Inquiry-Based 5E Model
Climate Literacy Lesson

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Where does food come from?

Grade Level: Kindergarten – 1st
Duration: 45

Lesson Overview : Students will learn about where different types of food comes from, why nutrition is important, and how to grow their own food. Students will also learn the basic conditions required for plants to grow, and the importance of human action in maintaining the availability of these conditions.

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Disciplinary Area:
Earth Science

Key Concepts:
- Why do we need food?
- How can we make sure we can always have food?

Key Lesson Information

Materials List

- Jiffy Biodegradable Seed Cups
- Snow pea seed packs
- Garden Soil, Container, and Shovels
- Water
- Snow peas to eat
- Paper towels
- Popsicle Sticks

NGGS Performance Standards Addressed

NGSS Disciplinary Core Idea	K-ESS3-1
Disciplinary Core Ideas	Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.
Performance Expectations	Students can explain how a lot of our food comes from plants, and how plants need certain conditions to survive.

NGSS Disciplinary Core Idea	K-ESS3-3
Disciplinary Core Ideas	Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.
Performance Expectations	Understanding the conditions needed for plant survival, students can explain how humans can impact these conditions, and list actions that can be taken to continue to allow for food availability.

Key Vocabulary List/Big Question:

Where does our food come from?

What is nutrition and why do we need to eat?

What happens to plants when they don't have access to sunlight, water, or good soil?

How can humans ensure plant survival?

5E model part 1: Engage

Introduction and Background

In this lesson we will focus on how we can grow our own food, why food is important for us to eat, and how we can make it so that we will always have food available to us. Students will be asked to think about their favorite foods, and whether they know where these foods come from. After the discussion, a video will be shown describing how plants grow. After a discussion on why we need food to live, students will get the chance to grow their own food.

5E model part 2: Explore

Introduce Activity

Students will each receive a Jiffy seed cup, a snow pea seed packet, and soil and water for their table group. It will be explained that it is important to know how plants grow to understand how our impact can affect plant growth. They will learn the different conditions required for plants to grow. Students must follow along and do each step of the planting as the instructor says, and not make a mess with their materials. No soil, seed, or water will be used in any way other than what the instructor describes.

Activity: Growing our own food!

Students will plant a snow pea in their seed cups and water it. After the activity, students will be given a handout describing how to continue to care for the plant to ensure its growth. The snap peas will either be taken home to grow or kept in class as a classroom activity.

Essential Concepts

This activity help to introduce students to the world of agriculture at a very basic level. Students will understand the conditions required for plant survival, and how to keep their plants alive over a longer period of time.

Activity Procedure

1. Seed packets and cut-up egg carton flats will be passed out to individual students.
2. Fellows will come around with container of soil and shovels
3. Students will fill their cups with soil while fellows discuss the importance of soil, what it contains, and why it's necessary for plants growth.
4. Students will dig into their soil, plant their seed, and cover the top.
5. Fellows will come around a second time with spray water bottle and give help each student water their snow peas
6. After plants are watered, students will be asked to bring their cartons up and placed away from desks.
7. Clean up
8. Pass out Exit tickets/Care at home worksheet

5E model part 3: Explain

Time to check in and recap!

Question Session

Let students ask clarifying questions from the activity/video/demonstration

What is in soil and why do we need it for plants to grow?

What would happen to the plants if these conditions changed?

- Too much sunlight? Not enough?

Important Concept Check in: Vocabulary/Big Question

Key Vocabulary List/Big Question Recap:

How does a seed become a plant?

What do plants need to survive?

Can humans affect how well plants can grow?

5E model part 4: Elaborate

Clarify the connection here

Activity/Discussion for Elaborate

Some of the things that we as humans do can affect plant's ability to grow. For example, we use a lot of water in our day to do things like to drink and wash ourselves and sometimes, the water we use can take away from the water our plants need! We need to be careful about how we use the same things that plants use, so we can continue to eat our vegetables!

What else can we do to make sure our plants have the right conditions to grow?

Expand

We share the Earth not just with all the people around us, but also with the plants and every other living thing. It is important that we make sure the things we do don't have negative effects on the plants, animals, and the Earth around us.

5E model part 5: Evaluate

Pass out exit tickets: Kindergarten exit ticket

By the end of this Lesson

Concepts Learned:

Why do we need food?
What conditions do plants need to grow?
How can the things that humans do affect how plants can grow.

Connection/Evidence Gathered:

By planting our own plants, students can see for themselves each condition needed for plant survival.

Potential resources:

1. **How do Plants grow | Science for Kids | ThinkJr Creations**

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Care for your snow peas at home or in the classroom!

If you plan on keeping your peas indoors:

- Make sure your plant is never too dry, water until the soil is moist but not drenched
- Peas need at least an inch of water a week, so try to water a few times a week, checking for dryness regularly
- During seed germination (9-13 days) keep your seeds in a lightly shaded area
- Once the peas have sprouted and started to take up more space, you can transfer them into a bigger container (anything around 12 inches? diameter would work), this is not a necessity
    - You can plant them right in their current containers!
- Situate peas near a window after germination, they'll need as much sunlight as possible!

If you plan on transplanting your peas to a garden:

- You can plant them right in their current containers!
- Pick a place in your garden that gets the most amount of sunlight possible
- Make sure they are at least two inches from any other plant in the garden
- We are growing a dwarf variety, so no trestling is needed
    - If desired, 2 ft chicken wire should do the trick!
- Keep them well watered and watch them grow!


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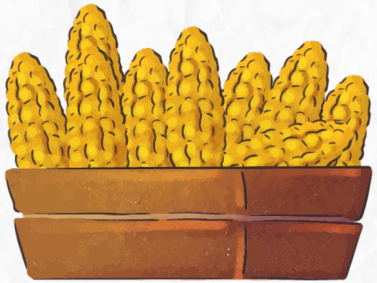
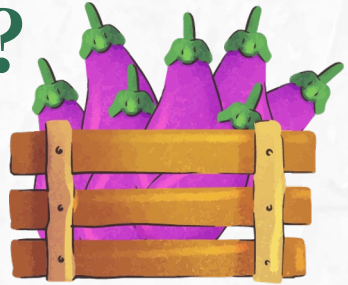
Where Does Our Food Come From?

What is your favorite food?

Do you know where that food comes from?







HOW DO
SEEDS
BECOME
PLANTS?

What 3 Things do Plants Need?

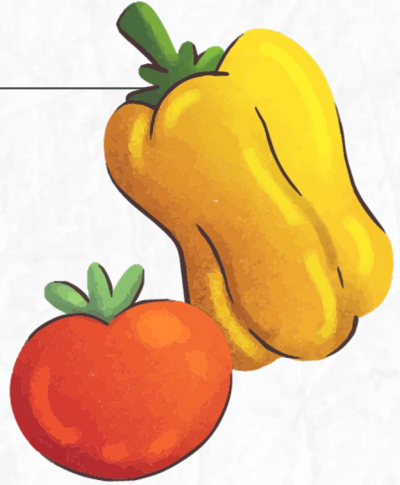
Sunlight

Water

Soil/Temperature

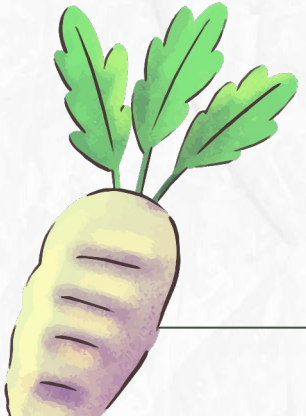
Why is food good for us?

- Gives us energy
- Keeps us healthy



Let's grow our own food!

Sugar Snap Peas!



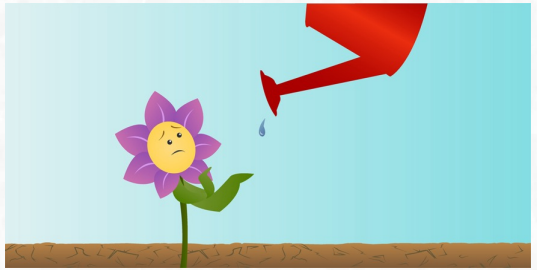
What would happen if...?

Not enough water?

Not enough sunlight?

Too much sunlight?

We can affect how our food grows!



What did we learn today?

01

A lot of our food comes from plants!

02

Food from plants makes us happy and healthy

03

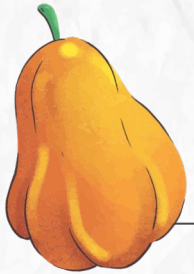
Plants need sunlight, water, and soil to grow

04

Things that humans do can change how plants grow

05

We can make it so that we always have plants to eat!

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Thank You Scientists!