

CLASS: 5

SUBJECT: SCIENCE

CHAPTER: REPRODUCTION IN PLANTS (Germination)

Please read the chapter and learn the spellings. Write the spellings of the difficult words three times in the science copy. COPY, DRAW and LEARN whatever is given below.

What is germination?

The growth of a seed into a young plant or a seedling is called germination.

Examples of the conditions (factors) that plants need to germinate

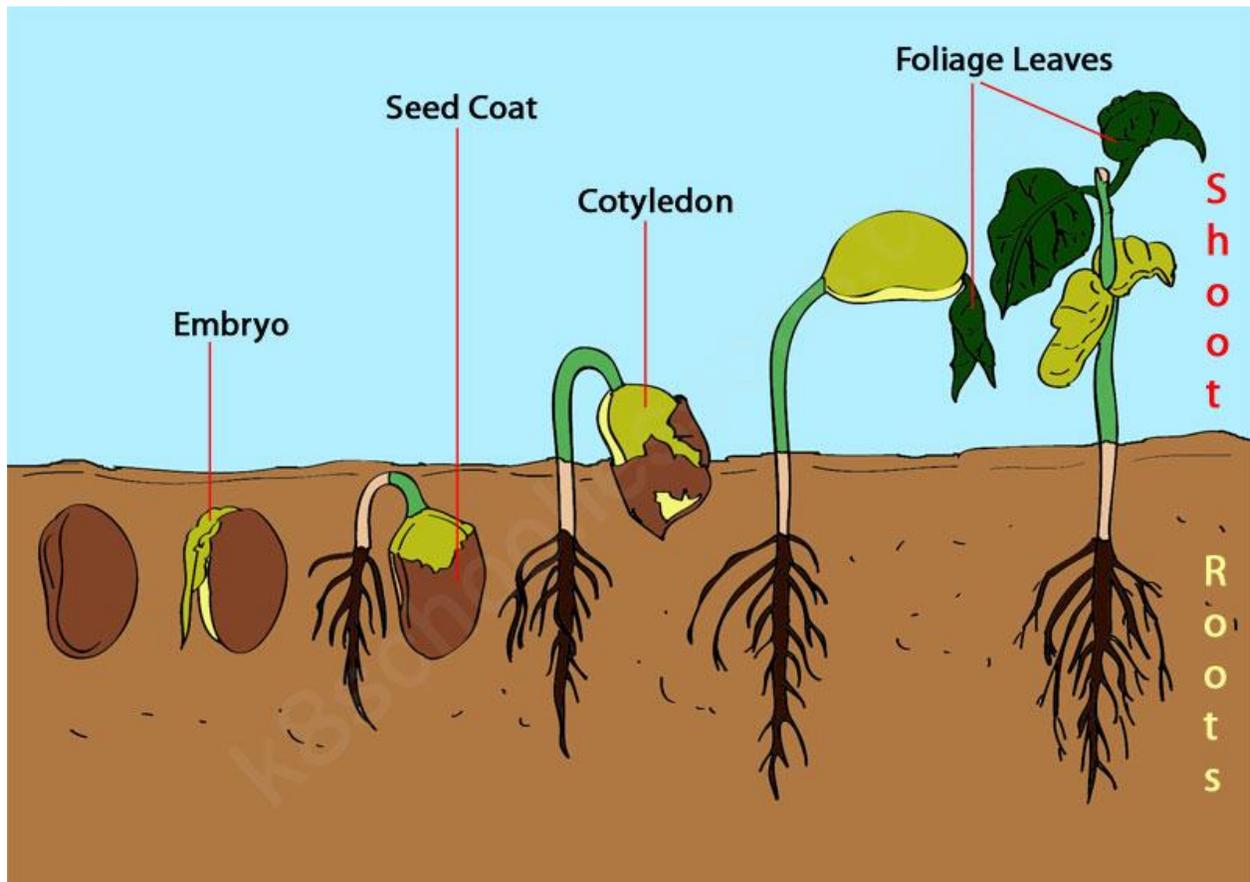
- **Water** – Helps the seed to swell up, so that the embryo can start growing
- **Warmth** – Speeds up and improves the process of germination
- **Air (oxygen)** – Releases energy for the embryo to germinate

Steps of Germination

- When conditions are right the seed starts to take in water.
- As water is taken in, the seed swells bigger and bigger until the coat splits apart.
- Air can then get to the seed. So, the oxygen in the air helps the baby plant burn the food packed inside the seed.
- Burning the food produces energy. As a result, the baby plant uses the energy to grow.
- A tiny root grows downwards whereas a shoot begins to grow upwards.
- The shoot develops and reaches toward the light while the root system develops deep in the soil.
- The *cotyledons* later become the first leaves of the seedling when the seed germinates.
- Tiny leaves sprout at the end of the shoot letting Photosynthesis to take place. These are called *foliage leaves*. They give the baby plant energy, until it gets its own green leaves to photosynthesize.

- The primary root grows longer and thicker together with the secondary roots. The leaves grow larger.
- Finally, more and more leaves grow and the stem becomes thicker and stronger.

Diagram of Seed Germination



Example of the steps of Germination

2. What do seeds need to germinate?

Ans: Seeds need Water, Oxygen and the right temperature to germinate.

3. What happens when a seed gets too much water?

Ans: When a seed gets too much water it will rot and will not grow.