Lexicon Lab 1

Teacher Copy of the Passage

Light Up the Sky

1   For years, fireworks have been used to celebrate holidays and community events. However, in recent years a change has come to the way we light up the night skies. Drones sometimes replace fireworks as a way to entertain crowds with a **spectacular** light show. A drone light show at the 2021 Tokyo Summer Olympics was one of the highlights of the

5   event. The crowd was delighted with a massive performance of moving, glowing lights.

Drones are unmanned aircraft that are controlled by a remote from the ground. Drones are used for many different purposes. Uses include search and rescue missions, checking remote properties and utility lines, delivering packages, taking photographs, or just having fun.

10   In 2012, the first drone light show was performed in Austria. Since then, drone light shows have become bigger, better, and more **elaborate**.

The drones used in light shows are smaller and lighter than other kinds of drones. Typically, these drones are made of lightweight plastic and foam and weigh under a pound. This light weight allows the drone to fly longer and move quickly.

15   A light show involves hundreds or even thousands of drones performing in the air. Each drone is fitted with an LED light that is programmed to switch off and on. The lights glow in different colors to create designs with different shapes and patterns. In addition, each drone is programmed with a specific flight path. This programming ensures that the

20 drones will not crash into each other and allows them to fly in a formation that creates a desired visual effect.

Drones can be **deployed** to create any pattern. They just need to be programmed correctly. Programmers use three-dimensional animation software to design the movement of the drones. It's just like planning the movements of a character in a cartoon.

Once the show is programmed, operators run tests to make sure it works. Testing does not
25 require the programmers to fly the drones. Instead, they use software that **simulates** the drones' sizes, speeds, and movements. Programmers watch the show on a screen to make sure everything is ready to go.

Drone light shows are not cheap. A small show can cost about $10,000, and prices can run higher than $300,000. The more drones involved, the higher the cost. That's why
30 the largest and most elaborate shows are seen mostly at major public events, such as the Olympics or the Super Bowl.

Despite the cost, drone light shows may one day replace traditional firework displays. Fireworks can be great fun to watch, but they do create a lot of problems. Fireworks are very loud, which can be upsetting to wild animals, pets, and many people. However,
35 drones produce just a soft hum.

Fireworks also create pollution. Their explosions release chemicals into the air and spent cartridges fall to the ground or into the water. In addition, setting off fireworks in dry climates can be dangerous because they can spark a fire. Fires can also occur if a misguided firework lands on a building roof or a vehicle.

40 Operators and audience members can be seriously hurt if a fireworks display goes wrong. This is much less likely to happen with a drone light show. Even if a drone falls from the sky, it is so lightweight that it is not likely to cause major damage or serious injuries. Finally, fireworks can be used only once, while drones can be reused multiple times.

As technology gets better, the things it can create often get better too. This is true of drone
45 light shows. We can only imagine what the future holds for drone light shows to come. It's likely that these shows will be even easier to create and more amazing to watch. So keep your eyes on the sky. You never know what you might see!

Learning Objective

- Students can accurately read and write multisyllable words, in isolation and in text.
- Students can accurately decode and define domain-specific vocabulary, using syllabication and the morphological structures of words.
- Students can read and respond to grade level text independently and proficiently.

DAY 1

## Warm Up   3 min

INTRODUCTION TO LEXICON LAB

Welcome to the **Lexicon Lab**! For the past 20 lessons, you have learned to accurately decode multisyllable words by identifying syllable patterns and applying both the simple and complex division rules. You have also studied meaningful parts of words, called *morphemes*. You are now ready to become word masters in the Lexicon Lab. The Lexicon Lab is a series of 10 lessons in which you will have the opportunity to apply your word study knowledge on a deeper level.

Before you begin your first Lexicon Lab, let's look at what the word **lexicon** means. The word *lexicon* is taken from a Greek word meaning "pertaining to words." Just like going to the gym builds strength for muscles, the Lexicon Lab will build your vocabulary strength and wisdom of words. Increasing your lexicon (or knowledge of words) will equip you with the tools to tackle text independently.

PRESENTATION

Lesson 21, Day 1
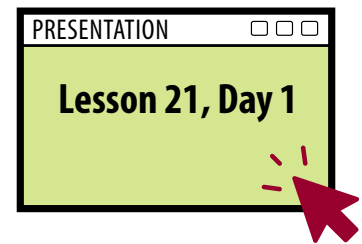
Multisyllable Word Work

10 min

READING MULTISYLLABLE WORDS

(Display paragraph 5 of "Light Up the Sky.")

A light show <u>involves</u> hundreds or even <u>thousands</u> of drones <u>performing</u> in the air. Each drone is fitted with an LED light that is <u>programmed</u> to switch off and on. The lights glow in different colors to create designs with different shapes and patterns. In addition, each drone is programmed with a <u>specific</u> flight path. This programming ensures that the drones will not crash into each other and allows them to fly in a <u>formation</u> that creates a desired visual effect.

Turn to page 259 in your Student Workbook where you will find paragraph 5 from this week's passage. There are 6 underlined words in this paragraph.

Let's decode and read the first word together.

(Display <u>involves</u>.)

involves

in<u>vo</u>lve<u>s</u>

Step 1: Underline the vowels.
- **Which letters should I underline to represent the vowel sounds?** *i, o* **and** *e*
  - **I am not going to connect the vowel letter *o* and the final *e* with a V. I will explain why after we divide the syllables.**
- **How many vowel sounds? 2 How many syllables? 2**

Step 2: Draw a line between the syllables.
- **How many consonants are between the vowel sounds? 2**
  - **When there are 2 consonants between the vowel sounds, most often we divide between the 2 consonants.**
  - **Where do I draw a syllable division line? between the *n* and *v***

in|vo<u>lve</u>s

Step 3: Read each syllable. (Gesture and point to the vowel when going through the process of reading each syllable.)

Read the first syllable.	Read the second syllable.
– **Syllable type and gesture? closed** – **Vowel sound? /ĭ/** – **Syllable? in**	– **The silent-e at the end of this syllable prevents the singular form of this word from ending with a consonant *v*. The vowel is pronounced with its short sound.** – **Vowel sound? /ŏ/** – **Syllable? volves**

Step 4: Read the word.
- **Word? involves**

Now it's your turn. Here are the steps:

1. **Write the underlined word in the box.**
2. **Underline the vowel letters.**
3. **Mark a V connecting the vowel letters if the syllable follows the silent-e pattern.**
4. **Use your knowledge of phonics and syllable patterns, as well as affixes, to help you decide where to draw a line to divide the syllables.**
5. **For each syllable, say the syllable type while showing the gesture, say the vowel sound, and then read the syllable.**
6. **Read the word.**
7. **Repeat these steps for each of the underlined words.**
8. **When you are finished decoding each word, read the paragraph in your Student Workbook.**

Answer Key

1. in|volves[1]	2. pro|grammed
3. thou|sands[2]	4. spe[2]|cif[3]|ic
5. per|form|ing	6. for|ma|tion[4]

1 Most English words do not end in the letter *v*—usually, a silent-e follows the *v*.
2 The vowel in this syllable is pronounced with the schwa sound /ə/.
3 Most often when the letter *c* is followed by *e, i,* or *y*, it is pronounced with the soft sound—/s/.
4 The syllable *-tion* is pronounced /shŭn/.

🍎 Teacher Tip

Although this section focuses on decoding by syllables, the goal is to encourage students to identify morphemes, or larger chunks of words they recognize, which leads to more efficient word reading. For example, in the word *microscope*, some students may recognize the Greek morpheme *micro* and will not need to decode this morpheme into 2 syllables (*mi|cro*) prior to reading the word. Similar to the decoding process in the Morphology sections of this lesson, differentiate by having students who are more proficient decoders highlight the morphemes they recognize in the words *after* they have decoded them by syllable patterns. This strategy will help students see that words can be decoded in multiple ways—by identifying syllable patterns or by recognizing morphemes.

🔑 Routine for MS Word Reading:

- **Underline the vowels.**
- **Mark a V connecting the silent-e.**
- **How many consonants between the vowel sounds?**
- **Where do I divide the syllables?**
- **For each syllable, ask:**
  – **Syllable type and gesture?**
  – **Vowel sound?**
  – **Syllable?**
- **Word?**

Reading 📄 5 min

BUILDING BACKGROUND

For the next 5 days, you will read and learn facts about a small lightweight device. Before I tell you the title of the article, you will use a Word Splash to help you make a prediction about what the article's topic is.

Remember, predicting is a process good readers use to help them understand what they are reading. When you make a prediction, you use words and ideas from the text, along with what you already know, to create a thoughtful guess about what will happen next or about something you will learn from the text. Let's practice the gesture we can use when we make a prediction. (Model the gesture pictured in the right margin.) **This gesture indicates we are "looking forward" to what might happen in the text.**

(Display Word Splash.)
Here is the Word Splash. Let's read these words together. Ready? Begin.

fireworks, glowing, flight, programmed, aircraft, hum, performing, audience, designs, reused

👩‍🏫 **Now turn to page 259 in your Student Workbook. The words from the Word Splash come directly from the article you will read and are connected to the topic for the week. I will give you 1 minute to write 1 or 2 sentences predicting what this article is about. Use the sentence stem in your workbook to get you started.**

Sentence Stem:
I predict this article will be about ____(answers vary)____.

Let's share! Turn to a partner and share your prediction while using the predicting gesture. (*Option:* Select a few students to share aloud with the class.)

(Display article title.)
After seeing the title of the article, "Light up the Sky," can you improve your prediction? (Allow students to adjust their prediction in their Student Workbook or share their new thoughts with the class.)

Predicting

|	
fireworks	hum
glowing	performing
flight	audience
programmed	designs
aircraft	reused

Light Up the Sky

(Display images.)

Now that you have had a chance to make a prediction, let me tell you about the topic of this week's article. You may have attended or watched a fireworks show during a special event or holiday but have you ever watched a drone light show? Drone light shows are an environmentally friendly option that may become more widely used in the future. This week you will read more about the use of drones as modern entertainment.

Morphology
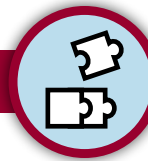
10 min

DECODING

(Display Weekly Words.)

Now I will introduce some words you will see in your reading this week. There are 4 new Weekly Words from this week's passage as well as 2 review words from previous Weekly Word lists. The 2 review words are located at the bottom of the Weekly Word list in gray.

Turn to page 260 in your Student Workbook. Let's decode 1 of the Weekly Words together, and then you will decode the remaining 5 words on your own.

Weekly Words	
deploy	simulate
elaborate	spectacular
credible	discourage

(Display spectacular.)

Look at this word.
- **First, we underline the vowel letters that spell the vowel sounds.**
- **What are the vowel letters?** *e, a, u,* **and** *a-r*
  - **Remember, when the consonant *r* follows a vowel letter, we underline the *r* along with the vowel to represent the vowel sound.**
  - **How many vowel sounds? 4 How many syllables? 4**
- **Next, we identify any prefixes or suffixes in this word.**
  - **In this word, I see the suffixes *u-l-e* and *a-r*. The *e* in the first suffix is dropped before adding the vowel suffix *a-r*. When combined, it is spelled *u-l-a-r*.**
- **Now we draw lines to divide the word.**
  - **First, we divide the suffix combination from the rest of the word. Where do we draw the syllable division line? between the *c* and the suffix *-ular* (/yūlə r/)**

spectacular

spectacular

spectac**ular**

- **Finally, we look at the consonants between the remaining vowel sounds.**
  - **How many consonants are between the first and second vowel sounds?** **2**
  - **When there are 2 consonants between the vowel sounds, most often we divide between the 2 consonants. Where do we draw the syllable division line?** **between the _c_ and _t_**

Help me decode each syllable and then read the word.

<u>First Syllable</u>
- **Syllable type and gesture?** **closed**
- **Vowel sound?** **/ĕ/**
- **Syllable?** **spec**

<u>Second Syllable</u>
- **Syllable type and gesture?** **closed**
- **Vowel sound?** **/ă/**
- **Syllable?** **tac**

<u>Third and Fourth Syllables</u>
- **The suffix combination is _u-l-a-r_.**
- **Suffixes?** **ular** (/yūlər/)

What's the word? **spectacular**

Let's read a sentence using the word _spectacular_: _Sam scored a_ spectacular _goal in the second half of the game!_

Now it's your turn to decode the remaining words. Here are the steps:
1. **Find the vowel letters and underline them.**
2. **Use your Morphology Key to identify if there are any prefixes or suffixes in the word.**
3. **If there are prefixes and suffixes, highlight them and then read them.**
4. **Use your knowledge of phonics and syllable patterns, as well as affixes, to help you decide where to draw a line to divide the syllables.**
5. **Mark a V connecting the vowel letters if the syllable follows the silent-e pattern.**
6. **For each syllable, identify its syllable type, write the syllable in the correct column, and read the syllable.**
7. **Read the word.**

Answer Key

Word	Closed	Silent-e	Open	Vowel Team	Vowel-r	C-le	Irregular
1. spec|tac|u|lar	spec tac		u		lar[1,2]		
2. de|ploy			de	ploy			
3. e|lab|o|rate	lab	rate[3]	e o[1]				
4. sim|u|late	sim	late	u				
5. cred|i|ble	cred		i[4]			ble[1]	
6. dis|cour|age	dis				cour[2]		age[1,5]

1 The vowel in this syllable is pronounced with the schwa sound /ə/.
2 In vowel-r syllables, the *r* is underlined along with the vowel letter or letters. The vowel or vowels plus the consonant *r* spells the vowel sound.
3 This syllable can be pronounced as a long *a* when the word is used as a verb. In this week's passage, *elaborate* is used as an adjective and the vowel in this syllable is pronounced with the schwa sound, /rət/.
4 When the vowel letter *i* occurs at the end of an unaccented syllable and is followed by a consonant, it can be pronounced with a short *i* sound.
5 The job of the silent-e in this syllable changes the consonant *g* to its soft sound /j/. The silent-e does not affect the vowel sound

Now put your finger on the first word in the table. Let's read each of the words together. **spectacular, deploy, elaborate, simulate, credible, discourage**

Response to Reading   2 min

ESSENTIAL QUESTION

Today you made predictions on the topic of the week—*using drones instead of fireworks*. Over the next 4 days, you will read an article about the capabilities of drones and why they are a good alternative to fireworks. Based on what you learn from your reading, you will be able to answer this Essential Question:

- *What are the benefits of a drone light show versus a fireworks show?* (RI.4.3, W.4.2d)

DAY 2

Warm Up
3 min

GUESS THE PATTERN

To warm up today you will "Guess the Pattern" for a list of words. Get your personal whiteboard and dry erase marker ready. I will display a list of words that follow a common pattern. You will need to use your word study knowledge to guess this pattern. Once you have guessed the pattern, write a brief description of it on your whiteboard.

Ready? (Display the <u>word list</u> and set the timer for 2 minutes.) **Begin.**

Answer Key
The pattern is: **words with 3 closed syllables.**

Follow-up question: **What is a closed syllable pattern? 1 vowel letter followed by 1 or more consonants**

Let's read aloud these words with 3 closed syllables. Ready? Begin. **disinfect, fantastic, investment, consistent, enrichment, penmanship, volcanic, punishment**
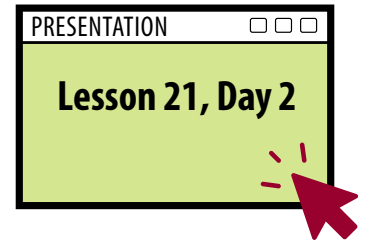
> PRESENTATION □□□
>
> **Lesson 21, Day 2**
>
> | | |
> |---|---|
> | disinfect | enrichment |
> | fantastic | penmanship |
> | investment | volcanic |
> | consistent | punishment |

Multisyllable Word Work
8 min

READING MULTISYLLABLE WORDS

(Display <u>paragraph 10</u> of "Light Up the Sky.")

> *Fireworks also create pollution. Their <u>explosions</u> release <u>chemicals</u> into the air and spent <u>cartridges</u> fall to the ground or into the water. In addition, setting off fireworks in dry climates can be <u>dangerous</u> because they can spark a fire. Fires can also occur if a <u>misguided</u> firework lands on a building roof or a vehicle.*

Turn to page 261 in your Student Workbook where you will find paragraph 10 from this week's passage. There are 6 underlined words in this paragraph.

Let's decode and read the first word together.

(Display f<u>i</u>rew<u>or</u>ks.)

Step 1: Underline the vowels.
- Which letters should I underline to represent the vowel sounds? *i-e* and *o-r*
  – How do I mark the silent-e pattern in the first syllable? **draw a v connecting the *i* and *e***
  – In the second syllable, we will underline the *r* along with the vowel to represent the vowel sound.
- How many vowel sounds? **2** How many syllables? **2**

Step 2: Draw a line between the syllables.
- How many consonants are between the vowel sounds? **1**
  – When a word has 1 consonant between the vowel sounds, typically we will divide after the vowel sound.
  – Where do I draw the syllable division line? **between the *e* and *w***

Step 3: Read each syllable. (Gesture and point to the vowel when going through the process of reading each syllable.)

Read the first syllable.	Read the second syllable.
– Syllable type and gesture? **silent-e**	– Syllable type and gesture? **vowel-r**
– Vowel sound? **/ī/**	– Remember, when the consonant *w* comes before *o-r*, the pronunciation changes to /er/.
– Syllable? **fire**	– Syllable? **works** (/werks/)

Step 4: Read the word.
- Word? **fireworks**

Now it's your turn. Here are the steps:
1. Write the underlined word in the box.
2. Underline the vowel letters.
3. Mark a V connecting the vowel letters if the syllable follows the silent-e pattern.
4. Use your knowledge of phonics and syllable patterns, as well as affixes, to help you decide where to draw a line to divide the syllables.
5. For each syllable, say the syllable type while showing the gesture, say the vowel sound, and then read the syllable.
6. Read the word.
7. Repeat these steps for each of the underlined words.
8. When you are finished decoding each word, read the paragraph in your Student Workbook.

fireworks

f<u>i</u>rew<u>or</u>ks

f<u>i</u>re|w<u>or</u>ks

🔑 Routine for MS Word Reading:
- Underline the vowels.
- Mark a V connecting the silent-e.
- How many consonants between the vowel sounds?
- Where do I divide the syllables?
- For each syllable, ask:
  – Syllable type and gesture?
  – Vowel sound?
  – Syllable?
- Word?

Answer Key

1. fire|works	4. ex|plo|sions[5]
2. chem[1]|i[2]|cals[3]	5. car|tridg[4]|es[3]
3. dan|ger[4]|ous	6. mis|guid[6]|ed

1 In words of Greek origin, the consonant digraph *ch* is pronounced /k/.
2 When the vowel letter *i* occurs at the end of an unaccented syllable and is followed by a consonant, it can be pronounced with a short *i* sound.
3 The vowel in this syllable is pronounced with the schwa sound /ə/.
4 Most often when the letter *g* is followed by *e*, *i*, or *y*, it is pronounced with the soft sound—/j/.
5 The syllable *-sion* in this word is pronounced /zhŭn/.
6 (a)The vowel letter *u* works with the consonant *g* to spell its hard sound, when the next letter is a *e, i,* or *y*. For this reason, the vowel letter *u* is not underlined as a vowel sound. This pattern occurs in words of Latin origin.
    (b)This syllable follows the silent-e pattern and the vowel is pronounced with its long sound. The final *e* is dropped before adding the vowel suffix *-ed*.

🍎 Teacher Tip

Although this section focuses on decoding by syllables, the goal is to encourage students to identify morphemes, or larger chunks of words they recognize, which leads to more efficient word reading. For example, in the word *microscope*, some students may recognize the Greek morpheme *micro* and will not need to decode this morpheme into 2 syllables (*mi|cro*) prior to reading the word. Similar to the decoding process in the Morphology sections of this lesson, differentiate by having students who are more proficient decoders highlight the morphemes they recognize in the words *after* they have decoded them by syllable patterns. This strategy will help students see that words can be decoded in multiple ways—by identifying syllable patterns or by recognizing morphemes.

Reading   10 min

READING FOR ACCURACY

Before you read the text in your workbook, let's practice reading the Weekly Words.

(Display the Weekly Words grid.) Prompt students by saying **"Word?"** at each box.

deploy	elaborate	simulate
credible	spectacular	discourage

READ & ANNOTATE

Today you will read an article about the benefits of a drone light show.

(Display <u>Annotation Key</u>.)
The purpose for your reading today is to annotate while you read.

Let's review.

- **STAR: This is an important idea.**
- **QUESTION MARK: I have a question about this.**
- **LETTER *C*: I have a connection to this.**
- **UNDERLINE: This word is unknown to me.**
  - **I can't decode this word.**
  - **I don't know the meaning.**

Annotation Key	
⭐	This is an important idea.
❓	I have a question about this.
C	I made a connection.
<u>underline</u>	I can't decode this word.
	I don't know the meaning of this word.

You have completed 20 lessons with explicit instruction on how to annotate when reading. For the next 10 lessons, you are going to continue to practice annotating to self-monitor your reading and support your understanding of the text. Let's review the gestures used for each annotation.

(Display <u>Determining Importance gesture</u>.)
Determining Importance—You determine importance by figuring out what the author wants you to learn and remember from a text. When you identify an important idea, you will draw a star in the margin next to the text and gesture by raising a pointer finger in the air at shoulder level. (Model the determining importance gesture.) **Show me how you gesture when you identify an important idea.**

Determining Importance

(Display <u>Questioning gesture</u>.)
Questioning—When you wonder about words or ideas in the text, you are questioning. Whenever you have a question about the text, annotate by writing a question mark by the text and gesture by raising your hand by your side. (Model the questioning gesture.) **Show me how you gesture when you are questioning.**

Questioning

(Display <u>Connecting gesture</u>.)
Connecting—When you identify a text-to-text, text-to-self, or text-to-world connection, annotate by marking a *C* next to the text and gesture by linking your 2 hands with your pointer fingers and thumbs. (Model the connecting gesture.) **Show me how you gesture when you are making a connection.**

Connecting

Turn to page 257 in your Student Workbook. Let's read and annotate paragraph 1 together using the cloze reading procedure. I will read the paragraph aloud, pausing throughout the text. When I pause, you will read the next word in the text aloud. I will also stop and model how to annotate my thinking as we read.

(Display "Light Up the Sky.")
Begin reading the title and paragraph 1 aloud with the students. To encourage active participation, pause at the gray highlighted words, allowing the students to engage by chorally reading the word aloud. Also, reference the Think Aloud stopping points below to support your modeling of how to annotate the text.

Light Up the Sky

For years, fireworks have been used to celebrate holidays and community events. However, in recent years a change has come to the way we light up the night skies.

🛑 *Think Aloud:* **I have a connection. I see the phrase "fireworks have been used to celebrate holidays." I will mark a *C* in the margin and make the connecting gesture. This is a text-to-self connection because I have seen fireworks shows during 4th of July celebrations.**

Let's continue reading.

Drones sometimes replace fireworks as a way to entertain crowds with a spectacular light show. A drone light show at the 2021 Tokyo Summer Olympics was one of the highlights of the event. The crowd was delighted with a massive performance of moving, glowing lights.

🛑 *Think Aloud:* **I have a question. I see the words "moving, glowing lights." I put a question mark next to these words and I raise my hand by my side to demonstrate that I have a question. The question I have is, "What did the moving, glowing lights look like?"**

Now it's your turn to read. Start at paragraph 2 (line 6) **and read the rest of the text. Be sure to stop and annotate as you read. Make sure to use all of the annotation strategies as appropriate, while reading the article.**

🍎 **Teacher Tip**

Differentiation during whole-group reading time is key to building proficient readers. Here are a couple ideas:

1. During whole-group reading time, pull together a small group of students (5 or fewer) who require extra support. Instead of having them read and annotate the entire article, use the process modeled above to read aloud the next paragraph. Continue the same process, reading the article paragraph by paragraph. As you do this, use the gradual release model: Have students read a paragraph or a few sentences by themselves, and then have them pause to share Think Alouds about how to annotate the section. If Think Alouds seem lacking, coach students on what to annotate. Continue this process until time is up. ***Note:*** The small group may not read the entire article, and this is okay. The goal is quality over quantity—strive for accurate reading and practice with supportive annotation.

2. As students read in the whole-group setting, kneel next to specific students and take anecdotal notes about reading habits, strategies, and needs for support.

Listen for opportunities to provide <u>corrective and/or positive</u> feedback. Consistently providing feedback fosters proud, confident readers.

Morphology   7 min
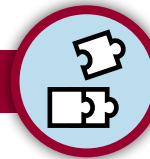
DEFINE

Now we will use a word analysis table to look at the Weekly Words for this week.

(Display <u>Weekly Words</u>.)

📖 **Turn to page 261 in your Student Workbook. We will work together to identify the morphemes in 1 of the Weekly Words.**

(Display <u>table</u>.)

The team can _____ drones to create any pattern.

Definition	Morphemes
to use away from	

Circle the synonym and draw a square around the antonym.

to make   breaking   send away   remain

Weekly Words
deploy   simulate
elaborate   spectacular

Note: Not all letters from each word may be included in the spellings of the morphemes.

95 Phonics Core Program® • Grade 4 • Teacher's Edition   **855**

Put your finger on the sentence above the chart. Read aloud this sentence with me.
The team can _____ drones to create any pattern.

The definition for the missing Weekly Word is, "to use away from."

Use your Morphology Key and context clues to help you determine which Weekly Word is missing. Let's begin by identifying the root in each of the Weekly Words and find their meanings in your Morphology Key.

- **The root in the word** _elaborate_ **is** _labor_**. Find the Latin root** _labor_ **in your Morphology Key.**
  – **What is the meaning of** _labor_**?** **to work**
  – **The meaning of** _labor_ **does not match any parts of the definition for the missing word.**
- **The root in the word** _spectacular_ **is** _spect_**. Find the Latin root** _spect_ **in your Morphology Key.**
  – **What is the meaning of** _spect_**?** **to look at, see, observe, or watch**
  – **The meaning of** _spect_ **does not match any parts of the definition for the missing word.**
- **The root in the word** _simulate_ **is** _simul_**. Find the Latin root** _simul_ **in your Morphology Key.**
  – **What is the meaning of** _simul_**?** **same or like**
  – **The meaning of** _simul_ **does not match any parts of the definition for the missing word.**
- **The root in the word** _deploy_ **is** _ploy_**. Find the Latin root** _ploy_ **in your Morphology Key.**
  – **What is the meaning of** _ploy_**?** **to fold or use**
  – **The words** _to use_ **in the meaning of** _ploy_ **can be found in part of the definition for the missing word.**
  – **To confirm this is the correct word that best completes the sentence, I will check the meaning of the remaining morpheme.**
  – **The prefix** _de-_ **means "away from, down." So, I know the word** _deploy_ **means "to use away from."**

Based on the meanings of these morphemes, which Weekly Word best matches the definition? **deploy**

The team can _____ drones to create any pattern.

Reread the sentence inserting the word _deploy_ in the blank. *The team can* **deploy** *drones to create any pattern.*
- **Does this make sense? yes**
- **Write the word _deploy_ in the center of the table.**

What is the first morpheme in this word? de
- **Write _de-_ in the Morphemes section.**

What is the next morpheme in this word? ploy
- **Write _ploy_ in the Morphemes section.**

Now we will identify a synonym and an antonym. We will circle the synonym and draw a square around the antonym.
- **Let's repeat the definition for the word _deploy_. to use away from**
- **First, we will identify a synonym.**
  - **Synonyms are words that have the same or similar meanings.**
  - **Let's look at each word or phrase.**
    - **What is the first phrase? to make This phrase means "act of becoming." This does not mean the same as _deploy_.**
    - **What is the next word? breaking This word means "to separate of cause separation." This does not mean the same as _deploy_.**
    - **What is the next phrase? send away This phrase means "to move something or someone to a different location." This means the same as _deploy_. This could be a synonym, but let's look at the last word.**
    - **What is the last word? remain This word means "to stay in place." This word does not mean the same as _deploy_.**
  - **Which of these words or phrases means the same as _deploy_? send away**
    - **I will draw a circle around the phrase _send away_.**
- **Next, we will identify an antonym.**
  - **Antonyms are words with opposite meanings.**
  - **Which of these words or phrases is the antonym for the word _deploy_? remain**
- **I will draw a square around the word _remain_.**

The team can **deploy** drones to create any pattern.

Answer Key

The team can **deploy** drones to create any pattern.

Definition	Morphemes
to use away from	**de** **ploy**

deploy

Circle the synonym and draw a square around the antonym.

to make   breaking   (send away)   [remain]

Response to Reading   2 min

Turn to page 258 in your Student Workbook. Put your finger on line 32. In the last 4 paragraphs of the article (lines 32-47), the author describes some of the disadvantages and hazards of fireworks. You are going to highlight 1 or 2 phrases or sentences from the article that could best support the answer to this question:

(Display question.)

Why might someone choose to conduct a drone light show instead of a firework show? (RI.4.1)

Answer Key (answers vary)

Lines 33-35	*"Fireworks are very loud, which can be upsetting to wild animals, pets, and many people. However, drones produce just a soft hum."*
Lines 36	*"Fireworks also create pollution."*
Lines 37-38	*"…setting off fireworks in dry climates can be dangerous because they can spark a fire."*
Lines 40-41	*"Operators and audience members can be seriously hurt if a fireworks display goes wrong. This is much less likely to happen with a drone light show."*
Lines 43	*"…fireworks can be used only once, while drones can be reused multiple times."*

DAY 3

Warm Up   3 min

WORD CHAIN

Today we will warm up with a word chain. Get your personal whiteboard and dry erase marker ready. In this word chain, you will listen to each word and change 1 syllable or morpheme in the word to make a new word. Ready? Let's begin.

Note: Remind students to write each new word <u>under</u> the previously spelled word, so that all 4 words are listed vertically by the end of the task.

The first word is *demanding*.
- **Word? demanding**
- **How do we spell it? d-e-m-a-n-d-i-n-g Write it.**

Change *demanding* to *defending*.
- **What changes? *Mand* changes to *fend*.**
- **How do we spell the new word? d-e-f-e-n-d-i-n-g**

Write the word *defending* under *demanding*.

Next, change *defending* to *offending*.
- **What changes? *De-* changes to *of-*.**
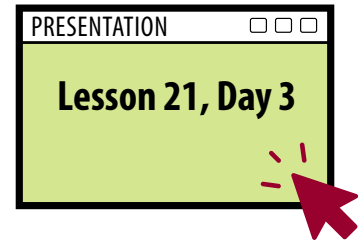- **How do we spell the new word? o-f-f-e-n-d-i-n-g**

Write the word *offending* under *defending*.

Finally, change *offending* to *offended*.
- **What changes? *-ing* changes to *-ed*.**
- **How do we spell the new word? o-f-f-e-n-d-e-d**

Write the word *offended* under *offending*.

Let's read all 4 words. Ready? Begin. demanding, defending, offending, offended

---

PRESENTATION

Lesson 21, Day 3

demanding
defending
offending
offended

Multisyllable Word Work

10 min

SYLLABLE MAPPING

Today we're going to practice spelling multisyllable words. We've done syllable mapping before, so let's do one together.

The word is *embedded*. Word? **embedded**
- Place a dot in the corner for each syllable we hear. **em/bed/ded**
- How many syllables? **3**

Now I write the letters that spell the sounds in each syllable.

First syllable? em	Second syllable? bed	Third syllable? ded
– First sound? /ĕ/ Letter? **e**	– First sound? /b/ Letter or letters? **b**	– First sound? /d/ Letter? **d**
– Second sound? /m/ Letter? **m**	– Second sound? /ĕ/ Letter? **e**	– Second sound? /ĕ/ Letter? **e**
– Syllable type and gesture? **closed**	– Third sound? /d/ Letter? **d**	– Third sound? /d/ Letter? **d**
– Syllable? **em**	– Syllable type and gesture? **closed**	– Syllable type and gesture? **closed**
	– Syllable? **bed**	– Syllable? **ded**

- Word? **embeded**

Now it's your turn. Turn to page 362 in your Student Workbook. Here are the steps:

1. I'll say a word and you'll repeat it.
2. Tap 1 box for each syllable you hear.
3. For each syllable, say the sounds, write the letters, and say the syllable type while showing the gesture.
4. Mark a V connecting the vowel letters if the syllable follows the silent-e pattern.
5. Write the multisyllable word in the last column and whisper read it to yourself.

em		
em	bed	
em	bed	ded

Answer Key

Words to Dictate	Syllable 1	Syllable 2	Syllable 3	Word
embedded	em	bed	ded[1]	embedded
1. ancestors	an	ces[2]	tors[1]	ancestors
2. volcano	vol	ca	no	volcano
3. complain	com[1]	plain		complain
4. gratefully	grate	ful	ly	gratefully
5. allocate	al	lo[1]	cate	allocate

1 The vowel in this syllable is pronounced with the schwa sound /ə/.
2 Most often when the letter *c* is followed by *e*, *i*, or *y*, it is pronounced with the soft sound—/s/.

Reading

8 min

WEEKLY WORDS IN CONTEXT

Today you are going to scan this week's passage and locate the Weekly Words in the passage. <u>Scanning</u> is an effective strategy for finding specific information. Here is the process of scanning text:
1. Identify what information you need to retrieve from the text.
2. Quickly scan—or look through—the text for key words, headings, names, or dates that relate to the information you are hunting for.
3. Once you have identified the section of text containing the information you need, read the section carefully to ensure complete understanding.

(Display <u>Weekly Words</u>.)
Use the scanning strategy to identify this week's 4 Weekly Words. Once you have identified each word, highlight it. Then use context clues to help you determine its part of speech. Before you begin, let's review the 4 Parts of Speech.

Weekly Words	
deploy	simulate
elaborate	spectacular

(Display <u>4 Parts of Speech Key</u>.) Use the 4 Parts of Speech Key to define and provide examples of a noun, a verb, an adverb, and an adjective.

| 4 PARTS OF SPEECH KEY			
NOUN	**VERB**	**ADVERB**	**ADJECTIVE**
A **noun** names people, places, or things. Example: _Adam_ is an intelligent young _man_.	A **verb** tells an action or a state of being. Example: The teacher _gave_ us an assignment.	An **adverb** describes a verb, an adjective, or another adverb. Example: I _gladly_ went to the store.	An **adjective** describes a noun or pronoun. Example: The _three_ dogs are _rowdy_.

Now turn to page 262 in your Student Workbook. Here are the steps:

1. Scan the passage on pages 257-258.
2. Highlight the 4 Weekly Words.
3. Read the sentence where each Weekly Word appears.
4. Determine the part of speech for each Weekly Word as it is used in the passage.
5. Then, turn to page 262 of your workbook and write the Weekly Word in the left column.
6. Finally, write the part of speech next to the word in the right column.

Answer Key

	Weekly Word	Part of Speech
1.	deployed	verb
2.	elaborate	adjective
3.	simulates	verb
4.	spectacular	adjective

Morphology   7 min
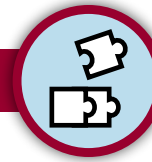
DEFINE

Now we will use a word analysis table to study the remaining Weekly Words.

(Display Weekly Words.)

Turn to page 263 in your Student Workbook. We have already identified the root in each of the Weekly Words and completed a word analysis table for the word _deployed_. Now you will complete word analysis tables for the remaining 3 Weekly Words.

Weekly Words	
~~deployed~~	simulate
elaborate	spectacular

Answer Key

1. Drones sometimes replace fireworks as a way to entertain crowds with a **spectacular** light show.

Definition	Morphemes
relating to a public show or display	**spect** **ular**
spectacular	

Circle the synonym and draw a square around the antonym.

(impressive)   protect   [boring]   condition

Note: Not all letters from each word may be included in the spellings of the morphemes.

2. Operators use software to **simulate** the drones' sizes, speeds, and movements.

Definition	Morphemes
to make a copy	**simul** **ate**
simulate	

Circle the synonym and draw a square around the antonym.

[ignore]   (copy)   measure   spread

3. Since then, drone light shows have become bigger, better, and more **elaborate**.

Definition	Morphemes
made by working out (in great detail)	e labor ate

elaborate

Circle the synonym and draw a square around the antonym.

forward   simple   across   detailed

Response to Reading

2 min

When words have the same spelling and pronunciation but different meanings, they are known as homonyms or multiple meaning words. Readers have to use context clues to understand the meaning of a homonym.

I am going to read paragraph 2 aloud. Listen for the word *remote*. The first time you hear *remote*, it is used as an noun to name an object. The second time it is used in this paragraph, it is used as adjective to describe a place.

(Display paragraph 2.)
Drones are unmanned aircraft that are controlled by a remote from the ground. Drones are used for many different purposes. Uses include search and rescue missions, checking remote properties and utility lines, delivering packages, taking photographs, or just having fun.

Turn to page 264 in your Student Workbook. Using the context clues and the meanings of the morphemes, write 2 definitions for the word *remote*. Write a definition for *remote*, used as a noun, and a definition for *remote*, used as an adjective. Use the sentence stems to jumpstart your response. (RI.4.4, L.4.4)

Answer Key (answers vary)

Remote, as a noun, means **a handheld device used to move or control an object, such as a drone.**
Remote, as an adjective, means **a location removed (or far away) from a city**.

DAY 4

Warm Up   3 min

GUESS THE PATTERN

To warm up today you will "Guess the Pattern" for a list of words. Get your personal whiteboard and dry erase marker ready. I will display a list of words that follow a common pattern. You will need to use your word study knowledge to guess this pattern. Once you have guessed the pattern, write a brief description of it on your whiteboard.

Ready? (Display the word list and set the timer for 2 minutes.) **Begin.**

Answer Key
The pattern is: **words with the Latin root** *form*.

Follow-up question: **What is the meaning of the Latin root** *form*? **to shape or mold**

Let's read aloud these words with the Latin root *form*. Ready? Begin. **performance, reformation, deformed, conforming, information, formula, transformed, formality**

PRESENTATION ☐ ☐ ☐

Lesson 21, Day 4
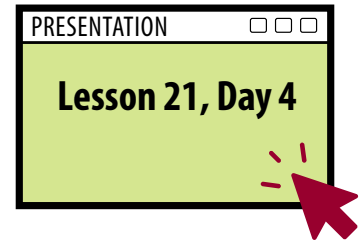
performance	information
reformation	formula
deformed	transformed
conforming	formality

Multisyllable Word Work   10 min

SYLLABLE MAPPING

Today we're going to practice spelling multisyllable words. We've done syllable mapping before, so let's do one together.

The word is *overhead*. Word? **overhead**
- Place a dot in the corner for each syllable we hear: **o/ver/head**
- How many syllables? **3**

Now I write the letters that spell the sounds in each syllable.

First syllable? **o**	Second syllable? **ver**	Third syllable? **head**
– First sound? **/ō/** Letter? **o** – Syllable type and gesture? **open** – Syllable? **o**	– First sound? **/v/** Letter? **v** – Second sound? **/er/** Letter or letters? **e-r** – Syllable type and gesture? **vowel-r** – Syllable? **ver**	– First sound? **/h/** Letter? **h** – Second sound? **/ĕ/** The short e sound is spelled with the vowel team *e-a*. – Third sound? **/d/** Letter? **d** – Syllable type and gesture? **vowel team** – Syllable? **head**

o		
o	ver	
o	ver	head

- **Word? overhead**

Now it's your turn. Turn to page 265 in your Student Workbook. Here are the steps:

1. I'll say a word and you'll repeat it.
2. Tap 1 box for each syllable you hear.
3. For each syllable, say the sounds, write the letters, and say the syllable type while showing the gesture.
4. Mark a V connecting the vowel letters if the syllable follows the silent-e pattern.
5. Write the multisyllable word in the last column and whisper read it to yourself.

Answer Key

Words to Dictate	Syllable 1	Syllable 2	Syllable 3	Word
overhead	o	ver	head	overhead
1. instructor	in	struc	tor[1]	instructor
2. fabulous	fab	u	lous	fabulous
3. frustration	frus	tra	tion[2]	frustration
4. vanquished	van	quished		vanquished
5. pollinate	pol	li[1]	nate	pollinate

1 The vowel in this syllable is pronounced with the schwa sound /ə/.
2 The syllable *-tion* is pronounced /shŭn/.

Reading   8 min

Turn to page 257 in your Student Workbook. On Day 2, you highlighted 1 or 2 sentences from the article that could best support the answer to this question: *Why might someone choose to conduct a drone light show instead of a firework show?*

Today as you will reread "Light Up the Sky" highlight at least 2 additional phrases or sentences that would support an answer to a similar question:

(Display <u>question</u>.)
What are the disadvantages or hazards of using fireworks?

Answer Key (answers vary)

|	
Lines 33-35	*"Fireworks are very loud, which can be upsetting to wild animals, pets, and many people. However, drones produce just a soft hum."*
Lines 36	*"Fireworks also create pollution."*
Lines 37-38	*"…setting off fireworks in dry climates can be dangerous because they can spark a fire."*
Lines 40-41	*"Operators and audience members can be seriously hurt if a fireworks display goes wrong. This is much less likely to happen with a drone light show."*
Lines 43	*"…fireworks can be used only once, while drones can be reused multiple times."*

🍎 Teacher Tip

Differentiation during whole-group reading time is key to building proficient readers. Here are a couple ideas:

1. Pull together a small group of students (5 or fewer) who require extra support. Ask students to whisper read the article to themselves. Lean in close to 1 student at a time. Ask the student to increase his or her reading volume slightly, while reading a short portion of the text. Listen and provide corrective feedback, if needed. Be sure to spend time with each student in the group.

2. As students read in the whole-group setting, kneel next to specific students and take anecdotal notes about reading habits, strategies, and needs for support.

Listen for opportunities to provide <u>corrective and/or positive</u> feedback.
Consistently providing feedback fosters proud, confident readers.
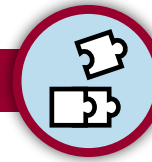
Morphology

7 min

WORD CONSTRUCTION WITH MORPHEME CARDS

Note: Students will use their morpheme cards and morphology mat. Word Construction is most efficient and engaging when students are working in collaborative groups of 2 or 3 students. Manage materials by having each group share 1 set of morpheme cards and 1 morphology mat. Make 1 student responsible for preparing the green prefix cards, another for preparing the red suffix cards, and another for preparing the yellow root cards. Then have students begin building words with the cards. This is when the academic conversation gets exciting! As students construct new words, have them discuss how to decode and define the words.

Today we will construct words using prefixes, suffixes, and Latin roots you have previously learned.

To help you construct words, you will need the following materials:
- **5 green prefix cards**
- **5 yellow root cards**
- **5 red suffix cards**
- **morphology mat**

You will use a morphology mat and colored morpheme cards to construct different words using Latin roots and affixes.

Before you start constructing words, you and your partner will need to prepare your morpheme cards by labeling them with the prefixes, suffixes, and roots you will use.

(Display list of morphemes.)
On the display, you see a list of 12 different morphemes. Some of them are prefixes, some are suffixes, and some of them are Latin roots.

When I say go, you and your partner will have 3 minutes to identify which of the morphemes are Latin roots and write them on the **yellow cards****. Then, you will decide which are prefixes and write them on the** **green cards****. Finally, you will write the suffixes on the** **red cards****.**

You have 3 minutes to prepare your cards. Ready? Begin.
(Set the timer for 3 minutes.)

vent	inter	e
ory	rupt	ion
dis	ure	in
ible	ive	cept

(Displayed <u>labeled Morpheme Cards</u>.)

Now let's check your cards to see if you labeled them correctly.
- **Lay your green prefix cards to the right of your morphology mat and check that these cards are correct. You should have 1 that is left blank.**
- **Place your yellow Latin root cards in the top middle of your mat and check that you completed them correctly. You should have 2 blank yellow cards remaining.**
- **Finally, put your red suffix cards to the right of your morphology mat and check that these cards are correct.**

Now it's time for you and your partner to construct words. Turn to page 265 in your Student Workbook. To construct your words, follow these steps:

1. **Place 1 root card in a center rectangle on your mat.**
2. **Next, try adding green prefix and/or red suffix cards to the mat, next to the root, until you have built a word.**
3. **Read the word to see if it is a word you recognize.**
4. **Record your words in the Constructed Words table in your workbook.**
5. **Repeat these steps to see how many words you can build before the time is up.**

Ready? (Set the timer for 3 minutes.) **Begin.**

Answer Key

Constructed Words
Possible words: discept, incept, inception, inceptive, intercept, interception, interceptive, rupture, disrupt, disruption, disruptive, erupt, eruptible, eruption, eruptive, interrupt, interruptible, interruption, interruptive, venture, event, invent, inventible, inventive, invention, inventory, intervention, interventive

If time permits, ask students to share a few of the words they constructed. As students are sharing, write the words on chart paper or on the board.

Extension Activity: In a literacy station or during independent work time, have students define and write sentences using a few of the words they constructed.

dis	cept	ible
e	rupt	ion
in	vent	ive
inter		ory
		ure

Note: Some words students build may not be "real" words. The objective for this task is to have students manipulate the morphemes to build words that can be decoded and defined, even if they are not "real" words. As you monitor students' work, you can coach them on combinations to try.

Response to Reading

2 min

Turn to page 266 in your Student Workbook. There is chart with pictures in your workbook. To complete the chart, you will write the word *fireworks*, if the picture represents a characteristic or an effect of fireworks. You will write the word *drone*, if the picture represents a characteristic or an effect of a drone. You have 2 minutes to fill in the chart. Ready? (Set the timer for 2 minutes.) **Begin.** (RI.4.1)

Answer Key

protecting ears from loud noise
fireworks

dog sleeping peacefully
drone

grass fire
fireworks

expensive
drone
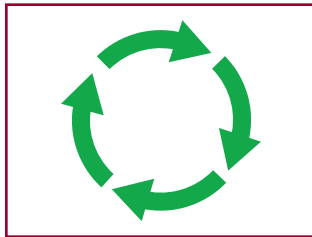
reusable
drone

trash and debris
fireworks

DAY 5

Warm Up   3 min

FOLLOW THE PATTERN

To warm up today you will "Follow the Pattern" of a list of words. Get your personal whiteboard and dry erase marker ready. I will display a list of words that follow a common pattern. You will need to use your word study knowledge to write at least 3 more words that follow this pattern.

Ready? (Display the pattern description and word list and then set the timer for 2 minutes.) **Begin.**

Answer Key (answers vary)

After students have finished, have them trade whiteboards with a partner and read their partners' words.

What is a consonant blend? 2 or 3 consonants side by side and each consonant is pronounced

What are some examples of consonant blends in the displayed words? gr, str, sc, lp, pl, nt

PRESENTATION ☐ ☐ ☐
Lesson 21, Day 5
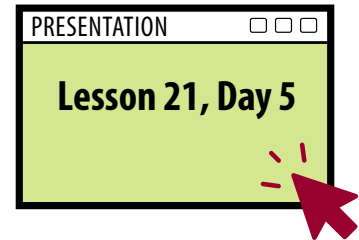
The pattern is multisyllable words containing at least one consonant blend.

grocery	sculpture
striking	pleasant

Multisyllable Word Work   5 min

FLUENCY

We've been learning to read multisyllable words with common Latin roots. This week we will build fluency by reading words with the Latin roots *spect* and *vent*.

Turn to page 267 in your Student Workbook. When I say "Begin," point to the first word. Begin whisper reading across the page. If you finish before I say "Stop," start at the top and read the words again. Ready? Begin. (Time students for 1 minute.)

respect	disrespect	inspect	spectate
inspection	spectator	reinspection	respective
invention	prevent	vented	inventive
preventative	inventor	prevention	reinvent

(Display phrases.)
Next, we're going to read phrases. Let's practice 4 phrases together.

to show respect	the inventor found	to the respective	as a preventative

Now it's your turn. When I say "Begin," point to the first phrase in your Student Workbook and whisper it. Continue reading across the page. If you finish before I say "Stop," start at the top and read the phrases again. (Time students for 1 minute.)

to show respect	do not disrespect
she can inspect	came to spectate
for the inspection	as a spectator
during the reinspection	to the respective
for the invention	to prevent injury
vented their frustration	a successful venture
as a preventative	the inventor found
prevention is key	need to reinvent

Reading
10 min

Turn to page 257 of your Student Workbook. Before you begin rereading "Light Up the Sky," let's review the Essential Question for this week. Read it with me.

(Display Essential Question.)
What are the benefits of a drone light show versus a fireworks show?

Today while you read, think about how you will answer the Essential Question. I will leave it displayed on the slide for you to refer to.

Ready? Begin reading.
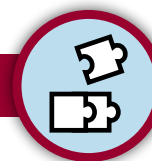
Morphology
7 min

REVIEW & APPLY

Today you will do an activity that asks you to apply the meanings of morphemes and words you have learned.

Turn to page 268 in your Student Workbook. Read each sentence. Use your Morphology Key and the context clues to help you identify the missing word in each sentence. Finally, fill in the blank with the correct word from the Word Bank. Cross off the word once it has been used.

Note: If students need support, complete the first sentence together.

Answer Key

Word Bank			
prevent	credible	translate	consume
scientist	discourage	thermal	variation
Sentences			

1. Her excuse for being gone so long did not seem **credible**.
2. The **scientists** believes that the results of the research are incorrect.
3. I need to find someone who can **translate** what I say to the teacher.
4. I included a **variation** of different vegetables in my salad.
5. Don't let one failure get you down or **discourage** you.

Response to Reading   5 min

This week you read the article "Light Up the Sky" and learned about the benefits and disadvantages of using drones and fireworks to entertain.

Turn to page 269 of your Student Workbook, you will respond to the Essential Question: *What are the benefits of a drone light show versus a fireworks show?* (RI.4.1, W.4.2d)

(Display <u>Weekly Words</u>.)
When writing your response, use at least 1 of this week's words.

Answer Key (answers vary)

Weekly Words	
deploy	simulate
elaborate	spectacular
credible	discourage

Possible student responses:
- The benefits of a drone light show instead of a fireworks show is you can still experience an *elaborate* light show that is environmentally friendly. The drone light show does not cause pollution and cannot spark fires.
- The benefits of using drones for a light show is that you can *simulate* fireworks without the dangers. Drones do not produce pollution or cause major damage. Also, unlike fireworks, drones are very quiet when they are *deployed*.
- There are 3 benefits for using drones versus fireworks. First, drones *simulate* fireworks without the possibility of starting a fire. Second, drones are quiet when *deployed*. Third, drones do not create pollution.

95 Phonics Core Program® • Grade 4 • Teacher's Edition   **873**
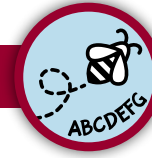
Spelling + Match the Meaning

5 min

Turn to page 270 in your Student Workbook. Write your name at the top of page 270, carefully tear the page out, then put your workbook away.

Now it's time for a spelling test. First, I will dictate 6 Weekly Words— 4 from this week and 2 review words. You will complete each word by filling in the blank with a correctly spelled morpheme or letter combination. After you have finished spelling these 6 words, you will match each one to its definition by writing the definition's letter next to the word.

Words to Dictate	Letter	Definitions
1. de**ploy**	**d**	a. relating to a public show or display
2. e**labor**ate	**b**	b. made by working out (in great detail)
3. **simu**late	**f**	c. absent of heart or not a (good) state of mind
4. **spectac**ular	**a**	d. to use away from
5. dis**courage**	**c**	e. able to believe or trust
6. cred**ible**	**e**	f. to make a copy

Now I will dictate a sentence to you. You will repeat it. Then you will write it.

Sentence: *He started his career as a humble peanut farmer.*
Repeat it with me. **He started his career as a humble peanut farmer.**
Now write it.

Underline the word in the sentence that has a *closed|consonant-le* syllable pattern.

Answer Key: humble

Light Up the Sky

1 For years, fireworks have been used to celebrate holidays and community events. However, in recent years a change has come to the way we light up the night skies. Drones sometimes replace fireworks as a way to entertain crowds with a spectacular light show. A drone light show at the 2021 Tokyo Summer Olympics was one of the highlights of the

5 event. The crowd was delighted with a massive performance of moving, glowing lights.

Drones are unmanned aircraft that are controlled by a remote from the ground. Drones are used for many different purposes. Uses include search and rescue missions, checking remote properties and utility lines, delivering packages, taking photographs, or just having fun.

10 In 2012, the first drone light show was performed in Austria. Since then, drone light shows have become bigger, better, and more elaborate.

The drones used in light shows are smaller and lighter than other kinds of drones. Typically, these drones are made of lightweight plastic and foam and weigh under a pound. This light weight allows the drone to fly longer and move quickly.

15 A light show involves hundreds or even thousands of drones performing in the air. Each drone is fitted with an LED light that is programmed to switch off and on. The lights glow in different colors to create designs with different shapes and patterns. In addition, each drone is programmed with a specific flight path. This programming ensures that the

drones will not crash into each other and allows them to fly in a formation that creates a
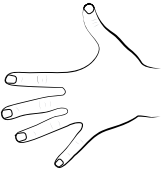20 desired visual effect.

Drones can be deployed to create any pattern. They just need to be programmed correctly. Programmers use three-dimensional animation software to design the movement of the drones. It's just like planning the movements of a character in a cartoon.

Once the show is programmed, operators run tests to make sure it works. Testing does not
25 require the programmers to fly the drones. Instead, they use software that simulates the drones' sizes, speeds, and movements. Programmers watch the show on a screen to make sure everything is ready to go.

Drone light shows are not cheap. A small show can cost about $10,000, and prices can run higher than $300,000. The more drones involved, the higher the cost. That's why
30 the largest and most elaborate shows are seen mostly at major public events, such as the Olympics or the Super Bowl.

Despite the cost, drone light shows may one day replace traditional firework displays. Fireworks can be great fun to watch, but they do create a lot of problems. Fireworks are very loud, which can be upsetting to wild animals, pets, and many people. However,
35 drones produce just a soft hum.

Fireworks also create pollution. Their explosions release chemicals into the air and spent cartridges fall to the ground or into the water. In addition, setting off fireworks in dry climates can be dangerous because they can spark a fire. Fires can also occur if a misguided firework lands on a building roof or a vehicle.

40 Operators and audience members can be seriously hurt if a fireworks display goes wrong. This is much less likely to happen with a drone light show. Even if a drone falls from the sky, it is so lightweight that it is not likely to cause major damage or serious injuries. Finally, fireworks can be used only once, while drones can be reused multiple times.

As technology gets better, the things it can create often get better too. This is true of drone
45 light shows. We can only imagine what the future holds for drone light shows to come. It's likely that these shows will be even easier to create and more amazing to watch. So keep your eyes on the sky. You never know what you might see!

DAY 1

Reading Multisyllable Words

A light show <u>involves</u> hundreds or even <u>thousands</u> of drones <u>performing</u> in the air. Each drone is fitted with an LED light that is <u>programmed</u> to switch off and on. The lights glow in different colors to create designs with different shapes and patterns. In addition, each drone is programmed with a <u>specific</u> flight path. This programming ensures that the drones will not crash into each other and allows them to fly in a <u>formation</u> that creates a desired visual effect.
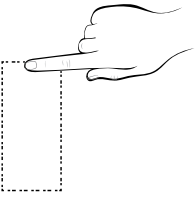
1. involves	4.
2.	5.
3.	6.

Building Background

Write a prediction based on the Word Splash.

I predict this article will be about...

Decoding

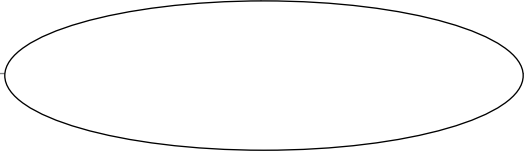| Word	Closed	Silent-e	Open	Vowel Team	Vowel-r	C-le	Irregular
1. spectacular							
2. deploy							
3. elaborate							
4. simulate							
5. credible							
6. discourage							

DAY 2

Reading Multisyllable Words

Fireworks also create pollution. Their explosions release chemicals into the air and spent cartridges fall to the ground or into the water. In addition, setting off fireworks in dry climates can be dangerous because they can spark a fire. Fires can also occur if a misguided firework lands on a building roof or a vehicle.

1. fireworks	4.
2.	5.
3.	6.

Define

The team can _____ drones to create any pattern.

Definition	Morphemes
to use away from	

Circle the synonym and draw a square around the antonym.

to make   breaking   send away   remain

Weekly Words: deploy, elaborate, simulate, spectacular

DAY 3

Syllable Mapping

	Syllable 1	Syllable 2	Syllable 3	Word
	em •	bed •	ded •	embedded
1.				
2.				
3.				
4.				
5.				
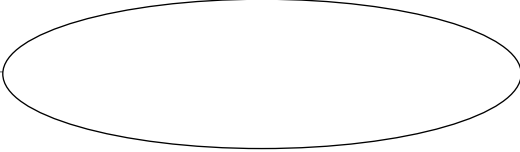
Weekly Words in Context

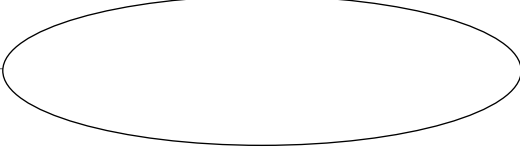|	Weekly Word	Part of Speech
1.		
2.		
3.		
4.		

Define

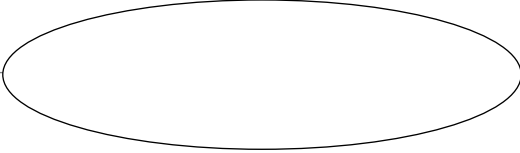*Complete the word analysis tables using these Weekly Words:* elaborate, simulate, spectacular.

1. Drones sometimes replace fireworks as a way to entertain crowds with a _____ light show.

Definition	Morphemes
relating to a public show or display	
Circle the synonym and draw a square around the antonym.	
impressive protect boring condition	

2. Operators use software to _____the drones' sizes, speeds, and movements.

Definition	Morphemes
to make a copy	
Circle the synonym and draw a square around the antonym.	
ignore copy measure spread	

3. Since then, drone light shows have become bigger, better, and more _____.

Definition	Morphemes
made by working out (in great detail)	

Circle the synonym and draw a square around the antonym.

forward   simple   across   detailed

Response to Reading

Write two definitions for the word <u>remote</u>*.*

<u>Remote</u>, *as a noun, means…*
<u>Remote</u>, *as an adjective, means…*

DAY 4

Syllable Mapping

Syllable 1	Syllable 2	Syllable 3	Word
o •	ver •	head •	overhead
1.			
2.			
3.			
4.			
5.			

Word Construction

Constructed Words	

Response to Reading

Write the word "fireworks" if the picture represents a characteristic or an effect of fireworks. Write the word "drone" if the picture represents a characteristic or an effect of a drone.
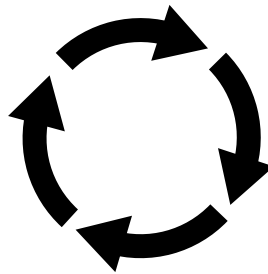
protecting ears from loud noise	dog sleeping peacefully	grass fire

expensive	reusable	trash and debris

95 Phonics Core Program® • Grade 4 • Student Workbook

DAY 5

Fluency

respect	disrespect	inspect	spectate
inspection	spectator	reinspection	respective
invention	prevent	vented	inventive
preventative	inventor	prevention	reinvent

to show respect	do not disrespect
she can inspect	came to spectate
for the inspection	as a spectator
during the reinspection	to the respective
for the invention	to prevent injury
vented their frustration	a successful venture
as a preventative	the inventor found
prevention is key	need to reinvent

Morphology

Read each sentence. Use your Morphology Key and the context clues to help you identify the missing word in each sentence. Finally, fill in the blank with the correct word from the Word Bank. Cross off the word once it has been used.

Word Bank			
prevent	credible	translate	consume
scientist	discourage	thermal	variation

Sentences
1. Her excuse for being gone so long did not seem _____.
2. The _____ believes that the results of the research are incorrect.
3. I need to find someone who can _____ what I say to the teacher.
4. I included a _____ of different vegetables in my salad.
5. Don't let one failure get you down or _____ you.

Response to Reading

What are the benefits of a drone light show versus a fireworks show? Use at least one Weekly Word in your response.

Spelling + Match the Meaning

1. de_____		a. relating to a public show or display	
2. e_____ate		b. made by working out (in great detail)	
3. _____late		c. absent of heart or not a (good) state of mind	
4. _____ular		d. to use away from	
5. dis_____		e. able to believe or trust	
6. cred_____		f. to make a copy	

Write the dictated sentence on the lines below.

_____

_____

_____

_____