Power Vocabulary is a systematic and individualized approach to vocabulary development that enables teachers to assist students to improve their reading comprehension skills. Power Vocabulary consists of two word groups—specialized and general-usage words.

**Specialized words** label concepts that support subject matter. These words are the technical vocabulary of a content area. In science, specialized words include biodiversity and predator. In history, specialized words include hieroglyphic and chariot. Specialized vocabulary also includes words we use every day that take on specialized meanings in a particular content area. For example, the word bill takes on different meanings when we talk about money (dollar bill or electric bill) than when we talk about government (a bill that becomes an act or a law).

**General-usage words** are the words that have widely acknowledged meanings and that hold the content of a passage together. These words are selected because some readers may not be familiar with them. Examples of general-usage words are morose and diligent.

Fifteen Power Vocabulary words have been identified for this Kids Discover title. Use the word cards or select a few blackline masters to preview the vocabulary words to help students be more confident and read more fluently as they read these words in context. Or use the cards or masters to review words after students have read Kids Discover.
Use the vocabulary cards (pages 3–6 of this Power Vocabulary booklet) and the following activities to introduce or review some Power Vocabulary words students will encounter while reading Kids Discover Chemistry.

**Words You Know and Words to Know**

- Ask students to draw a four-column chart and label the columns “I don’t know,” “I’ve seen or heard but don’t know the meaning,” “I think I know the meaning,” and “I know the meaning.” Present each word and its sample sentence to students. Ask them to write the word in the column that shows how well they know the meaning of the word.

**Memory Game**

- Copy the word and definition pages on separate sheets of paper. Cut out the cards and place them facedown on a table. Have students play a memory game by matching words and definitions. Students should read the words and definitions aloud each time they have a match to reinforce the pronunciation and definition.

**Matching**

- Copy the word and definition pages on separate sheets of paper and cut out the cards. Paste the word cards around the edge of a tagboard. Ask students to attach the definitions to their words using clothespins.

- **Personal Dictionary**
  - Copy the word and definition pages back-to-back for each student. Have students cut out the cards and place them in alphabetical order. To make personal dictionaries, students can staple the cards together in a flipbook or place them in a file box.

- **New Word Cards**
  - Have students create their own vocabulary cards for unfamiliar general-usage or content words as they read Kids Discover.

- **Skimming the Text**
  - Help students practice skimming text. Read a sentence or word and the page number in the magazine where it is located. (The sentences and page numbers are provided on the definition side of the cards.) Model how to skim the page for the word or sentence. Then have students practice skimming by looking for other words or sentences.

  - **Challenge**: Give students a sentence without the page number. Encourage them to skim the magazine for the appropriate topic pages and then skim for the word.

- **Dictionary Skills**
  - Practice dictionary skills by asking students to find the guide words on the page where a Power Vocabulary word is located in a dictionary. Also ask students to search for multiple meanings of words, synonyms, antonyms, and other word forms or parts of speech for the word.

- **Journal Writing**
  - After working with the words and definitions, encourage students to use the words when writing essays and in their journals.

- **Dangling Definitions**
  - On sturdy paper, make enlarged copies of the word and definition cards printed back-to-back. Punch a hole in the top center of each card and attach to the ceiling with string.

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**bizarre**

*(bi-zar)*

adjective

**BIZARRE**: very strange or odd

★ The party was filled with bizarre characters wearing black masks and purple ties.

★ However, it takes C rushing 770 years to complete its bizarre horseshoe orbit, which is made up of tightly wound spirals. (p. 17)

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# BIZARRE: very strange or odd

**bizarre** *(b i-za r)*

adjective

Kids Discover Moon
abundant (uh-bun-duhnt) adjective

anagram (an-uh-gram) noun

designate (dez-ig-nayt) verb

emit (i-mit) verb

essential (uh-sen-shuhhl) adjective

flammable (flam-uh-buhhl) adjective

fluid (floo-id) adjective

formula (for-myuh-luh) noun
ANAGRAM: word or phrase formed by rearranging the letters of another word or phrase
★ The words they see are an anagram for the eyes.
★ Spandex (an anagram of expands) is a fabric invented by a chemist in 1959. (p. 4)

ABUNDANT: plentiful; in great numbers
★ The river once had an abundant supply of fish.
★ Hydrogen, the most abundant element in the universe, is the sun’s fuel. (p. 5)

DESIGNATE: to name
★ The fourth Thursday in November is designated Thanksgiving Day in the United States.
★ IYC 2011 was designated by the United Nations as a worldwide celebration of chemistry—its achievements and contributions to the well-being of all people. (p. 9)

FLAMMABLE: easily set on fire
★ Flammable materials, such as paper, cloth, and wood, burn easily.
★ Balloons and blimps used to be filled with hydrogen because it is less dense than air, but now helium is used because hydrogen is very flammable. (p. 5)

ESSENTIAL: very necessary
★ Fruits and vegetables are an essential part of a healthful diet.
★ The Bunsen burner lets scientists make the flame hotter or cooler by changing how much gas and air the burner uses and is an essential piece of laboratory equipment. (p. 6)

FORMULA: a combination of symbols used to show what makes up a chemical compound
★ The chemical formula for water is H₂O.
★ Originally made from tree sap, today’s gum is made by a formula created by chemists. (p. 12)

FLUID: flowing; being able to flow
★ Both liquids and gases are fluid.
★ Why is water fluid? (p. 2)
intensity

(in-tens-uh-tee)

noun

KIDS DISCOVER Chemistry

interior

(in-tir-ee-uhr)
	noun

KIDS DISCOVER Chemistry

larva

(lar-vuh)

noun

KIDS DISCOVER Chemistry

minimize

(min-uh-myz)

verb

KIDS DISCOVER Chemistry

porous

(por-us)

adjective

KIDS DISCOVER Chemistry

reaction

(ree-ak-shun)
	noun

KIDS DISCOVER Chemistry

solution

(suh-loo-shun)

noun

KIDS DISCOVER Chemistry

KIDS DISCOVER VOCABULARY CARDS
INTERIOR: inside; the inner part
★ The building’s interior is being remodeled to make more offices.
★ It comes from Earth’s interior. (p. 6)

INTENSITY: amount of strength
★ The intensity of the sunlight made me squint.
★ This reduces the intensity of the signal that your brain interprets as pain. (p. 14)

MINIMIZE: to limit or reduce as much as possible
★ Getting a flu vaccine can help minimize the chances of getting the flu.
★ In all cases green chemistry requires that the processes and products minimize harm to human health and the environment. (p. 16)

LARVA: the wormlike form of an insect before it becomes an adult
★ A caterpillar is the larva of a butterfly or moth.
★ The spinosad was then able to release slowly and control the mosquito larvae in the water. (p. 17)

REACTION: chemical change in which substances produce other substances
★ Mixing vinegar and baking soda results in a chemical reaction that produces carbon dioxide and water.
★ The chemical reaction results in a purple color to reveal the print. (p. 3)

POROUS: full of tiny holes that gases or liquids can pass through
★ Water can seep through paper because the paper is porous.
★ Since glass and plastic are not porous, the oil from a person’s skin remains on the surface of these materials. (p. 3)

SOLUTION: mixture in which the molecules of the combining substances are evenly distributed
★ Lemonade is a solution of lemon juice, water, and sugar.
★ Investigators spray a solution of luminol, hydrogen peroxide, and other chemicals where they suspect the presence of blood. (p. 16)
**Chemistry Dictionary List**

**ABUNDANT**
- **Pronunciation**: (uh-bun-duhnt)
- **Part of Speech**: adjective
- **Definition**: plentiful; in great numbers
  - ★ The river once had an abundant supply of fish.

**Word Used in Kids Discover**
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**Word Used in Kids Discover**
- ★ IYC 2011 was designated by the United Nations as a worldwide celebration of chemistry—its achievements and contributions to the well-being of all people. (p. 9)

**EMIT**
- **Pronunciation**: (i-mit)
- **Part of Speech**: verb
- **Definition**: to give off
  - ★ The sun and other stars emit heat and light.

**Word Used in Kids Discover**
- ★ Bunsen also developed the spectroscope, an instrument that can identify a substance by the colors of light it emits when heated and glowing. (p. 6)

**ESSENTIAL**
- **Pronunciation**: (uh-sen-shuhl)
- **Part of Speech**: adjective
- **Definition**: very necessary
  - ★ Fruits and vegetables are an essential part of a healthful diet.

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**FLAMMABLE**
- **Pronunciation**: (flam-uh-buhl)
- **Part of Speech**: adjective
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  - ★ Flammable materials, such as paper, cloth, and wood, burn easily.

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**FLUID**
- **Pronunciation**: (floo-id)
- **Part of Speech**: adjective
- **Definition**: flowing; being able to flow
  - ★ Both liquids and gases are fluid.

**Word Used in Kids Discover**
- ★ Why is water fluid? (p. 2)

**FORMULA**
- **Pronunciation**: (for-myuh-luh)
- **Part of Speech**: noun
- **Definition**: a combination of symbols used to show what makes up a chemical compound
  - ★ The chemical formula for water is H₂O.

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- ★ Originally made from tree sap, today’s gum is made by a formula created by chemists. (p. 12)
INTENSITY
Pronunciation  (in-tens-uh-tee)
Part of Speech  noun
Definition  amount of strength
★ The intensity of the sunlight made me squint.
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★ This reduces the intensity of the signal that your brain interprets as pain. (p. 14)

INTERIOR
Pronunciation  (in-tir-ee-uhr)
Part of Speech  noun
Definition  inside; the inner part
★ The building’s interior is being remodeled to make more offices.
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LARVA
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Definition  the wormlike form of an insect before it becomes an adult
★ A caterpillar is the larva of a butterfly or moth.
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Pronunciation  (min-uh-myz)
Part of Speech  verb
Definition  to limit or reduce as much as possible
★ Getting a flu vaccine can help minimize the chances of getting the flu.
Word Used in Kids DISCOVER
★ In all cases green chemistry requires that the processes and products minimize harm to human health and the environment. (p. 16)

POROUS
Pronunciation  (por-us)
Part of Speech  adjective
Definition  full of tiny holes that gases or liquids can pass through
★ Water can seep through paper because the paper is porous.
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★ Since glass and plastic are not porous, the oil from a person’s skin remains on the surface of these materials. (p. 3)

REACTION
Pronunciation  (ree-ak-shun)
Part of Speech  noun
Definition  chemical change in which substances produce other substances
★ Mixing vinegar and baking soda results in a chemical reaction that produces carbon dioxide and water.
Word Used in Kids DISCOVER
★ The chemical reaction results in a purple color to reveal the print.

SOLUTION
Pronunciation  (suh-loo-shun)
Part of Speech  noun
Definition  mixture in which the molecules of the combining substances are evenly distributed
★ Lemonade is a solution of lemon juice, water, and sugar.
Word Used in Kids DISCOVER
★ Investigators spray a solution of luminol, hydrogen peroxide, and other chemicals where they suspect the presence of blood. (p. 16)
Crossword

Across
1. to name
5. full of tiny holes that gases or liquids can pass through
7. amount of strength
9. flowing; being able to flow
10. the wormlike form of an insect before it becomes an adult
12. to limit or reduce as much as possible
13. word or phrase formed by rearranging the letters of another word or phrase
14. to give off

Down
2. mixture in which the molecules of the combining substances are evenly distributed
3. plentiful; in great numbers
4. very necessary
6. chemical change in which substances produce other substances
8. a combination of symbols used to show what makes up a chemical compound
9. easily set on fire
11. inside; the inner part
What anagram for *smile* can you make with borax, glue, and water?
Matching

For each vocabulary word in the left column, locate its definition in the right column. Write the number of the correct definition in the blank before the word.

______ abundant 1. word or phrase formed by rearranging the letters of another word or phrase

______ anagram 2. the wormlike form of an insect before it becomes an adult

______ designate 3. very necessary

______ emit 4. to limit or reduce as much as possible

______ essential 5. amount of strength

______ flammable 6. to give off

______ fluid 7. inside; the inner part

______ formula 8. mixture in which the molecules of the combining substances are evenly distributed

______ intensity 9. plentiful; in great numbers

______ interior 10. chemical change in which substances produce other substances

______ larva 11. easily set on fire

______ minimize 12. full of tiny holes that gases or liquids can pass through

______ porous 13. a combination of symbols used to show what makes up a chemical compound

______ reaction 14. to name

______ solution 15. flowing; being able to flow
Name ____________________________________________ Date _________________

Sentences

Fill in each blank with the word from the box that best completes the sentence.

abundant  flammable  larva
anagram   fluid    minimize
designated formula porous
emitted   intensity reaction
essential interior solution

1. Green chemistry tries to produce solutions that will ____________ negative effects on the environment.
2. Because they are not ____________, plastic containers can be used to hold water.
3. NaCl is the chemical ____________ for common table salt.
4. The ____________ of a monarch butterfly is a striped caterpillar.
5. Salt water is a ____________ of salt and water.
6. The word team is an ____________ for the words tame, meat, and mate.
7. The United Nations has ____________ 2011 as the International Year of Chemistry.
8. The moon reflects the light ____________ by the sun.
9. Rust is a result of a chemical ____________ of iron and oxygen when water is present.
10. Because it is ____________, water can be poured from one container into another.
11. The ____________ of the Statue of Liberty has 353 steps leading to its crown.
12. The photometer is a tool that is used to measure the ____________ of light.
13. Nitrogen is the most ____________ gas in Earth’s air.
14. Food, exercise, and sleep are ____________ to good health.
15. ____________ substances, such as paper and wood, burn easily.
**Across**

1. to name

5. full of tiny holes that gases or liquids can pass through

7. amount of strength

9. flowing; being able to flow

10. the wormlike form of an insect before it becomes an adult

12. to limit or reduce as much as possible

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**Down**

2. mixture in which the molecules of the combining substances are evenly distributed

3. plentiful; in great numbers

4. very necessary

6. chemical change in which substances produce other substances

8. a combination of symbols used to show what makes up a chemical compound

9. easily set on fire

11. inside; the inner part
Word Find

Circle each word from the box in the letter grid below. The words are up and down, across, and backwards. Then, going across each row starting at the top left, place each unused letter on a blank until you reveal the answer to the question.

<table>
<thead>
<tr>
<th>ABUNDANT</th>
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</tr>
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<tbody>
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<td>SOLUTION</td>
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L S L A I T N E S S E M M A
A B U N D A N T I M E A L
R E T A N G I S E D F R N U
V Y T I S N E T N I L G M
A I N T E R I O R L U A M R
I F L A M M A B L E E N O
M S O L U T I O N E D A Z F
P O R O U S N O I T C A E R

What anagram for smile can you make with borax, glue, and water?

SLIME
Matching

For each vocabulary word in the left column, locate its definition in the right column. Write the number of the correct definition in the blank before the word.

9. abundant

1. word or phrase formed by rearranging the letters of another word or phrase

1. anagram

2. the wormlike form of an insect before it becomes an adult

14. designate

3. very necessary

6. emit

4. to limit or reduce as much as possible

3. essential

5. amount of strength

11. flammable

6. to give off

15. fluid

7. inside; the inner part

13. formula

8. mixture in which the molecules of the combining substances are evenly distributed

5. intensity

9. plentiful; in great numbers

7. interior

10. chemical change in which substances produce other substances

2. larva

11. easily set on fire

4. minimize

12. full of tiny holes that gases or liquids can pass through

12. porous

13. a combination of symbols used to show what makes up a chemical compound

10. reaction

14. to name

8. solution

15. flowing; being able to flow
Fill in each blank with the word from the box that best completes the sentence.

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1. Green chemistry tries to produce solutions that will **minimize** negative effects on the environment.

2. Because they are not **porous**, plastic containers can be used to hold water.

3. NaCl is the chemical **formula** for common table salt.

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5. Salt water is a **solution** of salt and water.

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