

Dirt Baby

Standards of Learning

Science K.1, K.2, K.7, K.9, 1.1, 1.4, 2.1, 2.4, 2.8, 3.1, 3.7, 3.8, 4.1, 4.4

Math K.13, K.14, 1.5, 1.14, 1.15, 1.17, 2.5, 2.11, 2.17, 2.18, 2.19, 2.20, 3.9, 3.17, 3.19, 4.4, 4.7, 4.14

Objective

Students will:

- Investigate the needs of plants as they make their own “do-it-yourself Chia pet”!
- Investigate germination, the lifecycle of plants and change over time
- Investigate plant parts and life needs
- Identify plants as natural resources
- Record observations

Materials

- Non support knee-high stocking/hose (one per student)
- Grass seed- annual ryegrass (approximately one teaspoon per student)
- Potting soil (approximately one cup per student)
- Junior baby food jars/plastic cups (one per student)
- Google eyes (two - or more! - per student)
- Felt pipe cleaners, pom-pom balls, craft foam and other assorted craft items
- Glue gun
- Water

Background Knowledge

Seeds vary greatly in germination rate, amount of time needed for maturity, and growing conditions. Some seeds, such as beets, germinate and grow to maturity in as little as a month, while corn or soybeans take 3-4 months. Germination is when the seed sprouts and begins to grow. It is important for your students to know that it starts right when there is a bud present from the seed. Explain to your students that their sprout will need a while to grow and that every plant is different in the amount it takes for them to get to maturity. Ask them what their plant will need to grow. All plants need water, light, temperature, time, soil (nutrients), oxygen, and space to grow to full maturity, which is something you can show your students as they are creating their own dirt baby. The process that their plant is going to go through is also something that should be talked about and monitored for a few weeks. All plants go through about the same cycle of sprout, growth, flower, and fruit. However, it is important to also point out to your students what their plant parts are since they will not have flowers or fruits. The basic parts of the plant to point out are roots, leaves, stem, flower, seeds, and fruit. Make sure to point out that not all plants have every part. You may want to introduce this lesson using a picture book that discusses what things seeds need to grow. A good book for this is *How a Seed Grows* by Helen J. Jordan.

Procedure

1. Review the process of germination and what a plant needs to grow.
2. Provide each student with a knee-high stocking and a baby food jar.



3. Place grass seed into the tip of the stocking.
4. Cover grass seed with potting soil by pouring approximately one cup in the stocking.
5. Tie a knot in the stocking just above the ball of soil and trim away excess stocking, leaving approximately 2 inches to hang down into the baby food jar.
6. Flip stocking and place excess stocking downward into baby food jar allowing the ball of soil to rest at the top of the jar.
7. Allow students to decorate the ball of soil (or head of the Dirt Baby) with a variety of craft items **(NOTE: Do not place decorations over grass seed or it will not be able to grow out of stocking!)**
8. Place water in the baby food jar. The stocking will absorb the water and saturate the head of the Dirt Baby. In 10 – 15 days, the seeds will germinate and begin to grow!
9. Water the Dirt Baby as needed.
10. Record daily observation to determine germination rates.
11. For older students you may wish to change variables such as amount of watering to show affects of flood and drought.

Extension

Ask the student to measure and record the amount of dirt used in the activity.

Ask the students to name their Dirt Baby and create a life story about its journey from England to Jamestown. They could describe life in the settlement and present this information to the class.

Ask student to keep a journal of the day-to-day changes they observe in the Dirt Baby.

Discuss the life cycle of plants from seed to maturity and ask students to research types of grass. What are the best growing conditions?

Discuss the nutrients necessary for plants to grow. When and why do you fertilize your lawn?

Keep records of the classroom and outdoor temperatures. Is there an optimum temperature for the best growth of grass?

Ask the students to gather information from the seed bag. What is the percent germination? Are there weed seeds present in the grass seeds? How do weeds affect the growing of the grass?

Review the parts of the grass plant.

Describe how ruminates, such as cows, can utilize the energy in grass. Why can people not eat grass?

Have your students decorate their Dirt Babies to represent an important historical figure they have studied. Then ask them to write a brief biography of that person's life.

