

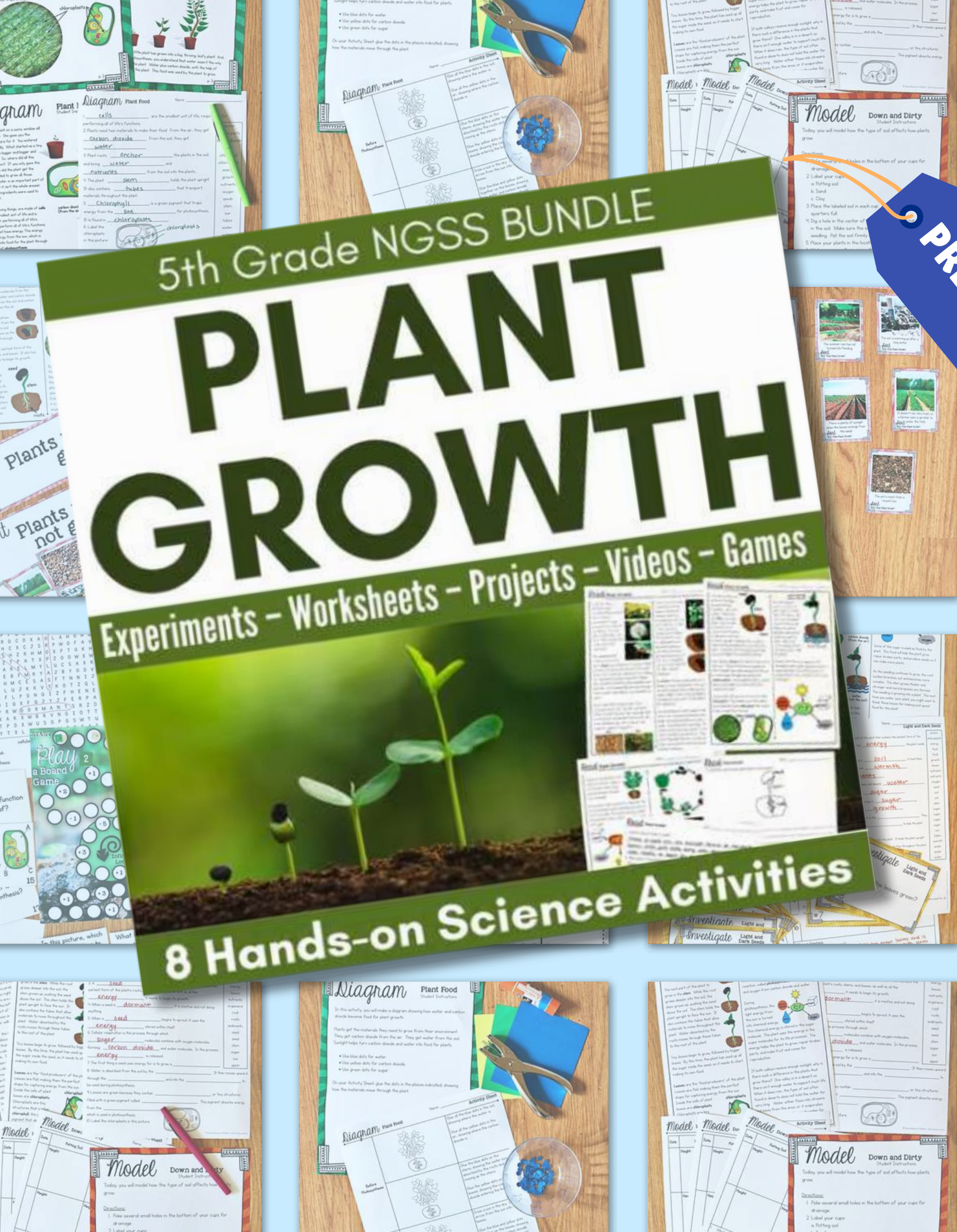
5TH
GRADE

Show How Energy Powers
Life!

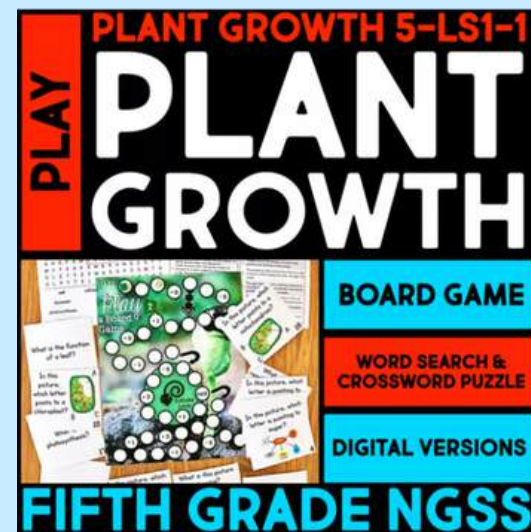
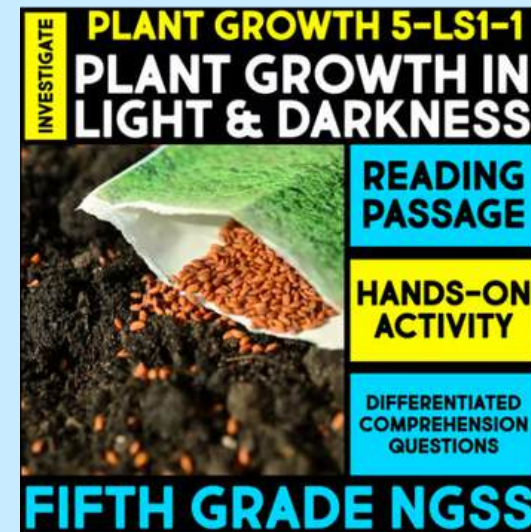
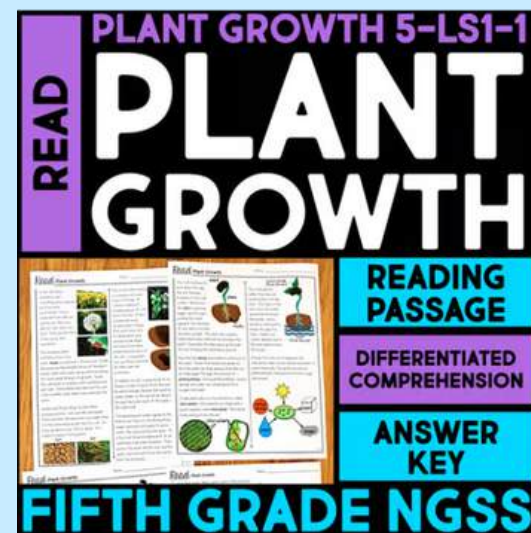
PREVIEW

PLANT GROWTH BUNDLE

KEEP SCROLLING TO SEE
WHAT'S INSIDE!



WHAT'S INCLUDED IN THE BUNDLE?



- ✓ 8 Science Stations aligned with the NGSS for 5th grade
- ✓ 6 Reading passages
- ✓ Hands-on activities
- ✓ Differentiated comprehension questions
- ✓ Digital Videos & Video Games
- ✓ Digital Google Slides & Forms

6 READING PASSAGE



6 Reading Passages that provide
all scientific background
knowledge for each station

Available in two
formats + Digital

Includes pictures and
visuals

PAGE OVERVIEW

5th Grade NGSS BUNDLE

PLANT GROWTH

Experiments – Worksheets – Projects – Videos – Games



8 Hands-on Science Activities

ADD TO CART



Plant Growth Unit BUNDLE			
Big Idea Posters & Vocabulary Cards are available only with the UNIT BUNDLE.			
Station & Name		Standards	Objective
Big Idea Posters & Vocabulary Cards (included with the BUNDLE)			
Watch	How Does a Seed Grow? / Who Needs Dirt?	5-PSI-4, 5-LSI-4, 5-LS2-1, (ELA) SL.4.2	Students will watch a video about what seeds or plants need to grow. They will answer questions in order to reinforce what they have learned.
Play	A Board Game / Crossword or Word Search Puzzle	5-PSI-4, 5-LSI-4, 5-LS2-1, (ELA) RI.5.1, RF.5.4, WS.2, WS.8	Students will play a game in order to reinforce what they have learned about what plants need to grow.
Investigate	Light and Dark Seeds	5-PSI-4, 5-LSI-4, 5-LS2-1, 5-ETS1-2, 5-ETS1-3, (ELA) RI.5.1, RF.5.4, WS.2, WS.8	Students will read about what plants need to grow. They will investigate the importance of light in seed germination. They will answer questions in order to reinforce what they have learned.
Diagram	Plant Food	5-PSI-4, 5-LSI-4, 5-LS2-1, (ELA) RI.5.1, RI.5.2, RI.5.4, RI.5.7, RF.5.4, WS.2, WS.8	Students will read about what plants need to grow. They will create diagrams of this based on the reading section. Students will then answer questions in order to reinforce what they have learned.
Read	Plant Growth	5-PSI-4, 5-LSI-4, 5-LS2-1, (ELA) RI.5.1, RI.5.2, RI.5.4, RI.5.7, RF.5.4, WS.2, WS.8	Students will read about what plants need to grow. They will answer questions in order to reinforce what they have learned.
Model	Down and Dirty	5-PSI-4, 5-LSI-4, 5-LS2-1, (ELA) RI.5.1, RI.5.2, RI.5.4, RI.5.7, RF.5.4, WS.2, WS.8	Students will read about what plants need to grow. They will perform an activity that models this. They will answer questions in order to reinforce what they have learned.
Explore	A Breath of Fresh Air	5-PSI-4, 5-LSI-4, 5-LS2-1, 5-ETS1-1, 5-ETS1-3, (ELA) RI.5.1, RI.5.2, RI.5.3, RI.5.4, RI.5.5, RI.5.8, RF.5.4, WS.2, WS.3, WS.8	Students will read about what plants need to grow. They will answer questions in order to reinforce what they have learned.
Sort	Will This Plant Grow?	5-PSI-4, 5-LSI-4, 5-LS2-1, (ELA) RI.5.1, RI.5.2, RI.5.4, RI.5.7, RF.5.4, WS.2, WS.8	Students will read about what plants need to grow. They will sort scenarios into two categories. They will then answer questions in order to reinforce what they have learned.

Plant Growth Science Stations • NGSS Standards Overview • 5-LSI-1

Next Generation Science Standards are written to be "Three Dimensional." The following section explains how this set of science stations addresses the three dimensions of Performance Expectation, Disciplinary Core Idea, and Science and Engineering Practices/Crosscutting Concepts.

In Fifth Grade, students are expected to demonstrate understanding in the following area: **5-LSI-1** Support an argument that plants get the materials they need for growth chiefly from air and water.

[Clarification Statement: Emphasis is on the idea that plant matter comes mostly from air and water, not from the soil.]

This correlates with the DCI 5-LSI.C, which states:
LSI.C: Organization for Matter and Energy Flow in Organisms
Plants acquire their material for growth chiefly from air and water.

All stations in this set meet the DCI, helping students gain an understanding of how the material that plants need in order to grow is acquired chiefly from air and water.

Science and Engineering Practices
Engaging in Argument from Evidence
Engaging in argument from evidence in 3-5 builds on K-2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s).
•Support an argument with evidence, data, or a model.

Crosscutting Concepts
Energy and Matter
•Matter is transported into, out of, and within systems.

Science Stations Overview

This is a general overview of all science stations in each UNIT BUNDLE.

Watch a Video
At this station, students will watch a video relevant to the topic and answer questions. You have the option of using the included worksheet with the questions or using the task cards and having students respond in their science journals.

Read a Passage
Students read a short passage about the topic and answer questions about the information in the passage. You have the option of using the included worksheet with the questions or using the task cards and having students respond in their science journals.

Play a Video Game
Students play a game and answer questions about the experience. You have the option of using the included worksheet with the questions or using the task cards and having students respond in their science journals.

Investigate
Students use materials to investigate the science topic by following directions and recording results. Students answer questions about the investigation.

Draw a Diagram
Students draw and label a diagram specific to certain requirements. Students then explain how their diagram meets the requirements.

Create a Model
Students use materials to illustrate the science concept and answer questions. You have the option of using the included worksheet with the questions or using the task cards and having students respond in their science journals.

Explore
Students create a sample and manipulate it using the new science concepts they have learned. Students answer questions based on the effects.

Sort
Students sort cards into groups or put them in a specific order. Students record the sort and then describe their reasoning.

Materials Checklist

Plant Growth Unit BUNDLE

The following checklist is for the FULL UNIT BUNDLE.

Watch a Video
☐ Computer / Device
☐ Student Direction Card
☐ Response Sheet or Task Cards
☐ Science Journal (optional)

Play a Game
☐ Student Direction Card
☐ Board Game (die & game pieces)
☐ Word Search or Crossword Puzzle

Investigate
☐ Reading Passage (optional)
☐ Student Direction Card
☐ Investigate Worksheet
☐ Response Sheet or Task Cards
☐ Science Journal (optional)
☐ Colored pencils
☐ 16-ounce plastic cups (2)
☐ Potting Soil
☐ Bean seeds (6)
☐ Water
☐ Optional: Squirt bottles
☐ Sunny location (You can place it on a sunny windowsill or use a sunlamp.)
☐ Box (to keep the beans in the dark)

Draw a Diagram
☐ Reading Passage (optional)
☐ Student Direction Card
☐ Diagram Worksheet
☐ Response Sheet or Task Cards
☐ Science Journal (optional)
☐ Colored dots (punched out holes from paper)—yellow, blue, and green
☐ Glue
☐ Colored pencil

Read a Passage
☐ Reading Passage
☐ Response Sheet or Task Cards
☐ Science Journal (optional)

Create a Model
☐ Reading Passage (optional)
☐ Student Direction Card
☐ Model Worksheet
☐ Response Sheet or Task Cards
☐ Science Journal (optional)
☐ Potting Soil
☐ Sand
☐ Clay soil (see Teacher's Instructions for details)
☐ 16-ounce plastic cups (3)
☐ Small seedlings (3) (Ideally these are newly-sprouted seedlings, but more established seedlings from the nursery would work. Try to find plants that grow tall, like flowers or vegetables, rather than low and spreading, like many herbs.)
☐ Water
☐ Sunny location for the plants or a sunlamp
☐ Optional: Tray

Explore
☐ Reading Passage (optional)
☐ Student Direction Card
☐ Explore Worksheet
☐ Response Sheet or Task Cards
☐ Science Journal (optional)
☐ 2 16-oz plastic cups (optional: cut drainage holes in the cups)
☐ Potting Soil
☐ Small seedlings (3) (Ideally these are newly-sprouted seedlings, but more established seedlings from the nursery would work. Try to find plants that grow tall, like flowers or vegetables, rather than low and spreading, like many herbs.)
☐ Water
☐ Sunny location for the plants or a sunlamp
☐ Optional: Tray

Sort
☐ Reading Passage (optional)
☐ Student Direction Card
☐ Larger Sort Cards or Worksheet
☐ Scissors
☐ Glue
☐ Response Sheet or Task Cards
☐ Science Journal (optional)

Table of Contents

Science Station Overview

Materials Checklist

Science Stations

BIG IDEA POSTERS

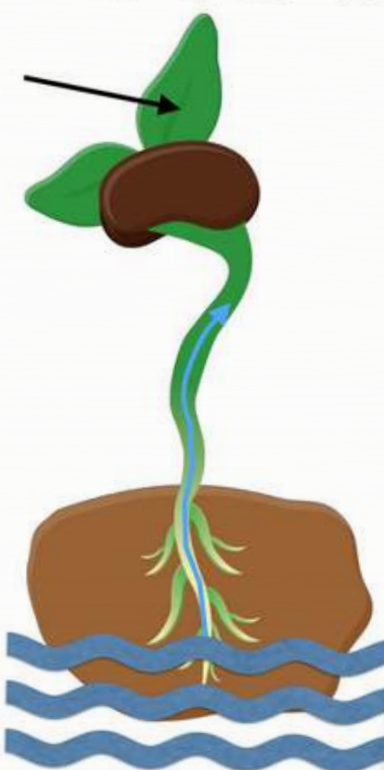
The soil



needs to be
wet and warm
enough for a
seed to

Plants need

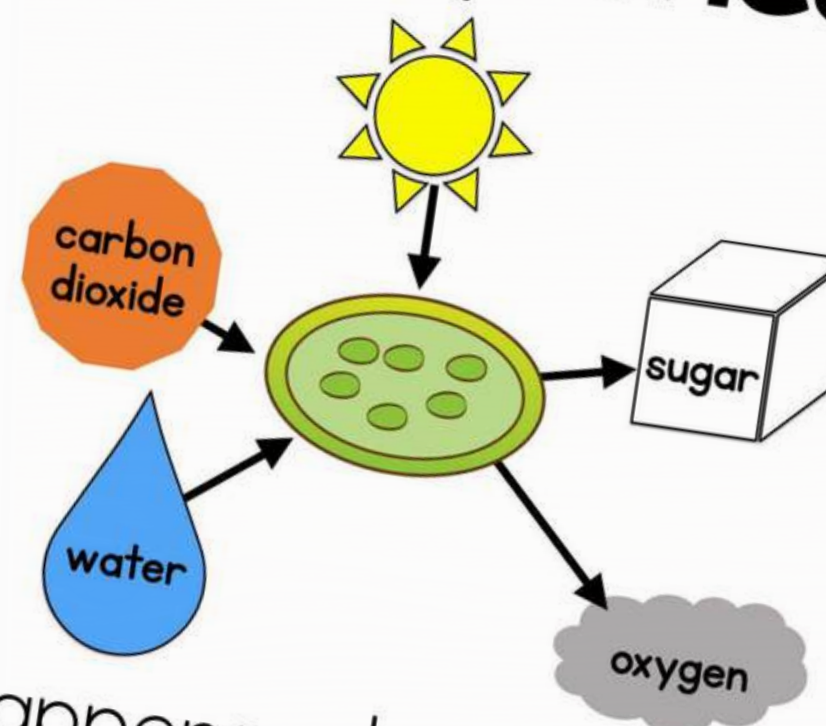
carbon dioxide
(from the air)



water
(from the soil)

carbon dioxide from
the air and water

Photosynthesis



happens when carbon
dioxide and water use
the sun's energy to
and oxygen

**BIG IDEA POSTERS THAT
EXPLAIN THE KEY CONCEPTS**



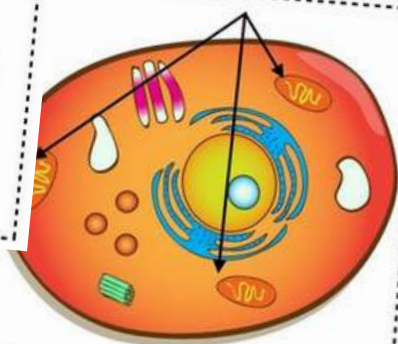
leaf

a plant structure with a flat surface, loaded with chloroplasts to collect sunlight for photosynthesis; known as the "food producer" of the plant



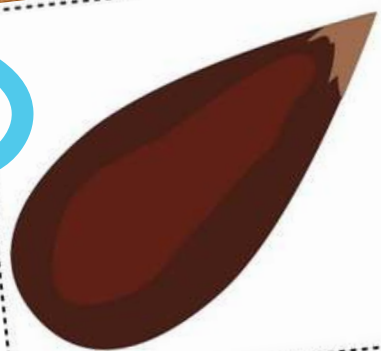
energy

the ability to do work



mitochondrion

a part of a cell known as the "powerhouse of the cell;" provides the energy that the cells need for growth, repair, and reproduction



dormant

the stage of a seed's life cycle when it is inactive and not growing

VOCABULARY CARDS WITH PICTURE

mitochondrion

a part of a cell known as the "powerhouse of the cell;" provides the energy that the cells need for growth, repair, and reproduction

photosynthesis

the process through which energy from the sun is used to convert carbon dioxide and water into sugar and oxygen

VOCABULARY CARDS WITHOUT PICTURE

WATCH STATION

STUDENTS WATCH PLANT GROWTH VIDEOS AND ANSWER COMPREHENSION QUESTIONS.

I used this resource with our Transition students (ages 18-21). We added experiments with plant growth to expand the lesson...
- Julie F.



PLAY STATION

**BOARD GAME, CROSSWORD,
AND WORD SEARCH TO
REINFORCE VOCABULARY AND
CONCEPTS.**

Great resource for
my 5th grade
students! Easy to
use!
- Jennifer A.



INVESTIGATE STATION

STUDENTS EXPLORE HOW LIGHT AFFECTS PLANT GROWTH THROUGH OBSERVATION.

“This was a great resource, full of activities that were rigorous.”
- Christina G.

Investigate Light and Dark Seeds

During cellular respiration, the energy in sugar molecules is changed into energy that is used for growth. Oxygen is combined with sugar in a chemical reaction. They react to form carbon dioxide and water. During this chemical reaction, energy is released. This energy is now available to do work. In this case, it is used to grow the plant inside the seed into a plant.

The seedling's roots continue to push down into the soil, branching out in many directions. Now that the roots have begun to do their work, it is time for the stem to grow. The stem moves up and up until it finally pushes the seed above the soil. The stem is the support for the plant. It holds the plant upright and contains the tubes that carry substances to flow throughout the plant. The stem also leaves the branches, leaves, and if

As the seedling absorbs water, it continues to use the food it used. Finally, tiny leaves begin to grow.

Investigate Light and Dark Seeds

By the time the leaves grow out of the seed, the seedling has used up all the food stored in the seed. It is now time for the leaves, the "food producers of the plant," to make food for the plant. They do this through the process of **photosynthesis**.

The cells of leaves are loaded with chloroplasts. Chloroplasts are filled with a green pigment called **chlorophyll**. Chlorophyll is what gives leaves their green color. It is also needed for photosynthesis.

For the process of **photosynthesis** to take place, carbon dioxide in the air enters the chloroplasts of the leaf cells. Water

Some of the sugar is used as food by the plant. This food will help the plant grow, repair broken parts, and produce seeds so it can make more plants.

As the seedling continues to grow, the root system branches out and becomes more complex. The stem grows thicker and stronger and more branches are formed. The seedling is growing into a plant! The next time you water your plant, you might want to thank those leaves for making such great food for the plant!

Investigate Light and Dark Seeds

1. A seed is the part of the plant that contains the earliest form of the plant's roots, stem, and leaves. It also contains the energy the plant needs to begin its growth.

2. To begin growing a plant, a seed must be planted in soil and it must have water and warmth.

3. Plants need soil in order to get nutrients. anchors them in place and absorb water.

4. A seed gets energy to grow from its storage of sugar.

5. Cellular respiration is the process through which energy in sugar molecules is changed into energy that is used for growth.

6. Roots are the part of the plant that anchor the plant in the soil to help the plant absorb water and nutrients.

7. The stem supports the plant. It holds the plant upright and contains the tubes that carry substances to flow throughout the plant.

8. Leaves are the part of the plant that make food for the plant. They do this through the process of photosynthesis.

Investigate Light and Dark Seeds

Today, you will investigate light and plant growth between plants grown in light and plants grown in dark.

1. Fill your plant boxes with soil.

2. Get the seeds.

3. Evenly spread the seeds in each box.

4. Label the boxes.

5. Water the plants.

For each observation, record the following:

Day	Light	Dark
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Investigate Light and Dark Seeds

Why are the leaves green?

Investigate Light and Dark Seeds

What three conditions must be met for a seed to begin growing a plant?

Investigate Light and Dark Seeds

What differences did you see?

The seed grown in the light has green leaves and is larger. The seed grown in the dark had white leaves and was smaller.

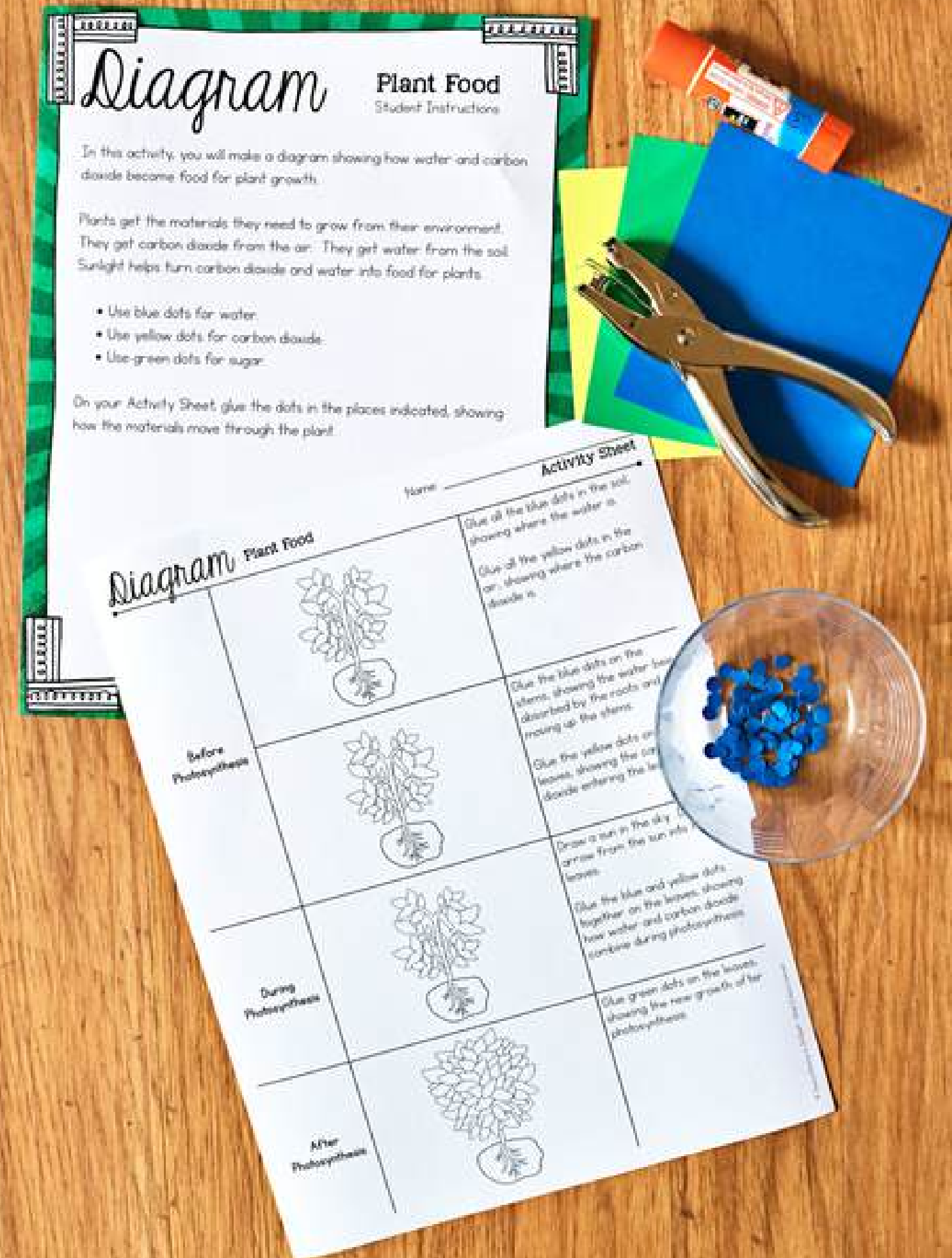
What do you think caused these differences?

Do seeds need light to grow healthy plants? How can you tell?

DIAGRAM STATION

**STUDENTS MODEL HOW
PLANTS MAKE FOOD
THROUGH PHOTOSYNTHESIS.**

My student loved using
this resource. It was
aligned to the standards
being taught and was
easy to use.
- Alicia S.



READ STATION

INFORMATIONAL READING PASSAGE WITH COMPREHENSION QUESTIONS.

“Simple reading passages about plants. They worked well in my class.”
- Megan I.

Read Plant Growth

Plants, like these dandelions, get everything they need for life from their environment. Using materials from the soil and the air, they are able to make their own food. They use this food to live, grow, and reproduce.



Soil, on the other hand, is a mixture of many types of things. It contains sediments, including pieces of rock, sand, and clay. It also includes decaying (broken down) things that were once alive. As dead plants and animals break down, nutrients from their bodies become part of the soil. Living plants can use these nutrients for their own life processes.

In addition to soil, a seed needs to have things in order to grow. First, the soil must be warm enough. Second, the seed needs water. Water in the soil will be absorbed through the outer part of the seed, the seed coat.

Seeds need three things to start their growing process: soil, warmth, and water. When you hear the word soil, you might think it is the same thing as dirt, but it is not. As many gardeners say, "Dirt is dead." It is unable to support living plants.



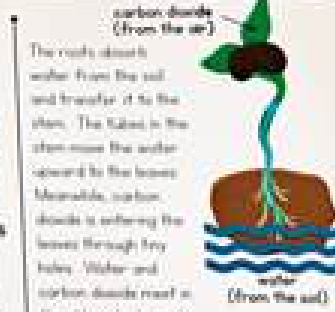
Read Plant Growth



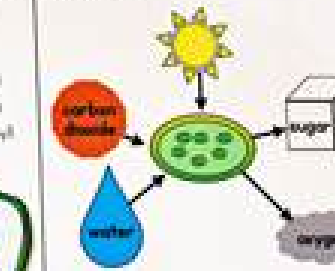
The root continues to push down through the soil, forming branches in the root system. Meanwhile, the stem is growing bigger and stronger, pushing the seed upward. One function of the stem is to hold the plant upright. The stem also contains tubes that move materials up and down the plant. Eventually, the stem pops up through the soil, bringing the seed above ground.

Now the tiny leaves are ready to come out of the seed. These first leaves are green so that the plant can trap energy from the sun to make sugar through the process of photosynthesis. During photosynthesis, carbon dioxide and water are combined to form oxygen and sugar.

Inside plant cells are tiny structures called chloroplasts. Chloroplasts are filled with a green pigment called chlorophyll. Chlorophyll traps energy from the sun.



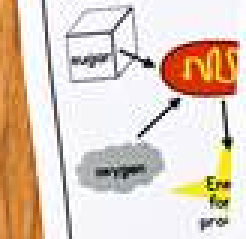
Energy from the sun, trapped by the chlorophyll, helps carbon dioxide and water to react chemically. During this process of photosynthesis, they combine to form sugar and oxygen.



Read Plant Growth

Oxygen is released from the leaves into the air. Sugar is sent into the stems to be used by the plant to grow big and healthy.

Energy from the sun that is trapped by the chlorophyll helps carbon dioxide and water to react chemically. During this process called photosynthesis, they combine to form sugar and oxygen.



This happens through respiration. During respiration, oxygen is combined with sugar to form carbon dioxide and energy. The plant will use this energy to grow bigger, and make more food.

1. What is found inside a seed?

Inside a seed are the earliest forms of the plant: leaves, stem, and roots, along with everything the seed needs to begin its growth.

2. What does it mean for something to be dormant?

Something is dormant when it is inactive.

Read Plant Growth

3. What do seeds need to start their growing process?

Seeds need soil, warmth, and water to start growing.

4. What is the difference between dirt and soil?

Dirt is unable to support living plants. Soil is a mixture containing sediments and decaying things.

5. What happens when the seed starts to absorb water?

When the seed begins to absorb water, the seed begins to grow.

6. Place these pictures in order.



Read Plant Growth

7. Label the seed, stem, and roots in this picture.



they need for photosynthesis?

they need for life processes?

MODEL STATION

**STUDENTS INVESTIGATE
HOW SOIL AFFECTS PLANT
GROWTH.**

My students enjoyed using this resource for science stations.

- Mary W.



EXPLORE STATION

STUDENTS EXAMINE HOW AIR IMPACTS PLANT GROWTH THROUGH INVESTIGATION.

Beautiful and
engaging resources!
Very detailed and full
of fun activities.
Loved it!
- Stacy B.



SORT STATION

SORTING ACTIVITY WITH REAL-WORLD SCENARIOS AND FOLLOW-UP QUESTIONS.

This is a great
resource to reinforce
the concept.
- Krista H.



PLANT GROWTH ACTIVITIES

SUGGESTED USES

Learning Stations

Use all eight stations or just a few as learning stations that students complete at their own pace.

Science Centers

Set up a rotation where students visit each center to complete the activities.

Whole Class

Use the activities in a whole class format.

Small Group

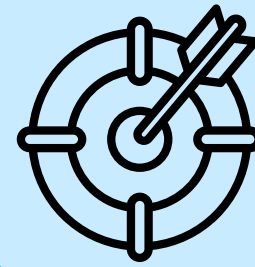
Use the activities with a small group who need extra help.

YOU WILL LOVE THIS BECAUSE



Complete Unit in One Download

Provides everything needed to teach Plant Growth without searching for separate labs, readings, and review materials.



Direct NGSS Alignment

All activities support NGSS standard 5-LS1-1, helping students observe and measure properties to identify and classify materials.



Saves Teachers Valuable Time

With ready-to-use materials, digital options, and answer keys included, teachers can quickly implement engaging science instruction.

TEACHERS LOVE IT!



Great resource! This was engaging and my students really enjoyed this and learned a great deal. I absolutely love the stations that you have and all of the options to assess.

Thank you!

Nicole Muratore



We just started using standards that are very similar to the NGSS standards. We were very overwhelmed trying to find activities and items to meet all the needed criteria. This did all the work for us and was PERFECT to use with our fifth graders!

The Elementary Element



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to earn Reward Points
to get more resources!

My passion is making learning accessible to all students.
I love scaffolding learning, breaking down the concepts and building them up so that students can see the connections.
I love figuring out the small components that build up to the big ideas and helping students see it all.



What I have **LEARNED**