

Dear Second Grade Parents/Guardians:

This unit in Amplify Science is called: ***Plant and Animal Relationships: Investigating Systems in a Bengali Forest.***

In their role as plant scientists, students figure out why there are no new chalta trees growing in the Bengal Tiger Reserve, which is part of a broadleaf forest. Students investigate what chalta trees need to survive, and then they collect and analyze qualitative and quantitative data to solve the mystery.

In Chapter 1, students investigate why new chalta trees in the Bengal Tiger Reserve aren't growing. Students begin by reading *My Nature Notebook*, which models how scientists study habitats, and then observe their own sample study sites to learn about diversity of plants in a habitat. Students analyze maps of the Bengal Tiger Reserve in 1995 and 2015 and discover that no new chalta trees have grown in that timespan, while other plants have. To figure out why the chalta tree seeds are not growing into full-grown trees, students investigate seeds. They observe real seeds firsthand and record measurements of plant heights of seeds planted under various conditions. Through these investigations, students construct an understanding that seeds need sunlight and water to grow into full-grown plants. The chapter concludes with the class co-constructing a scientific explanation for the lead scientist of the Bengal Tiger Reserve.

In Chapter 2, students investigate to answer the question, *Why aren't the chalta seeds getting what they need to grow?* Students analyze images of roots and leaves from different plants and read a book to construct an understanding that plants have different structures that work as a system to help the plant grow. Students investigate why plants cannot always get the sunlight and water they need to grow. They use a digital app to discover that plants need to get to a place where they have space for their roots to spread out and absorb water and where the sun is not blocked by other plants' leaves. Students consolidate their understanding in a written scientific explanation for the lead scientist of the Bengal Tiger Reserve.

In Chapter 3, students figure out, *Why aren't the chalta seeds getting to places where they can grow?* Students read about a scientist who studies relationships between plants and animals in a habitat. Students engage in a multi-day model in which they simulate animal dispersal of seeds, measure how many seeds were dispersed to places where they are likely to grow, and analyze their results to consolidate their understanding of how some seeds get dispersed. Through the use of this model, students learn that animals sometimes disperse seeds by eating fruit, moving to another place, and leaving droppings with the seeds inside, and they deepen their understandings of measurement and of planning and carrying out investigations. Finally, students obtain information about the interdependence of plants and animals in the Bengal Tiger Reserve and apply their understanding of seed dispersal as they craft a scientific explanation for the lead scientist of the Reserve.

In Chapter 4, students expand their ideas of how seeds move by investigating the question, *How are the other seeds in the Reserve able to get to places where they can grow?* Throughout the chapter, students engage in the practice of planning and carrying out investigations more independently. After reading *Investigating Seeds*, which models how peers designed and carried out an investigation to understand how seeds without fleshy fruits are dispersed, students work in groups to plan an investigation of wind-dispersed seeds. Students apply their takeaways from the investigations to construct a scientific explanation about how other seeds in the Bengal Tiger Reserve are dispersed.

Important Vocabulary for this unit can be found in the glossary on the back of this letter. Students should be able to understand and apply the vocabulary words during class discussions and investigations and in their written explanations. The concepts and vocabulary for each chapter are cumulative and build upon the understandings from previous chapters.

Thank you,
The Second Grade Teachers

Chapter 1 Vocabulary Words

habitat: the place where an animal or plant lives and gets what it needs

investigate: to try to learn more about something

seeds: things a plant makes that can grow into new plants

measure: to use a tool to find out information such as how heavy, how big, how fast or how hot or cold something is

observe: to use any of the five senses to gather information about something

sprout: to start to grow from a seed

leaves: the flat, green plant parts that use light to help the plant grow

data: observations or measurements recorded in an investigation

explanation: a description of how something works or why something happens

Chapter 2 Vocabulary Words

roots: the underground plant parts that take in water to help the plant grow

system: a group of parts that work together

evidence: information that supports an answer to a question

model: something scientists make to answer questions about the real world

Chapter 3 Vocabulary Words

disperse: to spread around

Chapter 4 Vocabulary Words

*No new words are introduced in this chapter