

One Small Place in a Tree

by
Barbara Brenner



ENGAGING PHENOMENON

Notice and wonder about [this photograph of a tree hole home](#).

QUICK SUMMARY

A bear claws a tree and readers are taken on a journey through the formation of a hole and the many animals that take advantage of that small place.

ACTIVITY IDEA

Students can make an authentic connection to art by being encouraged to create a representation of the relationships between the tree and the organisms that benefit from it. They could draw a diagram, create a collage, make a slide show, build a sculpture, or use another medium of their choice.



QUESTIONS TO EXPLORE

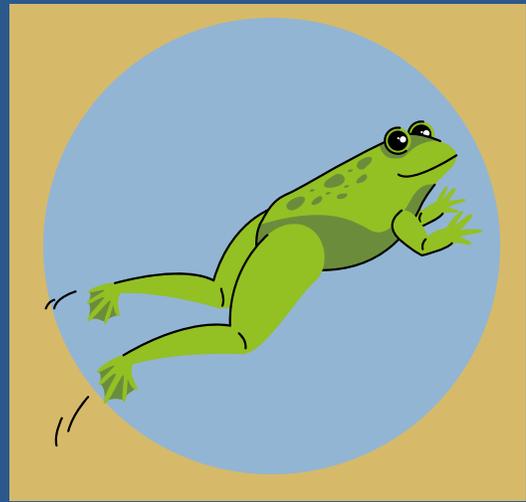
What causes lead to the formation of the hole in the tree? Can you put them in a sequence as a chain of causes and effects?



Do you think the formation of a hole in the tree was a helpful environmental change or a harmful one? Use information from the text as evidence to support your answer.

Safe Crossing

by
Kari Percival



ENGAGING PHENOMENON

Watch this [time lapse video](#) of a wildlife underpass.
What do you notice? What do you wonder?



ACTIVITY IDEA

Join a team who is helping with a safe crossing and learn more about the process in [this video](#).



CROSSCUTTING QUESTIONS

Why is data an important part of the solution?



QUESTION TO EXPLORE



Is it our responsibility to help animals cross roads safely? Why or why not?

Feathers: Not Just for Flying

by
Melissa Stewart



ENGAGING PHENOMENON

What do you notice and wonder about male and female peacock feathers?



QUICK SUMMARY

A beautifully illustrated nonfiction book about the different kinds of feathers that birds possess and the many purposes they serve (other than flying!) like providing sun protection, camouflage, and flotation to name a few.

2

ACTIVITY IDEA

Collect different kinds of bird feathers (ask your friends with backyard chickens or pet birds to help) and have students help classify them. After explaining their groupings, have them reclassify by feather type using the chart provided at the back of the book. How were their classification systems similar? How were they different?



CROSSCUTTING QUESTION

What does the feather do? What is its shape? What are its physical properties? How do its shape and properties enable its function?



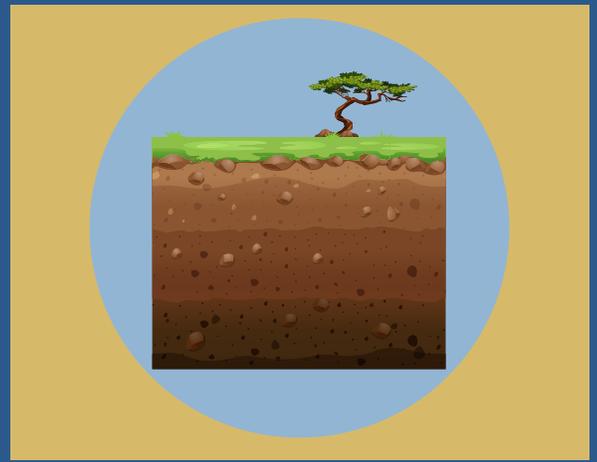
QUESTION TO EXPLORE



What are the different functions that feathers can perform? How do these functions help birds to survive?

Under Your Feet: Soil, Sand, and Everything Underground

by
Wenjia Tang



ENGAGING PHENOMENON

Notice and wonder about different cross sections of land.

QUICK SUMMARY

This beautifully illustrated nonfiction book tells us everything we ever wanted to know about the ground we walk on!

2

ACTIVITY IDEA

Before reading the book, have students draw a picture of what they think is under their feet. Label it, and explain it to another student. Then, read the book and go back to their drawings to see how accurate they were. Modify or create new drawings based on updated ideas.



QUESTION TO EXPLORE



In this book, where do you notice the hydrosphere, biosphere and geosphere interacting?

CROSSCUTTING QUESTIONS

Identify two different systems in the book. What are the parts of the system and how do they work together? How does energy and matter flow into, out of, and within the system? How are the two systems similar? How are they different?



Look Up With Me Neil DeGrasse Tyson: A Life Among the Stars

by
Jennifer Berne



ENGAGING PHENOMENON

Notice and wonder about images from
the James Webb Space telescope.

QUICK SUMMARY

Follow young Neil's journey as he discovers the wonders of space, the thrill of science, and the joy in sharing the beauty of our amazing universe. Read his favorite mind-blowing facts and learn what mysteries are left to solve.

3

ACTIVITY IDEA

There are a plethora of activities that you could do that would coincide with this book beautifully. However, I felt compelled to share [this YouTube video](#) showing a 'behind the scenes' of the illustrations in this book - tiny miniature 3D scenes created by the illustrator and then photographed. They are phenomenal!



PRACTICES QUESTIONS

How does Neil DeGrasse Tyson obtain, evaluate, and communicate information? What examples in the text show Neil asking questions?



QUESTION TO EXPLORE



What wonderings do you have about the universe? How could you go about finding the answers?

The Wolves of Yellowstone: A Rewilding Story.

by
Catherine Barr



ENGAGING PHENOMENON

Notice and wonder about this elk and bison population graph.

QUICK SUMMARY

This expertly crafted, detailed narrative, helps readers explore the interconnectedness of an ecosystem through the changes that occur when wolves are re-introduced to Yellowstone National Park. NOTE: This text is longer than a typical read aloud, yet well worth your time!

2

ACTIVITY IDEA

Get your class up and moving with this predator and prey simulation game.



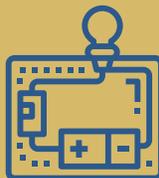
QUESTIONS TO EXPLORE



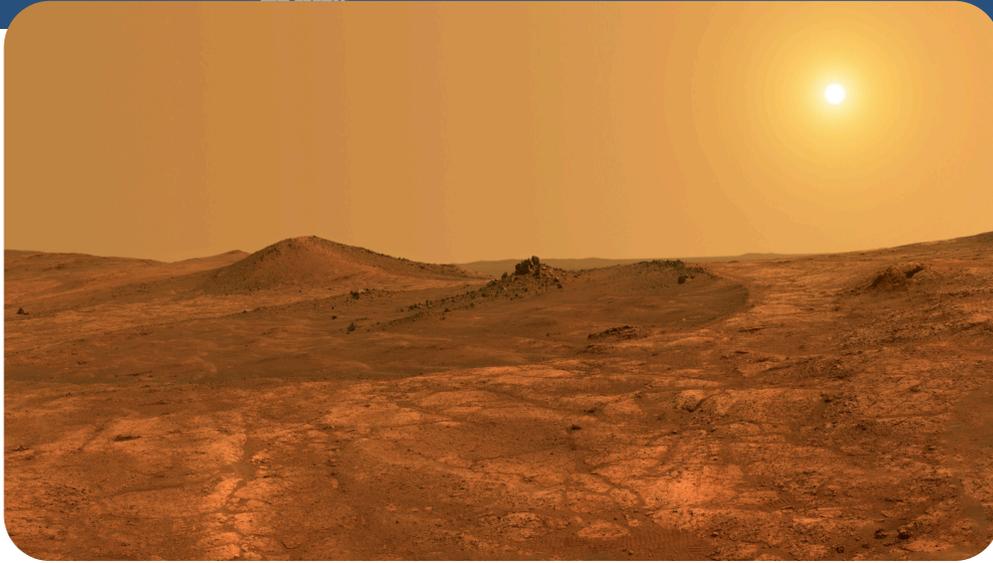
Should wolves have been re-introduced to Yellowstone? Make a claim and support it with evidence from the text.

CROSSCUTTING QUESTIONS

Draw a model that shows how the hydrosphere, geosphere, and biosphere interact in the Yellowstone Park ecosystem.



WHAT DO PLANTS NEED TO GROW?



You are part of a scientific team that has been asked to figure out how to grow plants on Mars. In the space below, describe what astronauts will need to successfully grow plants in an alien environment.

HOW DO VARIATIONS IN ANIMALS OF THE SAME SPECIES PROVIDE ADVANTAGES?



Many ocean animals including sharks, dolphins, whales, and fish have countershading. Like the whale in this photo, half of their skin is a dark color, and half of their skin is a light color. How might this difference in coloring help them to survive? What if a member of their species did not have countershading? How would that member affect the species as a whole?

ENERGY AND MATTER



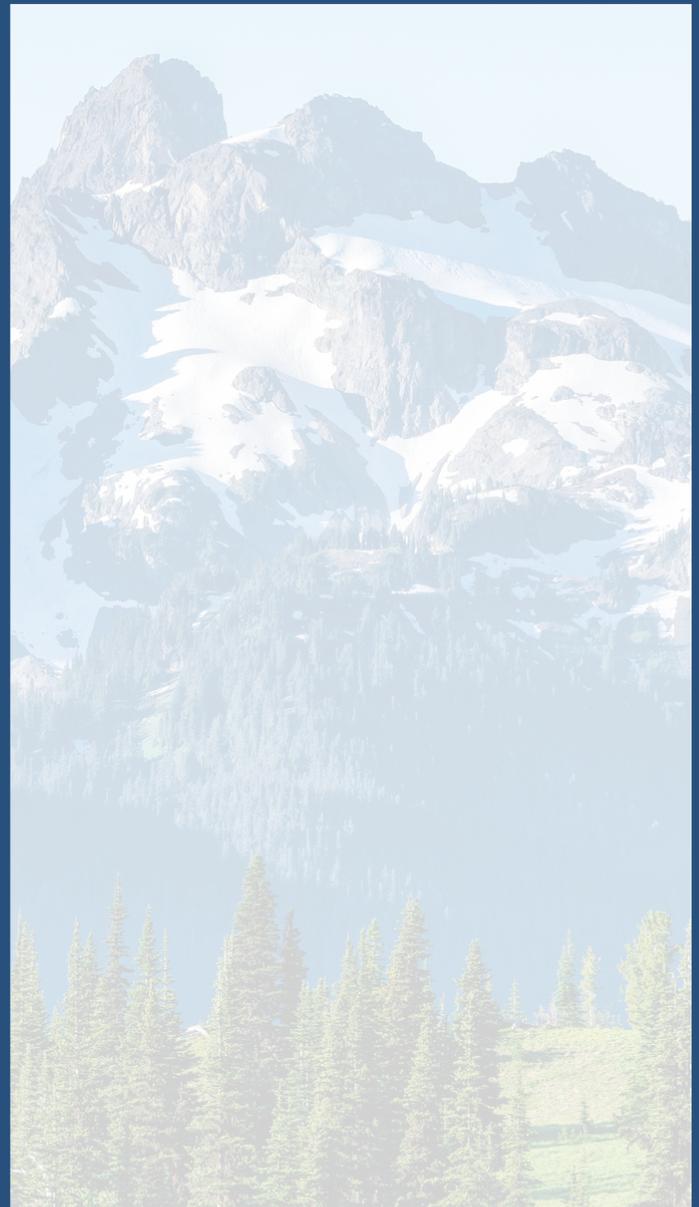
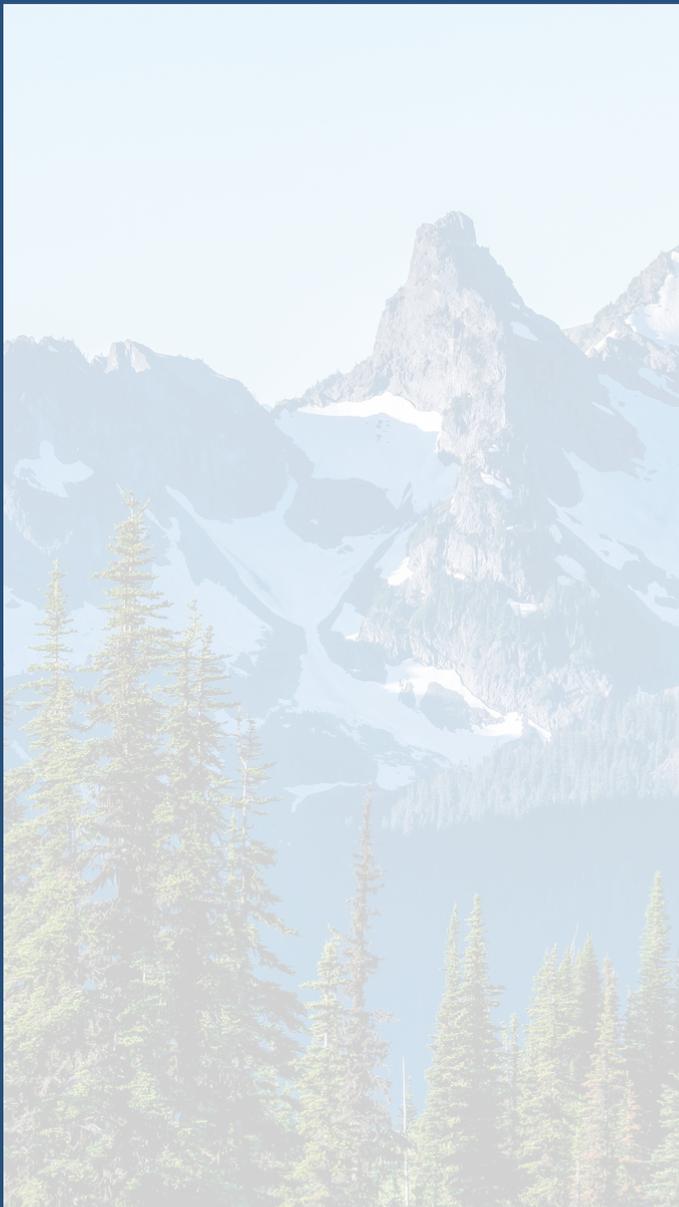
Choose one of the five places an agronomist may work that you read about in the text. Describe the energy and matter that an agronomist would be monitoring as it moves into and out of that system. What energy and/or matter might the agronomist need to add to the system or remove from the system? Why?

T-Chart Graphic Organizer

Use the T-Chart below to compare and contrast slow and fast Earth changes. You could include definitions, examples, and drawings.

SLOW CHANGES

FAST CHANGES



3-2-1 Graphic Organizer

Answer each question with the number of responses shown.

What are three details shared in the article that you believe support the claim that waste management engineering is an important career? Why does each detail support the claim?

3

What are two industries where you could apply for a job as a waste management engineer? What would you do when working for those companies?

2

What one area of waste management engineering is most interesting to you? Why?

1