

Grade 3	Lesson: Plants Need Sunlight Sun and Heat Day 2	Reference to English Interconnections lesson Plants Need Sunlight Pg. 116
Science Standard(s): Standard 5.1 The Earth, Moon, Sun and Heat		
Content Objective(s):	Language Objective(s):	
Students will determine that plants need the sun to grow during the experiment individually. <i>I can determine that plants need the sun to grow through the experiment by myself.</i>	Students will share that plants need air, water, food and the sun to grow during large group instructions with their neighbor. <i>I can share that plants need air, water, food and the sun to grow during pair share to my neighbor.</i> <i>Use lists and use the word and instead of separate sentences</i>	
Essential Questions: What impact does lack of sunlight have on living things?	Academic Vocabulary: Listen: Speak: grow, seed, plant Read: sun, grow, plants Write: Sentence Frames: Plants need _____ to grow.	
Materials: <ul style="list-style-type: none">• Pictures of water, air, food• Lima beans (2 per student)• Paper Cups (1 per student)• Soil• Water• Fluorescent lights or windows• Plants Grow with the Sun Paper (1 per student)	Language and Word Wall: sun, light, soil, water, grow, seedlings, leaves, food, water, air	
Lesson:		Instruction time: 70mins
<p>Opening: (5 minutes)</p> <ul style="list-style-type: none"> • Do this lesson on a Monday. • Start with the students on the carpet. • Show students a video about growing plant (skip the part with English) http://www.youtube.com/watch?v=Ekx4ZwoJqXY&feature=related (to convert the video, go to http://www.zamzar.com/) <p>T: "What did you just see in that video? Tell your neighbor." S: will tell their neighbor what they just saw in the video.</p> <p>T: "Raise your hand, what did you just see in the video?" S: will respond, "a bean grow" "a plant grow"</p> <p>T: "I know in second grade you learned what plants need to survive. Tell your neighbor two things plants need to survive." S: will turn to their neighbor and tell them two things plants need to survive, "plants need air" or "plants need water" or "plants need food."</p> <p>T: "What do plants need to survive? Let's make a list on the board."</p> <ul style="list-style-type: none"> • Write the list of things that animals need to survive with appropriate pictures next to the words. <ul style="list-style-type: none"> ○ water ○ food ○ air <p>Introduction of New Material (Direct Instructions): (5 minutes)</p> <p>T: "Last year you learned that plants need water, food and air to survive. They also need the sun!"</p> <p>T: "From our last lesson about the sun, what does the sun provide for us on earth? Tell your neighbor the 2 things the sun gives the earth." S: will turn to their neighbor, "the sun gives the earth heat and light."</p> <p>T: "What does the sun provide for the earth?" S: "heat and light"</p> <p>T: "Do you think plants need heat and light? Raise your hand if you think plants need heat. Raise your hand if plants need light. You are right, plants need heat and light to grow."</p> <p>T: "Now it is time for us to start a plant experiment. When I call your row please return quietly to your desk."</p> <ul style="list-style-type: none"> • Call out the rows the students are sitting in so they can return to their table and prepare to start the experiment. 		

Guided Practice: (20 minutes)

Use the modeling cycle:

T: "Let's grow some plants and seeds! Each of you will be given 1 cup with food (soil) and 2 lima beans."

T: "When I give you the cups and beans, you will need to write your name on the cup and then leave them in front of you with out touching them."

- Give each student one cup with soil in it and 2 lima beans.

T: "You have all written your name on your cups with food (soil) in them. Good! Now I want you to take one of the lima beans. Please open the lima bean, like this."

- Show the students how to open the lima bean.

T: "Look inside the lima bean, what do you see? Do you remember from 1st grade the parts of the plant? You have 1 minute to talk to your table about what you are seeing."

S: will discuss what they see inside the lima bean.

T: "Let's make a list, what are the parts of a plant?"

- Leaf
- Stem
- Root

T: "Inside the lima bean or seed, you can see that it has enough food in it to support the beginning of the plant because it has a seed leaf, root and a shoot the looks like a stem."

T: "Do you think we can make our seeds grow into plants? (wait for the students to respond) We are going to try!"

T: "Each of you has one cup with soil in it. Look back at the list of what plants need to grow, the soil is the _____? Tell your table."

S: will tell their table, "the soil is the food."

T: "You are right, the soil is the FOOD! Plants need food to grow, what else? Look at the list."

S: will respond, "plants need water to grow" or "plants need air to grow" or "plants need the sun to grow."

T: "You are right, plants need air, water and the sun to grow. Our experiment today will test whether or not plants really need the sun to grow."

T: "At the start of the lesson today we watched a video. Were the beans on top of the soil or inside the soil?"

S: will respond "on top of the soil"

T: "You're right, the beans or seeds were on top of the soil or food. So we are going to do the same thing. Place your bean or seed on top of the soil or food."

S: will place their lima bean on top of the soil.

T: "Good, you already told me today what plants need to grow, we have the soil, we have the air, what do we need to add to the soil?"

S: will respond, "water"

T: "All of you need to add water to your cup. Do you need a lot of water or only a little?"

S: will respond.

T: "The soil only needs a little bit of water. At each table there is bowl of water and a tablespoon. Please put one tablespoon of water on your soil like this."

S: will put water on their soil.

T: "Awesome! We have what the plant needs – soil, water, and air. On your paper please draw what your plant looks like right now, include the cup, soil and seed."

S: will draw the plant.

T: "Now let's think about the sun. Half of the lima beans will be near the window and half of the lima beans are going in the cupboard."

- Teacher will decide which plants go near the window and which ones go in the cupboard.
- Clean up the room and bring the kids back to the carpet area.

Closing: (5 minutes)

T: "Today we planted lima beans (seeds). You told me that seeds need food, water, air and the sun to grow. Over the next week we are going to record what happens to the plants by the window and the ones in the cupboard. But before we do that what do you think is going to happen. Discuss with your neighbor what you think will happen to the plants in the cupboard."

S: will discuss with their neighbor what they think will happen to the seeds in the cupboard.

T: "Discuss with your neighbor again, what will happen to the seeds by the window?"

S: will discuss with their neighbor what they think will happen to the seeds by the window.

T: "What will happen to the seeds in the cupboard?"

S: will respond.

- Teacher will write student responses on the board.

T: "What will happen to the seeds by the window?"

S: *will respond.*

- Teacher will write student responses on the board.

T: “Tomorrow when class starts I want you to take your recording sheet and look at both plants. Please draw what they look like.”

Independent Practice: (5 minutes per day)

- Students observe and record seeds germination for 5 days.
- Water the seeds as needed.

Report Results: (

After 5 days, have students share results.

T: “What happened to the seeds in the cupboard?”

S: *will respond, “the plants in the cupboard did not grow.”*

T: “What happened to the seeds that were by the window?”

S: *will respond, “the plants by the window grew.”*

T: “Let’s compare the plants by the window and the ones in the cupboard. Did both plants have food?”

S: *will respond, “they both had food.”*

T: “Did both plants have water?”

S: *will respond, “they both had water.”*

T: Did both plants have air?”

S: *will respond, “they both had air.”*

T: “Did both plants have the sun?”

S: *will respond, “no, only the plants by the window had the sun.”*

T: “Both plants did not have the sun, only the plants by the window had the sun. Do you think plants need the sun to grow? Tell your neighbor.”

S: *will respond, “yes the plants need the sun to grow.”*

T: “What happens if the a plant does not have the sun? Tell your neighbor.”

S: *will respond, “if plants do not have the sun, they will not grow.”*

T: “Plants need the sun to grow, but without the sun, plants will not grow.”

Assessment:

Check Plants Grow with the Sun Paper

Name: _____

Plants Grow with the SUN!

	SUN	NO SUN
DAY 1		
DAY 2		
DAY 3		
DAY 4		
DAY 5		