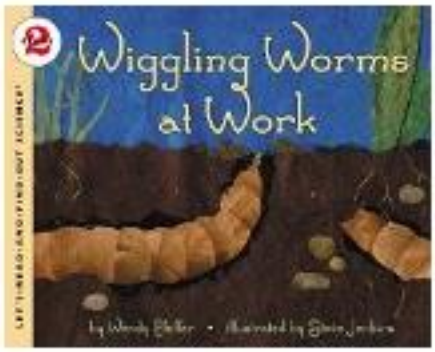
High-level questions for science read-alouds.

Grades 2–4

Pfeffer, W. (2003). *Wiggling worms at work (Let's-Read-and-Find-Out Science).* Harpercollins.

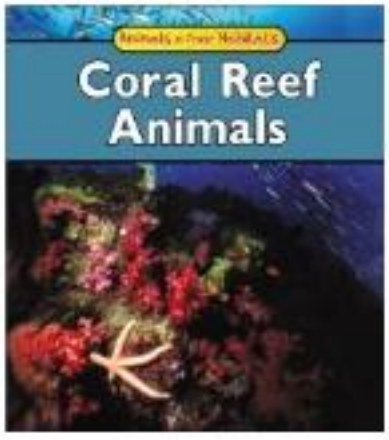


Describe: Have you ever seen a worm? What did it look like? Feel like?
Evaluation/Synthesis: The illustrator, Harry Bliss, draws all of the worms in this book with eyes and noses. Do worms have eyes and noses? How can we find out?
Drawing Conclusions: "August 1: The earth never forgets we're here." Then ask, "What does the author mean by this? How do worms help the earth?
Inquiry (NSES, NGSS standards): Have students brainstorm testable questions about worms, such as:

- Does a worm move headfirst or tail first more often?
- Do worms prefer different types of food?
- Do worms react to strong smells?
- Do worms prefer light or dark?
- How long does it take a worm to burrow into the soil?
- Do different types of earthworms have a different number of segments?

Grades K–2

Galko, F. (2002). *Coral reef animals (Animals in their habitats).* Heinemann.



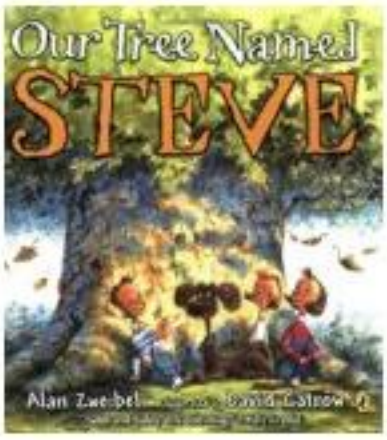
Explaining: What is a coral reef? How is it made?

Fat Question: What else can we do to help protect coral reefs?
Reflecting/Metacognition: How can I find out more about coral reef animals? What would I like to learn more about?
Analyzing: What features of the book helped me find some of my answers?
Compare/Contrast: How does coral compare to other living things? What are some similarities? What are some differences?
Inquiry (NSES (1996), NGSS standards (2013)): Have students brainstorm researchable questions about coral reef animals, such as:

- How many fins do fish have? Do different kinds of fish have different numbers of fins?
- What is the largest fish in the ocean? The smallest?
- Where on earth are coral reefs?

Students can choose a question to investigate in teams or as a class and add them to their class Coral Reef Question Book.

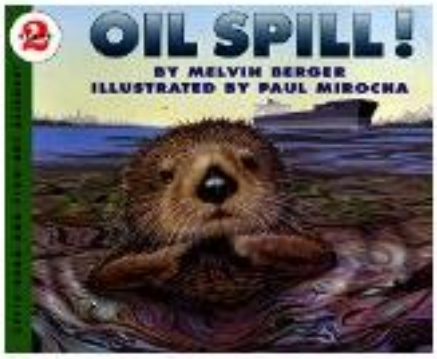
Grades K–4
Zweibel, A. (2007). *Our Tree Named Steve.* Puffin books.



Predict: What are you thinking this story will be about? Why do you think so?
Interpretation: What does it mean to "be a friend to trees?"
Assess: From where you are sitting, look around and think of everything in this room that might be different if there was no such thing as a tree. Why is it important to "be a friend to trees?" **Connecting/Associating:** How does this story make you feel? Why?
Inquiry (NSES (1996), NGSS standards (2013)): Have students brainstorm investigable and/or researchable questions about trees, such as:

- Have students brainstorm testable or researchable questions such as:
- How can trees be identified?
- How many different kinds of trees are in the schoolyard?
- What will happen to a leaf on a tree if it is covered with paper for a length of time?
- What is the world's oldest/tallest/thickest tree?
- How is paper made?
- How can we make recycled paper in the classroom?

Grades 3–6
Berger, M. (1994). *Oil Spill! (Let's-Read-and-Find-Out Science).* Harpercollins.



Explaining: How do oil spills harm birds, fish, shrimp, and crabs?
Empathizing: What would an oil-covered beach look and smell like?
Prioritizing: Imagine you are cleaning a real, live animal that has been oiled. What things would you need to consider to keep you and the animal safe?
Role Taking: If you were a part of the oil spill clean-up crew, which method(s) would you use? Why?
Augmenting/Elaborating: What more can you say about how we can protect the environment from oil spills?
Inquiry (NSES (1996), NGSS standards (2013)): Have students brainstorm investigable and/or researchable questions, such as:

- Have students brainstorm testable questions such as:
- Which cleaner is best for cleaning oiled material: dishwashing liquid, shampoo,
- vinegar, liquid hand soap, or baking soda and water?
- Which is best for insulating a marine animal: fur, feathers, or blubber?
- Do all types of oil float on water? Of the following types of oil—olive oil, corn oil,
- and baby oil—which is the most dense? The least dense?