

HOSE HEADS

Formerly known as DIY Chia Pets

Kelsey Whitefield, Extension Agent

Lynne Middleton, State 4-H Curriculum Specialist



Hose Heads (formerly known as DIY Chia Pets)

Skill Level

*Beginner (4th-5th grades),
Intermediate (6th-8th grades),
Advanced (9th-12th grades)*

Educational Standards Addressed

4.LS2.1, 7.LS1.9, BIO1.LS1.8

Learner Outcomes/Successes

To be successful, the learner will be able to:

- *Identify the basic requirements for plant growth*
- *Identify ten unique facts about grasses*
- *Grow a hose head*

Tag(s)

*4-H Science
Plant Science*

Time Needed – 45-60 minutes

Materials Needed

- *10 Unique Facts About Grass handout*
- *Chia seeds or wheat grass seeds*
- *Nylon stockings (used are fine)*
- *Soil (1 cup per student)*
- *Rubber bands or string*
- *Glue*
- *Googley eyes*
- *Permanent marker*
- *Cup, recycled yogurt container or a shallow bowl*

Author(s)

Kelsey Whitefield, Extension Agent
Lynne Middleton, State 4-H Curriculum Specialist

Introduction to Content

Grasses are considered valuable for their aesthetic qualities, but there is much more to these plants than meets the eye. All grasses are in the Poaceae (sounds like Po-sea-A) family, which is one of the most abundant families of plants on earth. From pasture grasses for animals to food crops, such as oat and barley, for humans, grasses make up the world's most significant food source. In this lesson, students will get a better understanding of the importance of grass and make a craft.

Terms and Concepts

Photosynthesis - the process that takes carbon dioxide from the air and turns it into carbohydrates that the plant uses for food

Introduction to Methodology

This lesson involves discussion to form ideas and share thoughts, a lesson on the importance of grasses, and gives students an opportunity to complete a hands-on activity of growing their own grass as a hose head.

TEACHER TALK:

Prepare before teaching the lesson. Buy chia seed or wheat grass seeds. The fur on an original chia pet is made from sprouting the chia seed, which is full of soluble fiber and used as a supplement in some diets. Wheatgrass, which is also known for its health properties, is a great alternative for your plant animal. Purchase or use leftover nylon stockings in any color you prefer for this project.



Setting the Stage

Ask, *“Why do we grow grass?”* Give students a chance to respond. Then say, *“You may have asked yourself this question at one time or another. We grow grass for one reason. Is it just so we can turn around and mow it? No, it survives, even thrives. Any other plant would die after being mowed with any regularity. There are over 10,000 species of grass, yet only about 50 of those are suitable for use in a lawn.”*

Say, *“Much of the time, grass is used to beautify a landscape or to protect an area.”* Then ask students, *“Why can lawn grasses be regularly mowed without dying and still maintain a healthy and attractive appearance? Unlike most plants, lawn grasses grow from the base of the plant. Other plants grow at the tips and don’t respond well to being repeatedly cut.”*

Say, *“The process of mowing grass reduces the plant’s leaves and cuts down its ability to use photosynthesis. **Photosynthesis** is the process that takes carbon dioxide from the air and turns it into carbohydrates that the plant uses for food. When the plant loses some of this ability, it overcompensates by producing additional leaves. The result is an even thicker, denser lawn. Say, “What other uses do you know of for grasses?”* Allow students to respond. Then say, *“At the end of this lesson, you will be able to understand how **photosynthesis** occurs and identify the basic requirements for plant growth.”*

Experience

1. As you explain what to do, talk about what plants need to survive (light, air, nutrients, water, soil).
2. Wet the stocking. The moisture will help your seeds stick to the inside surface of the stocking. Sprinkle your seeds into the end of the wet stocking, rolling them around to cover where you want fur to grow.
3. Fill the end of the stocking with approximately 1 cup of gardening soil. Fill it loosely, to allow for shaping your animal. Twist off and tie small sections of soil and seeds using rubber bands or string. Form legs, a head, body sections and whatever else you like.
4. Glue on googly eyes, or other accessories for your animal with a hot glue gun. Use a permanent marker where desired to draw features.
5. Find a spot for your new pet. If your finished project is rounder, such as just the head of an animal, you can

Strategies to Increase Student Engagement

- Show this video, <https://www.youtube.com/watch?v=FiW1GVqcyKc>, at the end of “Setting the Stage” to introduce different kinds of grasses. It is just over 3 minutes long.

Teacher Notes

place it in a small clay pot. A small saucer or shallow bowl will work for most everything else.

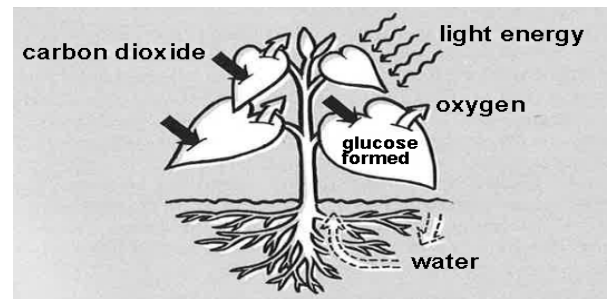
6. Keep your pet watered and watch it grow and take shape. In 5-7 days, you should start to see grass grow.

Share

Ask students to share their thoughts:

What do you think will happen to our chia pets over the next week? What about in a month?

Direct the discussion to ensure that students understand that their chia pets will grow because we have ensured that the hose head has the requirements it needs for growth (sunlight, water and nutrients). And then review the process of photosynthesis. Share this image with students. It is located on the handout.



Process

Ask students, *"How could our project today help the environment?"*

Your chia pet will turn carbon dioxide into oxygen for humans to breathe.

Pass out the 10 Unique Facts about Grass Supplemental Handout. Review the facts.

Generalize

Have students share where they see different kinds of grasses growing. You may need to start discussion by sharing commonly known locations (home, school, library, football fields).

Apply

Tell students to go home and look around their home (a yard or shared courtyard, neighboring properties, etc.) to find varieties of grass.

Say, *"If you have enjoyed today's lesson, a project in the area of plant sciences may be something you would be interested in completing. Ask your 4-H agent."*

Supplemental Information

Educational Standards Met

4.LS2: Ecosystems: Interactions, Energy, and Dynamics

1) Support an argument with evidence that plants get the materials they need for growth and reproduction chiefly through a process in which they use carbon dioxide from the air, water, and energy from the sun to produce sugars, plant materials, and waste (oxygen); and that this process is called photosynthesis

7.LS1: From Molecules to Organisms: Structures and Processes

9) Construct a scientific explanation based on compiled evidence for the processes of photosynthesis, cellular respiration, and anaerobic respiration in the cycling of matter and flow of energy into and out of organisms.

BIO1.LS1: From Molecules to Organisms: Structures and Processes

8) Create a model of photosynthesis demonstrating the net flow of matter and energy into a cell. Use the model to explain energy transfer from light energy into stored chemical energy in the product.

References

www.pennington.com/all-products/grass-seed/resources/10-surprising-facts-about-grass

TIPPS *Life Skills*

HEAD – THINKING:

Learn to form ideas, make decisions, and think critically.

HEAD – MANAGING:

Wisely use resources to achieve a purpose.

HANDS – WORKING:

Use skill, effort, or ability to accomplish a goal.

Ten Unique Facts About Grass

1. About 1,400 species of grasses exist in the United States.
2. Grasses make up about 26 percent of the plant life on Earth.
3. By weight, turfgrass is 75-80 percent water.
4. Varieties of grass grow on all continents even in polar regions. Antarctic hairgrass is the only member of the Poaceae family native to Antarctica.
5. A healthy lawn can increase a home's value by up to 20 percent.
6. Grass-covered lawns, prairies and hillsides help prevent erosion by keeping soil in place with their root systems.
7. Grass lawns improve air quality by producing oxygen and trapping airborne dust particles and other contaminants.
8. Home landscapes that include grass lawns, trees and shrubs can reduce the air temperature surrounding the home by up to 14 degrees F.
9. Giant bamboo, which can grow up to 151 feet tall, is the largest variety of grass.
10. A 2,500 square foot lawn produces enough oxygen for a family of four. Because grasses have a positive impact on climate, clean water and air quality, every homeowner can take part in supporting a healthy environment. While you're probably not growing giant bamboo or Arctic hairgrass, maintaining your lawn is a simple way to improve your air quality while increasing the value of your home.

What Do PLANTS Need? (An easy way to remember the basic needs for a plant)

P, Place: in a container or garden

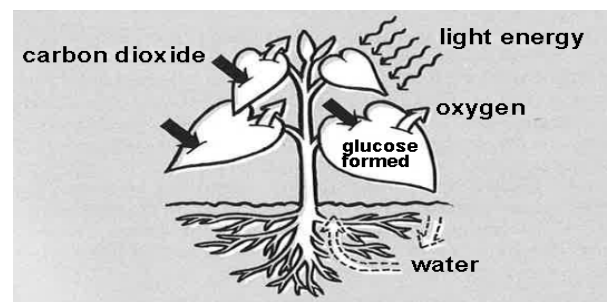
L, Light: sun or artificial light

A, Air: oxygen and carbon dioxide

N, Nutrients: nitrogen, phosphorus, potassium

T, Thirst: like all living things, plants need water

S, Soil: or other media (sand, gravel, water) for growing roots



Taking Care of Your Hose Head

Keep your chia pet watered every day until grass starts to grow. In 5-7 days, you should start to see growth. Continue to water to keep grass healthy. You can eventually cut and style your chia pet's hair (grass).



UTIA.TENNESSEE.EDU

Real. Life. Solutions.™



Examples of
Hose Heads

