

SEED LAB

SEED ACTIVITY #1: SLEEPING SEEDS?

Background information:

The seed of a plant contains the embryo (baby plant) that is the result of sexual reproduction, and food for that embryo. Plants perform photosynthesis to make their own food, using sunlight. However, the plant embryo in the seed does not have sunlight while it is germinating (beginning to sprout). A seed can remain dormant (sleeping) for a long time – sometimes even decades – and still germinate when conditions are right.

If a seed is still viable, it will germinate as long as it has water and oxygen, and is not too cold. As the seed germinates, it performs cell respiration to release the stored energy from its food.

The embryo can often be seen inside a seed if it is opened up. The leaves and root of the embryo may be identifiable.

The major portions of food in most seeds is in the form of “seed leaves” called cotyledons. Seeds can be classified by the number of cotyledons – a seed producing plant is called either a monocot or a dicot.

Seeds are covered by a seed coat that is indigestible by most animals. The seed coat is often very thin, but can provide much protection for the entire seed.

Procedure:

Each person should keep a record of all observations on a separate page.

You should obtain two peanuts and at least three other seeds.

Observe the outside of the seeds, including seed coats.

Open up one peanut completely, and observe the embryo.

Predict which of the seeds you think are viable (can germinate), and record your predictions.

Soak seeds in water for one day, then in a wet paper towel.

Check each day for germination and make observations

Questions:

1. Why is it important to the plant that the seed coat is indigestible?

2. Which seeds that you observed are monocots and which are dicots?

3. What gas does a germinating seed not require, but the plant that it develops into will need for survival?

