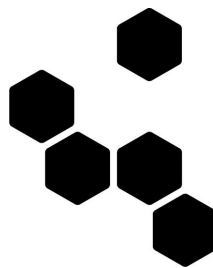


GREENHOUSE IN A CUP



SUPERNOVA

DALHOUSIE UNIVERSITY | HALIFAX, NOVA SCOTIA

OVERVIEW

Description

Participants will learn how to plant and care for their own seed in a mini greenhouse.

Learning Outcomes

- Greenhouse effect
- Seed and plant care

Outline

1. Introduction (10 mins)
 - a. Where does food come from? How do we grow things in the winter?
 - b. Greenhouse effect
2. Create your mini greenhouse (15 mins)
3. Hypothesize and final discussion (5 mins)

Materials

Item	Quantity Per Child	Quantity Per Class
• Coloured plastic cup	• 1	• NA
• Clear plastic cup (smaller than coloured cup)	• 1	• NA
• Push pin	• N/A	• 5
• Potting soil	• ½ cup	• NA
• Seeds (eg. radish)	• 3-5	• NA
• Water	• 4 Tbsp	• NA
• Tape, optional	• NA	• 1 roll

KEY INFORMATION

Topic 1: People all over the world grow food and other plants in climates that may not be ideal for growth. They do this using a greenhouse, which stays warm inside all year round. In the daytime, sunlight shines into the greenhouse, creating heat which gets trapped inside its glass walls. The greenhouse effect (a factor of climate change) works much the same way on Earth. Gases in the atmosphere, such as carbon dioxide, trap heat just like the glass roof of a greenhouse. These heat-trapping gases are called greenhouse gases.

Topic 2: Seeds are the beginnings of plants. They are a vessel for life to grow once planted in soil and given water, nutrients and light. Different seeds need different conditions to grow. For example, some tropical flowers and bananas like it super hot and humid like it is in the rainforests. Other plants, such as pine trees, prefer the cold.

LESSON PLAN & PROCEDURE

Greenhouse in a Cup

1. Introduction (10 mins)
 - a. Where does food come from? How do we grow things in the winter?
 - i. Humans have adopted agriculture in the past few thousand years to control the growth of our food. Ask participants what they have/had for lunch and which parts came from plants
 - ii. Ask participants ways we distribute and grow food for people to eat in the winter months
 - b. Greenhouse effect
 - i. Explain how a greenhouse works and how it relates to our warming climate via greenhouse gasses
2. Create your mini greenhouse (15 mins)
 - a. Hand out materials to the participants
 - b. Using the push pin, (safely!) poke holes in the bottom of the coloured cup for any water drainage
 - c. Fill that same cup nearly to the top with potting soil and pat down
 - d. Place 3-5 seeds into the soil, leaving some space between each
 - e. Cover seeds with a bit more soil and gently pat down
 - f. Spray a bit of water on the seeds
 - g. Place the clear cup over the larger cup (so the rims of the cups are touching) to form a greenhouse
 - h. Place on a window sill or near sunlight and wait for growth! (Since there is a drainage hole, it is recommended to place on a small tray or paper towel incase water drains out)
 - i. Add a bit of water every couple of days
3. Hypothesize and final discussion (5 mins)
 - a. What will we see in a day? 5 days? 20 days?

Debrief

- What does the greenhouse gas effect mean for us in terms of air pollution?
- Ways we can reduce greenhouse gas- planting trees!