8. The protective outer covering of the seed is the _____.

9. The baby root inside a seed is the _____.

10. The baby shoot inside a seed is the _____.

Forces That Affect Plant Growth

11. The force that pulls objects downward is _____.

12. Roots growing downward show _____ geotropism.

13. Stems growing upward show _____ geotropism.

Turgor Pressure

14. Water fills the _____ inside a plant cell.

15. The force of water pushing on the cell wall is called _____ pressure.

16. When a plant loses water, it begins to _____.

17. When the plant is watered, turgor pressure _____.

Applying What You Know

18. Seeds swell and split open when they absorb _____.

19. Water pressure helps plant stems stay _____ and upright.

20. Roots bend _____ and stems bend _____ because of gravity.

Part 2: Matching

1. Root	_____	A. Baby root inside a seed
2. Stem	_____	B. Baby shoot inside a seed
3. Leaf	_____	C. The downward pull on objects
4. Flower	_____	D. Seed beginning to grow
5. Fruit	_____	E. Helps plants stay firm
6. Seed	_____	F. Absorbs water and nutrients
7. Germination	_____	G. Makes food for the plant
8. Seed Coat	_____	H. Protects seeds; grows from the flower
9. Radicle	_____	I. Makes seeds; often colorful
10. Plumule	_____	J. Supports the plant; carries water and nutrients
11. Gravity	_____	K. When a plant droops
12. Turgor Pressure	_____	L. Protective outer layer of a seed
13. Vacuole	_____	M. Holds water inside plant cells
14. Positive Geotropism	_____	N. Roots grow downward
15. Negative Geotropism	_____	O. Stems grow upward
16. Wilt	_____	P. Can grow into a new plant

