

Level
A & B

Exploring

**Content
Area
READING**

Teacher's Guide

For teachers' inspection ONLY

Exploring

Content Area Reading

Teacher's Guide

Level A

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Sight Words

Essential Words

orbit: Hold up a globe and use another object to symbolize the sun. Demonstrate how the Earth revolves around the sun. Tell students that the Earth's path around the sun is called its "orbit."



Teaching Strategies

1. Ask students about their knowledge of space and space travel. You might also want to discuss the job of astronauts and the challenges they face while traveling in space. Make notes or draw pictures of students' responses about their background knowledge, and display them in a prominent place in the classroom. If possible, share other stories, pictures, or posters related to space and space travel.
2. Have students turn to Science Lesson 1 in the student book. Refer students to the picture of the International Space Station. Point out the subtitle, "How the Completed Station Will Look." Explain that this picture shows what the space station will look like when it is completed and is not a picture of what it looks like now. Allow time for students to comment on the picture and/or ask questions.
3. Read Science Lesson 1 aloud to students and ask them to follow along. Read at a slow to normal pace and model appropriate expression.
4. While reading, integrate questions and discussions about the vocabulary and essential words above. Call on students to define these words as they appear in the text. Repeat student definitions in simple language.
5. Make sure students understand the definition of "international." Talk about the positive and negative aspects of an international project such as this one.
6. Refer students to the large picture of the International Space Station in Science Lesson 1. Explain how a picture gives the reader a clue about the main idea, or what a passage is about. Tell students that a reader would be able to predict easily that this article is about the International Space Station because of the picture. Use the Exercise (in the back of the book) to give students an opportunity to predict a main idea based on a detailed picture.

Science Lesson 1: Diagram

A Base in Space

Vocabulary

Use these vocabulary words and definitions to aid students' comprehension of the lesson.

1. **astronaut**—a person who travels in a spacecraft
2. **experiments**—tests performed to learn about something that is not yet known
3. **gravity**—the attraction that draws an object to Earth
4. **International Space Station**—a manned satellite determined for permanent orbit around the earth, used by more than one country
5. **launching pad**—a base or platform from which a spacecraft or rocket is launched
6. **materials**—what is needed to carry out a task
7. **mission**—an assignment to be carried out
8. **nation**—a group of people organized under one government
9. **orbit**—the path of an object as it revolves around another object
10. **structure**—a number of parts assembled together to form a whole, such as a building
11. **tons**—a large amount
12. **weightless**—having very little weight or gravitational force

Comprehension Connection Answers

The following are suggested answers to the Comprehension Connection section in the student reading lesson. The answers are suggestions to help in your classroom discussions.



Before Reading

1. Answers will vary. Encourage students to tell about things they have read, seen on television, or at the movies. Help them distinguish between science fact and science fiction.
2. Answers will vary. Students will probably predict that the article will be about space travel or a space station.
3. Answers will vary. If necessary, suggest three things you would like to know about the base to get students started.



During Reading

1. The space station will help advance scientific knowledge and make missions to other planets possible. Some students may also say that it helps nations learn to cooperate and share ideas.
2. Students may suggest that they want to learn more about what it is like to live in space and how astronauts will travel to Mars.
3. Since outer space lacks oxygen, it is vital that the space station be able to manufacture it. The extremely low gravity of space affects all movements of the astronauts. The experiments that astronauts will perform on the space station and the station's use as a launching pad to other planets are two important purposes of the structure that will benefit all people.



After Reading

1. Astronauts from many nations are building the International Space Station far above Earth. All the sentences in the article talk about the space station and how the astronauts are building it.
2. Answers will vary. Make sure students offer reasons to support their opinions.
3. The author is excited about the space station and thinks it is an interesting, worthy, and useful project that may lead to advances. Exclamation points and the phrase "sky high" show excitement. The details of the article show how much care has been taken to provide for the astronauts and how many countries have cooperated to plan and build the station.

Exploring Content Area Reading—Level A

Science Lesson 2: Chart

Arctic Wildlife

Vocabulary

Use these vocabulary words and definitions to aid students' comprehension of the lesson.

1. **arctic**—exceedingly cold; relating to the area north of the Arctic Circle
2. **blubber**—the thick fat between the muscles and skin of whales and other marine mammals
3. **coastlines**—the shape or outline of the seashore
4. **drill**—to make a hole
5. **hooves**—the covering of the toes of an animal like a horse
6. **refuge**—being protected
7. **tundra**—an area in the arctic region without trees that has frozen ground
8. **webbed feet**—skin that joins the toes of water birds
9. **wilderness**—an unsettled and uncultivated region

Comprehension Connection Answers

The following are suggested answers to the Comprehension Connection section in the student reading lesson. The answers are suggestions to help in your classroom discussions.



Before Reading

1. Answers will vary. Suggest that students think of animals that can live in very cold places.
2. Answers will vary. Students may suggest that the chart tells them facts about Arctic animals. The chart format organizes facts by rows and columns into specific categories.
3. Answers will vary. Students may suggest that they are interested in how animals can live in such extreme conditions.



During Reading

1. The author does not openly take sides and does not criticize either side. However, the words “fear,” “disturb,” and “beautiful” suggest sympathetic feelings for the Arctic animals and a desire to protect them.
2. One side wants to drill for oil in the refuge. The other side wants to leave the Arctic animals in peace.
3. Each horizontal row gives facts about an animal. Reading down each column allows comparison of one type of information, such as food, for all the animals.



After Reading

1. Answers will vary. Students may say that the introduction made them wonder why we need to drill for oil in the Arctic National Wildlife Refuge and how drilling would disturb the animals.
2. The weights allow readers to compare how large and heavy the animals are. The facts also suggest the large amounts of food and space the animals need.
3. Answers will vary. Students might want to know how drilling has affected wildlife in other areas, how many animals would be affected, what might go wrong that could hurt the animals, or where the drilling would occur.

Science Lesson 3

Sight Words

down to try way with

Essential Words

diagonal: Draw a horizontal, a vertical, and a diagonal line on the board. Point out the diagonal line to students. Then, draw a square or rectangle shape and demonstrate how a diagonal line connects two opposite points on a shape.

triangle: Draw a triangle on the board. If possible, ask students to find examples of triangles around the room.



Teaching Strategies

1. Before teaching this lesson, begin talking to students about the concept of cause and effect several days ahead of time. If possible, choose a few relevant and appropriate examples of cause and effect to discuss with students. Role-play cause and effect situations with students. Give students specific situations to act out. The class can determine the effects. (For example, a student gets up late for school and skips breakfast.) Pictures or visuals to accompany the examples would be especially effective. Keep an ongoing chart or list displayed in the classroom with written or pictorial examples of cause and effect. Add each example to the list after the class discusses it. With additional exposure, English Language Learners will have a stronger understanding of cause and effect before beginning the lesson for Science Lesson 3. Some examples to share with students are the following: falling off a bicycle causes injuries, sunlight and water cause a plant to grow, or eating too much ice cream causes a stomach ache.
2. Begin your discussion of Science Lesson 3 by first reviewing definitions of shapes. Discuss the qualities of a square, a rectangle, and a triangle. Ask students to mention names of other familiar shapes. Draw and label several shapes on the board to use as a reference for the class.
3. Have students turn to Science Lesson 3 in the student book. While you read Science Lesson 3 aloud, make sure to integrate information about the vocabulary and sight words from this lesson. Call on students to define vocabulary words as they appear in the text. Repeat students' definitions in simple and clear language.
4. When you are ready to have students do the experiments independently, model each step prior to asking them to do so alone. Allow students to work with a partner or in a small group if necessary. Emphasize the importance of using the pictures if the directions are unclear. Remind students that pictures can give much information to a reader.
5. Use the Exercise to give students additional practice with the concept of cause and effect.