

Read the following passage, taking note of the **boldface** words and their contexts. These words are among those you will be studying in Unit 9. As you complete the exercises in this Unit, it may help to refer to the way the words are used below.

### From Fire Arrows to Space Flight: A History of Rockets

<Informational Essay>

As early as 400 BCE, **logical** and **observant** inventors in Greece used steam to propel simple devices. A man named Archytas used steam to send a wooden pigeon gliding along high wires. These early steam-propelled devices were of little practical use. They were mainly used for entertainment. Over a thousand years later and thousands of miles away from Greece, Chinese alchemists learned to make gunpowder. By around 1100 CE, the Chinese were using gunpowder to make fireworks, which were used for celebrations. Simple grenade-like bombs were used in war. Before long, the Chinese learned to use gunpowder to

propel "fire arrows" through the air. The same basic principle of propulsion was at work in Archytas's **giddy** pigeon and in Chinese fire arrows. But the special properties of gunpowder made the fire arrows useful tools of war.

In 1232, Chinese soldiers used fire arrows to defeat Mongol invaders at the Battle of Kai-Keng. This is the first known use of rockets in the history of warfare. To make these simple rockets, the Chinese filled a short bamboo tube with gunpowder. They capped one end of the tube. Then they attached it to an arrow. Then the gunpowder was ignited. It produced fire, smoke, and gas that escaped through the open end of the tube. This force propelled the rocket through the air. The arrow helped to keep the rocket steady during flight, though its course remained quite **variable**. These earliest rockets may not always have done much damage on **impact**. But a **deluge** of many fire arrows could cause **outright** fear in the enemy. Gaining something in defeat, the Mongols learned to make similar rockets. The new technology spread rapidly across Asia and Europe. But improvements in the basic design proceeded slowly at a **sluggish** pace until more modern days.



Early Chinese fire arrow rockets, c. 1000

Seven Inch Congreiv, or Explosion Rocket

32 Pounder Congreiv

32 Pounder Shell

Mysorean rockets

By the **verge** of the industrial age, military rockets were becoming more effective weapons. In 1780, Hyder Ali of Mysore, a kingdom in India, used heavy, iron-cased rockets to defeat British forces. His son, Tipu Sultan, used the same rockets against the British with similar success. Mysorean rockets were not used merely to scare and **intimidate** the enemy. They were deadly weapons that cut down troops in their path. They were also used to set fire to ammunition and supplies. Determined to **avenge** themselves, British forces finally defeated Tipu Sultan's army in 1799. The Kingdom of Mysore **ceded** territory to the British Empire and became **subordinate** to its authority. The British soon developed their own weapons. The British based their rockets on the Mysorean rockets. A model described by William Congreve in 1807 set the standard for the Congreve rocket.

The British used the Congreve rocket against the United States during the War of 1812. The "rockets' red glare" remembered in the "Star-Spangled Banner" refers to the fiery **tint** of Congreve rockets in action.

By the nineteenth century, technology no longer moved at a **saunter**. The rate of change in tools of peace and war was accelerating as never before. Advances in artillery made rockets obsolete for several decades. But by the twentieth century, engineers were designing sophisticated rockets for use as spacecraft and as devastating missile systems.

Rockets returned to the forefront of military technology. They also helped **liberate** humanity from Earth's gravity to explore outer space. And while rocket science has come a long way since its beginnings, it's likely to wind up light years ahead of its present state, in time.



Saturn V launch

Audio



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## Definitions

Note the spelling, pronunciation, part(s) of speech, and definition(s) of each of the following words. Then write the appropriate form of the word in the blank spaces in the illustrative sentence(s) following. Finally, study the lists of synonyms and antonyms.

**1. avenge**  
(ə venj')

(v.) to get revenge for, get even for, settle a score; to punish someone or get satisfaction for a wrong or injury

In Shakespeare's *Hamlet*, the title character vows to \_\_\_\_\_ his father's death.

SYNONYM: retaliate

**2. cede**  
(sēd)

(v.) to give up, surrender; to hand over to another

Spain \_\_\_\_\_ territory to France.

SYNONYMS: deliver up, transfer

**3. deluge**  
(del' yūj)

(n.) a great flood; a heavy fall of rain; anything that comes in a vast quantity (like a flood); (v.) to flood

Owners are hoping this summer will bring a \_\_\_\_\_ of visitors to their new theme park in Minneapolis.

A torrential downpour \_\_\_\_\_ the entire town.

SYNONYMS: (v.) swamp, inundate

ANTONYMS: (n.) trickle, dribble

**4. discretion**  
(dis kresh' ən)

(n.) good judgment; care in speech and action; freedom to judge or choose

My teacher suggested I use \_\_\_\_\_ in dealing with my difficult classmate.

SYNONYMS: prudence, tact, discrimination

**5. giddy**  
(gid' ē)

(adj.) dizzy; light-headed; lacking seriousness

After the long and grueling race, the marathoner felt \_\_\_\_\_ and exhausted.

SYNONYMS: faint, frivolous, flighty

ANTONYMS: levelheaded, serious, earnest, sober

**6. impact**  
(n., im' pakt;  
v., im pakt')

(n.) the striking of one object against another; the shock caused by a collision; (v.) to affect, especially forcefully

The \_\_\_\_\_ of the car crash destroyed both vehicles, but miraculously no one was hurt.

Budget cuts will \_\_\_\_\_ the number of hours the public library can stay open.

SYNONYMS: (n.) collision, blow, effect

**7. intimidate**  
(in tim' ə dāt)

(v.) to make timid or frighten by threats; to use fear to get someone to do (or not to do) something

Bullies may try to \_\_\_\_\_ us, but if we act brave and stand tall, we can diminish their threats.

SYNONYMS: browbeat, hector

**8. liberate**  
(lib' ə rāt)

(v.) to free from bondage or domination; to release

The police \_\_\_\_\_ the anxious hostages after sixteen hours of confinement.

SYNONYMS: untie, unshackle

ANTONYMS: imprison, fetter, shackle, bind

**9. logical**  
(ləj' ə kəl)

(adj.) reasonable; making use of reason and good sense

Our parents are constantly encouraging us to look for \_\_\_\_\_ solutions to our problems.

SYNONYMS: rational, sensible

ANTONYMS: absurd, ridiculous, unsound, preposterous

**10. misrepresent**  
(mis rep ri zent')

(v.) to give a false or untrue idea

If witnesses \_\_\_\_\_ the facts, the defense attorney has proof to support our story.

SYNONYMS: falsify, twist, exaggerate

**11. optional**  
(öp' shə nəl)

(adj.) left to one's own choice; not required

The hotel will charge us for breakfast and dinner, but lunch is \_\_\_\_\_.

SYNONYMS: voluntary, discretionary

ANTONYMS: required, mandatory, compulsory

**12. outright**  
(aüt' rīt)

(adj.) complete; instantaneous; without reservation, thoroughgoing; (adv.) completely, instantaneously

When the teacher asked her why she didn't do her homework, she told an \_\_\_\_\_ lie.

Even though they had already heard it several times, the hilarious joke made them laugh \_\_\_\_\_.

SYNONYMS: (adj.) total, out-and-out; (adv.) utterly, instantly

ANTONYMS: (adj.) partial, incomplete; (adv.) by degrees

**13. rendezvous**  
(rän' də vü)

(v.) to meet in accordance with a plan; (n.) a meeting by agreement; a meeting place

Let's all agree to \_\_\_\_\_ by the fountain on Saturday afternoon.

They kept their \_\_\_\_\_ a secret.

SYNONYMS: (n.) date, assignation

14. **rotund**  
(rō tænd')

(adj.) rounded and plump; full or rich in sound  
My friends like to display the largest and most \_\_\_\_\_ pumpkin outside their front door.  
SYNONYMS: portly, sonorous; ANTONYMS: angular, lanky, gaunt

15. **saunter**  
(sôn' tər)

(v.) to stroll; walk in an easy, leisurely way; (n.) a stroll  
The star \_\_\_\_\_ past his adoring fans.  
It's such a beautiful day to take a \_\_\_\_\_.  
SYNONYMS: (v.) ramble, amble; (n.) promenade  
ANTONYMS: (v.) speed, race, hurry, dash, scurry, rush

16. **sluggish**  
(slæg' ish)

(adj.) lazy; slow-moving; not active, dull  
After a big lunch, I feel \_\_\_\_\_.  
SYNONYMS: unhurried, lethargic; ANTONYMS: energetic, brisk

17. **subordinate**  
(adj., n.,  
sə bôr' də nət;  
v., sə bôr' də nāt)

(adj.) lower in rank or position, secondary; (n.) one who is in a lower position or under the orders of someone else; (v.) to put in a lower or secondary position  
A corporal is \_\_\_\_\_ to a sergeant.  
Let's ask a \_\_\_\_\_ to help us file.  
Parents often \_\_\_\_\_ their own wishes for the sake of their children's needs.  
SYNONYMS: (n.) assistant, helper  
ANTONYMS: (adj.) superior, higher; (n.) chief, supervisor

18. **tint**  
(tint)

(n.) a delicate color or hue; a slight trace of something; (v.) to give color to something; to dye  
He's painting his room a \_\_\_\_\_ of blue.  
I want to \_\_\_\_\_ my sunglass lenses pink.  
SYNONYMS: (n.) tone; (v.) color, stain; ANTONYM: (v.) bleach

19. **variable**  
(vâr' ē ə bəl)

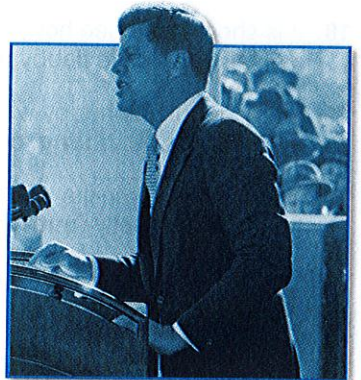
(adj.) likely to undergo change; changeable; (n.) a value or quantity that varies; a symbol for such  
Spring weather can be extremely \_\_\_\_\_.  
In math, the letter x can stand for a \_\_\_\_\_.  
SYNONYMS: (adj.) fluctuating, shifting, inconstant  
ANTONYMS: (adj.) constant, unchanging, steady

20. **verge**  
(vərj)

(n.) the point at which something begins or happens; a border; (v.) to incline, tend toward, approach; to be in the process of becoming something else  
I was on the \_\_\_\_\_ of tears today.  
That chatter \_\_\_\_\_ on baby talk.  
SYNONYMS: (n.) threshold, edge

### Choosing the Right Word

Select the **boldface** word that better completes each sentence. You might refer to the passage on pages 108–109 to see how most of these words are used in context.



President Kennedy, in his famous Inaugural Address, said: "Ask not what your country can do for you—ask what you can do for your country."

- In times of crisis, we may be called on to (**deluge, subordinate**) our personal interests to the needs of the nation as a whole.
- I look forward to the time when my parents will agree that I have reached the "age of (**discretion, misrepresentation**)."
- Modern household appliances have done much to (**liberate, deluge**) homemakers from tedious and time-consuming chores.
- Many Western films include a character who is out to (**intimidate, avenge**) a wrong done to a close friend or relative.
- Wasn't it annoying to see Michael (**verge, saunter**) into the party as though he were the coolest person ever to walk the face of the earth?
- He soon learned that the moods of a youngster—happy one moment, miserable the next—can be as (**variable, sluggish**) as the winds.
- If you know that you are late for school, why do you (**saunter, rendezvous**) along as though you had all the time in the world?
- A fastball pitcher will often try to (**liberate, intimidate**) an opposing batter by "shaving" him with an inside pitch.
- At the State Fair, we separated to visit different exhibits, but we agreed to (**saunter, rendezvous**) at the refreshment stand at five o'clock.
- This biased editorial has deliberately (**misrepresented, avenged**) the stand of our candidate on the important issues of the election.
- Though once her peer, I became Caitlin's (**variable, subordinate**) when she was promoted to company president.
- We held a meeting to discuss why the sale of tickets to the class dance has been so (**sluggish, rotund**) and what we can do about it.
- Only the (**optional, outright**) repeal of this unfair nuisance tax will satisfy the voters.
- I knew my dog was not feeling well when he suddenly became (**deluged, sluggish**) and refused to get up.
- The aged millionaire, wishing to spend his last years in peace and quiet, (**ceded, impacted**) all his business interests to his sons.

- 16. It is good for you to "stand up for your rights," but you should not do so in a way that (**verges, subordinates**) on discourtesy.
- 17. It is up to the teacher's (**discretion, impact**) what topics can be chosen for our research papers.
- 18. It is shocking to see how, in just a few years, the lean young athlete has allowed himself to become flabby and (**giddy, rotund**).
- 19. Many people, unhappy with what nature has given them, seek to improve their appearance by (**tinting, ceding**) their hair.
- 20. There are times in life when you should be guided more by your feelings, without trying to be strictly (**outright, logical**) about everything.
- 21. The invitation to the party said that formal wear was (**optional, variable**).
- 22. Letters of protest (**deluged, tinted**) the Mayor's office when he proposed an increase in the sales tax.
- 23. We had regarded her as a rather (**logical, giddy**) young girl, but in this tough situation she showed that she had courage and good sense.
- 24. I plan to write a term paper that will discuss the different ways in which commercial television has had a major (**impact, verge**) on American life for more than sixty years.
- 25. The people rejoiced after being (**liberated, intimidated**) from oppression.

**Synonyms**

Choose the word from this Unit that is the same or most nearly the same in meaning as the **boldface** word or expression in the phrase. Write that word on the line. Use a dictionary if necessary.

- 1. taking an **elective** class \_\_\_\_\_
- 2. an **aide** to the principal \_\_\_\_\_
- 3. on the **brink** of a new beginning \_\_\_\_\_
- 4. according to the judge's **ruling** \_\_\_\_\_
- 5. could **bully** us into giving in \_\_\_\_\_
- 6. kissed the baby's **chubby** cheek \_\_\_\_\_
- 7. the jarring sound of the **crash** \_\_\_\_\_
- 8. as if they made an **appointment** with danger \_\_\_\_\_
- 9. had to **yield** that point in the debate \_\_\_\_\_
- 10. not to **distort** the facts of the case \_\_\_\_\_

**Antonyms**

Choose the word from this Unit that is most nearly opposite in meaning to the **boldface** word or expression in the phrase. Write that word on the line. Use a dictionary if necessary.

- 1. eating right in order to stay **lean** \_\_\_\_\_
- 2. your attendance is **obligatory** \_\_\_\_\_
- 3. expected to **tell the truth** \_\_\_\_\_
- 4. to **part** without saying goodbye \_\_\_\_\_
- 5. apologizing for their **tactlessness** \_\_\_\_\_

**Completing the Sentence**

From the words in this Unit, choose the one that best completes each of the following sentences. Write the correct word form in the space provided.

- 1. Many older residents of Paris can still recall the day in 1944 when Allied troops \_\_\_\_\_ the city from German occupation.
- 2. After the heavy meal, we felt so \_\_\_\_\_ that we just sat in the living room and watched whatever was on television.
- 3. Next year, when we have a stronger, more experienced team, we hope to \_\_\_\_\_ the crushing defeat we have just suffered.
- 4. By not ordering \_\_\_\_\_ features, we can hold down the cost of the new car we want to buy.
- 5. By late September, the leaves on the trees in the woods have begun to take on their normal autumn \_\_\_\_\_.
- 6. After being defeated in a war that lasted from 1846 to 1848, Mexico was forced to \_\_\_\_\_ vast territories to the United States.
- 7. Her argument was so \_\_\_\_\_ that she convinced us that her solution to the math problem was the correct one.
- 8. Our "truth in advertising" laws are designed to discourage manufacturers from \_\_\_\_\_ the virtues of their products.
- 9. We believe that the world is now on the \_\_\_\_\_ of new and exciting developments that may dramatically change the way we live.
- 10. Because of the lawyer's long experience in legal matters, we left it to his \_\_\_\_\_ how to proceed with the case.

11. When they realized that sweet talk and flattery were getting them nowhere, they tried to \_\_\_\_\_ me into doing what they wanted.
12. Every eye was on us as we \_\_\_\_\_ down Main Street in our new outfits.
13. The force of the head-on collision was so severe that the drivers of both vehicles were killed \_\_\_\_\_.
14. You may like to live where the sun shines all the time, but I prefer a more \_\_\_\_\_ climate.
15. Uncle Eddie, with his \_\_\_\_\_ figure, is often called on to play Santa Claus.
16. According to the eyewitness, the great \_\_\_\_\_ that arrived after the hurricane caused more damage than the winds.
17. Even fans sitting high in the stands could hear the \_\_\_\_\_ when the big fullback crashed into the line.
18. As a young and inexperienced employee, you cannot expect to hold more than a(n) \_\_\_\_\_ job in that big company.
19. Many people say that they become quite \_\_\_\_\_ when they look down from the top of a tall building.
20. The two groups of hikers, setting out from different points, have planned a(n) \_\_\_\_\_ at four o'clock at Eagle Rock.

### Writing: Words in Action

1. Look back at "From Fire Arrows to Space Flight: A History of Rockets" (pages 108–109). Think about how Archytas's wooden pigeon led to the invention of rockets. Write a letter to Archytas in which you tell him some of the effects, or consequences, of his invention over the centuries. Incorporate at least two details from the passage and three Unit words in your writing.
2. Imagination is what motivates people to invent. Write an editorial for your local newspaper stating what you think can be done to encourage creativity and technological innovations in your own community. Support your opinion with your observations, specific examples, the reading (refer to pages 108–109), or personal experience. Write at least three paragraphs, and use three or more words from this Unit.

## Vocabulary in Context

### Literary Text

The following excerpts are from *Anne of the Island* by L.M. Montgomery. Some of the words you have studied in this Unit appear in **boldface** type. Complete each statement below the excerpt by circling the letter of the correct answer.

1. Gilbert and Anne, happily unconscious that their future was thus being settled by Mrs. Rachel, were **sauntering** through the shadows of the Haunted Wood.

The act of **sauntering** involves

- |             |              |
|-------------|--------------|
| a. hiding   | c. running   |
| b. tumbling | d. wandering |

2. "But this morning I was quite well, so it couldn't have been the fever. I suppose if I did catch it last night it couldn't have developed so soon. I can remember that in daytime, but at three o'clock at night I never can be **logical**."

Someone who is **logical** is definitely NOT

- |             |             |
|-------------|-------------|
| a. confused | c. elderly  |
| b. lucid    | d. coherent |

3. "This has been Patty's Place ever since my brother Aaron left it to me in his will, and Patty's Place it shall remain until I die and Maria dies. After that happens the next possessor can call it any fool name he likes," concluded Miss Patty, much as she might have said, "After that—the **deluge**."

A **deluge** is a(n)

- |           |              |
|-----------|--------------|
| a. agenda | c. proposal  |
| b. flood  | d. residence |

4. To their right lay the harbor, taking on **tints** of rose and copper as it stretched out into the sunset. Before them the water shimmered, satin smooth and silver gray, and beyond, clean-shaven William's Island loomed out of the mist, guarding the town like a sturdy bulldog.

**Tints** of colors are

- |          |               |
|----------|---------------|
| a. noble | c. delicate   |
| b. loud  | d. measurable |

5. But Joseph [the cat] rashly sat up and yawned. [The other cat] Rusty, burning to **avenge** his disgrace, swooped down upon him. Joseph, pacific by nature, could fight upon occasion and fight well. The result was a series of drawn battles.

An animal who wants to **avenge** an action

- |               |               |
|---------------|---------------|
| a. gets even  | c. falls back |
| b. ignores it | d. acts aloof |



The 1934 film version of *Anne of Green Gables* focuses on the developing romance between Anne Shirley and Gilbert Blythe.

Interactive Quiz



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