SAMPLE LESSON

Phonics PLUS™
Designed Specifically for the 3 Tiers of RTI
Grades K–3

Level C: Lesson 55
UNIT 3 Lesson 55a

Science Words

Objectives
To understand the meaning of words frequently used in science
To use context to complete sentences

DIRECT INSTRUCTION

Teacher Note: Science has technical and specialized words that are frequently used in textbooks and other reading material. Understanding the meaning of these words will boost a child’s comprehension of science reading material.

- Write the word science on the board and have the children read it. Have the children identify the orthographic features of the word: how many syllables it has, where the accent is, which syllable is open, what the vowel sounds are, and so on. Write the word scientist and scientific. Have the children read these words and discuss how the suffixes change the meaning of these words. Once again, note the orthographic features of the word, including the -ist suffix in scientist and the accent on the third syllable in scientific.
- Remind the children that science is the subject in which we learn about the world around us and have the children suggest some of the information/ideas they have learned by studying science.
- Write words from the activity on the board: atmosphere, dissolve, electricity, environment, evaporate, fossil, mineral, planet, pollute. Have the children read the words and discuss the meaning of each. Discuss the scientific concepts related to each of the words.
- Help the children find page 118 in their books.
  Directions (top of page): Read the words in the box. Circle the number of syllables in each word.
- Read the words as a class. Clap the syllables in the first few as a group, then have the children work independently to complete the activity.
- When the children have completed the first part of the activity, move on to the exercise at the bottom of the page.
  Directions (bottom of page): Write the best word from the box in each sentence.
- Review the words in the box. Have children complete the activity independently.

Science Words

Read the words in the box. Circle the number of syllables in each word.

<table>
<thead>
<tr>
<th>atmosphere</th>
<th>environment</th>
<th>minerals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>dissolve</td>
<td>evaporates</td>
<td>planet</td>
</tr>
<tr>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>electric</td>
<td>fossils</td>
<td>pollute</td>
</tr>
<tr>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>

Write the best word from the box above in each sentence.

1. When water ______ evaporates ______ it forms clouds.
2. Smoke and smog ______ pollute ______ the air.
3. The ______ atmosphere ______ is the air that surrounds the earth.
4. Thomas Edison invented the ______ electric_______ light.
5. People should take care of the ______ environment ______ in which they live.
6. Venus is the ______ planet_______ closest to Earth.
7. Sugar will ______ dissolve ______ in warm water.
8. ______ Fossils ______ help scientists learn about dinosaurs.
9. Iron and zinc are ______ minerals_______ that come from the earth.

DIFFERENTIATED INSTRUCTION

Reteach and Practice, p. 58
Learning Differences, p. 88
English Language Learners, p. 67

CENTERS

Reading

Provide a collection of books and magazines that have information about a variety of scientific topics, such as electricity, weather, and plants. Allow
Objectives
To recognize compound words frequently used in science
To use context to complete sentences

DIRECT INSTRUCTION
- Remind the children that compound words are words made up of two independent word parts, each of which can stand alone.
- Have the children suggest compound words with which they are familiar and write their words on the board. Divide the class into teams of three and challenge them to think of as many compound words as they can with the following words:
  - rain: raindrop, raincoat, rainbow, rainfall, rainstorm
  - air: airplane, airport, aircraft, airline, airwaves, airmail
  - book: bookcase, bookend, bookshelf, bookstore, cookbook, textbook, bookworm, bookmark, scrapbook
- Remind the children that the more science words they know, the better they will be able to understand the scientific material that they read.
- Help the children find page 119 in their books. Directions (top of page): Draw lines to make three compound words in each box. Write the words that you make on the lines.
- Explain that the words in the box are independent parts of compound words, all of which are related to science. Model drawing lines connecting word parts in the first box, then have the children complete the activity independently.
- When the children have completed the first part of the activity, move on to the exercise at the bottom of the page. Directions (bottom of page): Write the best word from the exercise above in each sentence.
- Have the children work independently to complete the sentences.

Vocabulary: Content Areas

Exercise 55b: Compound Science Words

Write the best word from the exercise above in each sentence.

1. A large ______ iceberg ______ floated in the cold water.
2. ______ Daylight ______ begins at dawn.
3. Another word for ______ backbone ______ is spine.
4. The ground shakes during an ______ earthquake ______.
5. A ______ raindrop ______ forms in the clouds and falls to the earth.
6. The ______ eardrum ______ moves back and forth when sound strikes it.
7. Long ago, people used a ______ sundial ______ to tell time.
8. We plugged the lamp into the ______ outlet ______.
9. An ______ earthworm ______ lives underground.

Writing

Have the children write short scripts that could be used on a segment of a children's science television show. Display a list of possible topic choices such as fossils, pollution, rocks and minerals, and planets. Have each child select a topic to research and then write two or three paragraphs about it. The children should highlight any science words they use.

Language

Have the children use science words in games of Guess That Word. Have one child choose a word and draw a line for each letter in a word. A partner asks questions, such as Is there a p in the word? If so, the child writes the letter on the correct line. The children should keep track of how many guesses it takes to get each word.

the children to select books or articles of interest to them. As they read, have them make a list of the technical and specialized words they find and then look up the definitions of unfamiliar words in a dictionary.

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Science Words

Read the words in the box. Circle the number of syllables in each word.

atmosphere  1  2  3  4
environment   1  2  3  4
minerals    1  2  3  4
dissolve  1  2  3  4
evaporates  1  2  3  4
planet    1  2  3  4
electric  1  2  3  4
fossils    1  2  3  4
pollute   1  2  3  4

Write the best word from the box above in each sentence.

1. When water _________evaporates________ it forms clouds.

2. Smoke and smog _________pollute________ the air.

3. The _________atmosphere________ is the air that surrounds the earth.

4. Thomas Edison invented the _________electric________ light.

5. People should take care of the _________environment________ in which they live.

6. Venus is the _________planet________ closest to Earth.

7. Sugar will _________dissolve________ in warm water.

8. _________Fossils________ help scientists learn about dinosaurs.

9. Iron and zinc are _________minerals________ that come from the earth.
Compound Science Words

Draw lines to make three compound words in each box. Write the words that you make on the lines.

- back • worm
- earth • bone
- sun • dial
- ______ backbone
- ______ earthworm
- ______ sundial

- earth • berg
- ear • drum
- ice • quake
- ______ earthquake
- ______ eardrum
- ______ iceberg

- out • let
- rain • light
- day • drop
- ______ outlet
- ______ raindrop
- ______ daylight

Write the best word from the exercise above in each sentence.

1. A large ______ iceberg ______ floated in the cold water.
2. ______ Daylight ______ begins at dawn.
3. Another word for ______ backbone ______ is spine.
4. The ground shakes during an ______ earthquake ______.
5. A ______ raindrop ______ forms in the clouds and falls to the earth.
6. The ______ eardrum ______ moves back and forth when sound strikes it.
7. Long ago, people used a ______ sundial ______ to tell time.
8. We plugged the lamp into the ______ outlet ______.
9. An ______ earthworm ______ lives underground.
UNIT 3

LESSON 55
Science Words/Compound Words in Science
Student Edition pages 118-119
BLM 46

Objectives
To review recognition of words commonly used in science
To recognize affixed forms of words commonly used in science
To review recognition of compound words commonly used in science

RETEACH AND REINFORCE
Write the words evaporate, explore, solve, and pollute, and have the children read them. Remind them that these are all science words. Have the children discuss word meanings.

Instruct the children that many of their science words can have suffixes. When the suffix -tion is added to verbs above, they become nouns that describe what happens when the actions take place (evaporation, exploration, solution, pollution).

Help the children recognize that the suffix -tion is pronounced /shun/. If a vowel precedes this suffix, it usually (but not always) has the long sound (open syllable) and is the accented syllable. Clap the words with the children and have them nod their heads for the primary accent. Have the children come to the board to separate the syllables and write the primary accented syllables in uppercase letters (ex/plor/ation).

Other science words with the -tion suffix include: observation, illustration, hibernation, nutrition, condensation, extinction, precipitation, collection, evolution, constellation. Remind the children that if they come across words that are long and look difficult, they should look for prefixes and/or suffixes. Have the children decode the words above by first covering the suffix -tion to find the base words. Ask the children to break the syllables, indicate the accented syllable, and discuss word meanings.

PRACTICE
For extra practice, make two packs of word cards: one with the base words (evaporate, solve, observe, extinct, etc.) and one with the affixed words above. Have the children play Remembering, shuffling pairs of cards and placing them face down. The children take turns turning over two cards each. If the cards match, the child keeps them and turns over two more. If they do not match, the cards are turned back and the next child turns over two cards, trying to find a pair. As the children turn cards, they should say the words aloud. You may even require that when a pair is found, the child must use the words in sentences.

The children will also meet compound words in their science units. Review with the children that when they come across a long word that looks difficult, the first thing they should do is look to see if the word is a compound word, a word that consists of two smaller words that have been put together.

The activity sheet they completed included several common science compound words. Review those with the children. Others include shoreline, coastline, seacoast, seashore, dragonfly, sunspot, starlight, hailstone, cloudburst, sandstone, waterfall. Ask the children to relate their experiences with these words as a way of revealing meaning.
Write the compound words on cards and cut between the words. Pass out the cards with the first words to the children. Hold up one card at a time from the pack with the second words and have the child who can make a compound word claim the card and use the word in a sentence.

**APPLY**

Distribute BLM 46. Before having the children independently attempt the BLM, review the -tion words and their meanings.

**Directions:**

Write the correct -tion word for each definition. Next to each word you write, fill in the number of syllables it has. At the bottom of the page write the two words that make each compound word. If the word is not a compound word, leave the lines blank.
Write the correct -tion word for each definition. Next to each word you write, fill in the number of syllables it has.

**constellation** illustration nutrition

**observation** precipitation

1. healthy food: _______________ ___
2. stars in a pattern: _______________ ___
3. study: _______________ ___
4. picture: _______________ ___
5. rain: _______________ ___

Write the two words that make each compound word. If the word is not a compound word, leave the line blank.

6. seashore ____________ ____________
7. hailstone ____________ ____________
8. cloudburst ____________ ____________
9. environment ____________ ____________ ____________
10. telescope ____________ ____________
11. waterfall ____________ ____________
UNIT 3

Lesson 55a
Science Words
Student Edition page 118
No BLMs

Objectives
To understand the meanings of words frequently used in science reading material
To use context to complete sentences

PREPARE
Collect a variety of science texts on topics such as weather, the solar system, rocks and minerals, biology, energy, etc. Allow the children to browse through the books before beginning this lesson.

TEACH
Write the word science in the center of the board. Ask the children to brainstorm words related to science. Create a web using their words and ideas. Guide children to include words from their science texts and curriculum.

Say: When we study science, we learn about the world around us. Scientists make new discoveries about animals, health, the earth, and many other things every day. You can learn about science from books like these (point to the books in the classroom). We need to know “science words” so that when we read about science, we understand what our books are telling us.

APPLY
Give each student a blank piece of paper. Assign them a science word and ask them to write the word on the back of the paper. Ask them to fold the paper in half lengthwise. On the left side of the paper, have the children write What does it look like? Ask them to draw a picture that illustrates the word. On the other half, have them write What does it sound like? Ask them to write a description of what the word sounds like. For example, dissolve could look like a cup of tea with a spoonful of sugar being stirred in. Dissolve may sound like the clinking of the spoon against the cup.

When the children are finished, collect the cards and redistribute them. Ask each student to guess which word is shown on their card. After the activity, post the cards in the classroom.

Ask the children to find and complete page 118 in their books. Read the directions aloud.
OBJECTIVES

To recognize compound words frequently used in science reading material
To use context to complete sentences

PREPARE

Review the definition of compound words. Remind the children that compound words are made up of smaller words that can stand alone.

Write the following words on index cards: rain, drop, butter, fly, rain, bow, rain, fall, rain, storm, earth, worm, back, bone, sun, dial, ear, drum, day, light, earth, quake, out, let, land, slide, hail, stone, lime, stone, sand, stone, gem, stone, under, water, tube, worms, sun, light, snow, flake, snow, fall, thunder, bolt, wind, storm, in, let, sea, water, sea, weed.

TEACH

Say: Often, the words that we read in science books are compound words. For example, we see the word raindrop when we study weather. We see the word butterfly when we learn how caterpillars turn into butterflies.

Spread the index cards out on a table. In pairs, ask the children to match the smaller words to create compound words. Review the words together.

Ask each student to choose one compound word from the index cards. Ask each student to try to find the word in one of the science books in the classroom. If the students can find their words, ask them to write a sentence using the word. If time allows, ask the students to find two more words and write sentences to correspond.

APPLY

Ask the children to find and complete page 119 in their books. Review the words at the top of the page.
Lessons 55a and 55b

Science Words

Compound Science Words

Student Edition pages 118–119

Assessment Quick Check

Do the children understand the meaning of words frequently used in science reading material?

Do the children recognize compound words frequently used in science reading material?

Objectives

To understand the meaning of words frequently used in science reading material
To recognize compound words frequently used in science reading material
To use context to complete sentences

Teaching Points

Content area words may be a source of difficulty for English language learners. They are often multisyllabic words that are difficult to understand through context. Rather than list science words out of context, which may prove difficult for the children, gather several low-level nonfiction books with science topics. Ask the children to look through them and identify words they know. Collect these words on the board. Ask the children to go through the books a second time to collect words they don’t know. Make another list on the board. Go through both lists, asking for volunteers to tell what each word is. If the word is unfamiliar to everyone, try to obtain a picture of it, or draw a picture on the board. If you cannot, explain the word to the best of your ability.

Draw attention to any compound words that come up in the children’s reading. Write the compound word on another part of the board and ask for a volunteer to “split” the word into its two parts.

Have each child pick one word from the list of words they did not know and illustrate it. Post the pictures in the science classroom, if possible, or tie them together to make a book. Title the book Science Words.

Picture Glossary Words

smoke
From the Picture Glossary

Phonics PLUS C – Lesson 55

S

sled

slide

smoke

snake

sneeze

snow