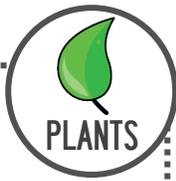


[STORY TIME STEM]



Math/Science Supplemental Guide

LIVING SUNLIGHT

Prompts and Questions

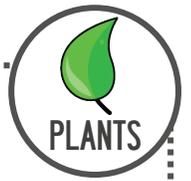
Introducing the book:

This book couples vivid illustrations with information rich text. You may consider reading this book in sections because of the number of pages or the adult can pre-read the text and focus on using the illustrations to tell the story with young readers.

Exploring the book:

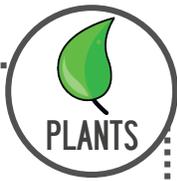
- Section 1 "Energy" pages 3-10
 - Page 5-6:
 - **Science:** (small planet Earth): What is energy? (there is light energy, chemical, mechanical) Can you share an example of energy? On the next few pages, we are going to see the sun's light energy moving in the pictures – where do you see the sun's light energy in this picture? (the little yellow dots) Let's notice where we see the sun's energy as we keep reading.
 - **Math:** How does the size of the sun compare with the size of the Earth in this picture?
- Section 2 "Plants" pages 11-16
 - Page 11-12
 - **Math:** What do you notice about the roots in this picture compared to the part of the plant that is above ground? (children might notice the thickness or overall length or the quantity of sections)
 - **Science:** Invite children to first look at the page with the plants and roots. Ask children to share observations- What do you see in this picture? What are the yellow dots suppose to be? What do you think the blue inside the roots is? There are boxes that zoom into the plant. Can you look at one box and think about how you would tell someone what is happening? Who wants to share their ideas?

[STORY TIME STEM]



- Page 15-16
 - **Math:** Can you count the trees in this picture? Which tree do you think has the most fruit growing on it?
 - **Science:** what kinds of things do these plants build with the sugar? (leaves, stems, juices, seeds, fruits, flowers).
 - Section 3 "Food" pages 17-20
 - Page 19-20
 - **Math:** Do you think the insect or the man can eat more bananas? (lower right hand portion of picture) Why do you think that? If the man ate one banana every day, how long would the bunch last? What if he ate 2 every day? How do you know?
 - **Science:** Where do people get their energy from? Most people get their energy from doing this (eating, sleeping) every day.
 - **Science:** Do you eat plants? What is your favorite plant? (lettuce, corn, rice)
 - Section 4 "Oxygen" pages 21-29
 - Page 24 (w/o plants no life on Earth. Read pages slowly to emphasize without plants...)
 - **Science:** What would the world be like without plants?
 - Page 25-26
 - **Math/Science:** Which animals can you see breathing out carbon dioxide? How many animals do you see breathing?
 - **Math:** What do you notice about the roots of these plants compared to the part of the plant that is growing above the ground.
- #### Exploring and extending the thinking:
- **Math:** This book offers rich opportunities for comparing. The length and width and height of the plants to one another as well as comparisons between root systems and the part of the plants we can usually see. There are also opportunities to consider very large quantities, such as the number of leaves on trees.
 - **Science:** What do the living things on these pages need to survive? Which page showed your favorite science ideas?

[STORY TIME STEM]



Integrated Supplemental Guide

LIVING SUNLIGHT

Reading Prompts and Questions:

Introducing the book:

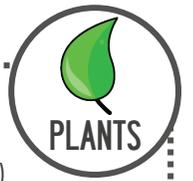
- **Looking at cover:** This book is called Living Sunlight: How Plants Bring the Earth to Life! What do you notice about the illustration on the cover? What might this book be about? (Prediction)
- **Science/Math:** Do you think plants are important to animals? To people? Have you ever seen a plant?

Exploring the book:

We suggest reading this book section by section. The illustrations play an important part in discussion, think about how to make them larger or more visible (doc camera?)

- Section 1 "Energy" pages 3-10
 - After Page 4:(child on swing)
 - **Literacy:** Who is telling this story? (This story is told by the sun) Let's listen to the story that the sun is telling us.
 - Page 8 (glacier)
 - **Literacy:** What are some of the things the sun's energy does? (listen for the word glacier) What else do you think the sun's energy does?
 - Page 10 (secret)
 - **Science:** Use your finger to trace where the light energy goes? (Spend time on this illustration and allow children to notice the different plants and animals that use the light energy). How do living things use the energy from the sun? What do you think?
- Section 2 "Plants" pages 11-16
 - Page 12 (Chlorophyll pages) After reading the text on both pages –
 - **Science:** Invite children to act out the actions (plants sucking up water with their feet, hands catching the light energy, hands breaking apart the water, hands catching the little packets)
 - **Literacy:** What are the illustrations showing? (the goal is to match the actions with the picture boxes)

[STORY TIME STEM]



- Page 14 (chunka-chunka-chunka)
 - **Science:** After reading, what are the plants doing? Acting out- they breathe out the oxygen things they broke from the air, they breathe in the carbon dioxide and then chunka-chunka-chunka.
- Page 15-16 (gift of energy)
 - **Science/Literacy:** What are some fruits and vegetables that you recognize? Do you think that these plants and trees need the sun's energy to grow? How do you know?
 - **Math:** which tree do you think has the most fruit on it? Why do you think that?
- Section 3 "Food" pages 17-20
 - Page 18 (how do YOU get my energy?)
 - **Science:** How do people and animals use the sun's energy? How do you know?
 - Page 19-20 (eating energy mural)
 - **Literacy:** What do you notice? What are the people and animals doing? What are some things you eat that have the sun's energy inside of them? Which things could you eat on these pages?
 - **Math:** How many ____ do you see? (I can eat pumpkins! How many pumpkins do you see?)
- Section 4 "Oxygen" pages 21-29
 - Page 21-22 (comes from green plants)
 - **Literacy/Science:** Where does oxygen come from? What is oxygen used for?
 - Page 26 (build more sugar)
 - **Literacy/Science:** what is happening in the illustration? What are the animals doing? Let's act that out – breathing in, breathing out. Let's add some words to that, breathing in OXYGEN, breathing out CARBON DIOXIDE! Which animals can you see breathing out carbon dioxide?
 - Page 28 (everything alive)
 - **Literacy/Science:** What are some ways that plants and animals share life and energy? **Math:** what living things do you see? How many ____ do you see?

Extending through discussion:

- **Science/Math:** Go outside to look at plants. Make observations about the way that the leaves are organized on trees, shrubs, and flowers. It is no mistake that they are evenly spaced, each leaf needs enough sunlight to generate energy through photosynthesis. Consider going on a leaf hunt to look at the different textures, sizes, shapes, and colors of the leaves in your neighborhood.