Galaxy

Days 9-10

Daily Launch Day 9

Do Now: Interpreting Idioms

An **idiom** is an expression that has a different meaning from what you might think based on the words used.
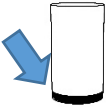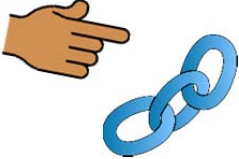
The chart below lists some idioms you will find in today's reading. The pictures show what you might **think** the idioms mean. But then read the phrase in the center column. Try to guess what the words mean in this phrase. Write down your **best guess** in the right hand column! The first one has been filled in for you.

Idioms	Idioms Used in Context	What Does It Really Mean?
"stumble on"	She **stumbled on** an old photo.	_She found it by accident._
"get to the bottom of"	She asked her intern to **get to the bottom of** the mystery.	_____ _____ _____
"a step ahead"	Ms. Shetterly was **a step ahead** of her in exploring the mystery.	_____ _____ _____
"the face of science"	"The **face of science** was brown like mine."	_____ _____ _____
"poke around," "link up with"	Ms. Shetterly started **poking around** and **linked up with** Ms. Gainer in their search for answers.	_____ _____ _____ _____ _____

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Daily Launch Day 10

Do Now: Final Project Brainstorm

It is time to start thinking about your final projects for the *Galaxy* unit. Rank your top three choices among the options listed below. Then write your thoughts about them in the space at the bottom of the page.

_____ Make a publicity brochure for a space tourism company

_____ Create a 3-D model space station or spaceship

_____ Write an original short story that takes place in space

_____ Adapt an existing story to take place in space

_____ Write a magazine or encyclopedia article about a space mission or astronaut

_____ Write several poems (at least three) about space or space travel

_____ Create a space exploration board game or quiz game

_____ Create a digital presentation (such as a PowerPoint) or a podcast about an important figure or mission in space exploration

_____ Other: _____

I am interested in these projects because_____

_____

_____

Jot down any other ideas you have about your number one and two choices:

_____

_____

_____

_____

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A Forgotten Story: Black Women Helped Land a Man on the Moon

By the Washington Post, adapted by Newsela and ALFA staff   First published 09/19/2016

It all started with a photograph.

Mary Gainer was a historic preservationist for NASA in 2011, when she stumbled on a mysterious 1943 photo that showed a thousand people standing in a huge building. Gainer figured that the black men posing in the front were probably machinists, and the rest of the group was mostly white men in suits and ties.

But scattered here and there was something unexpected. The picture showed women, some white and some black, in knee-length skirts. Gainer asked her new intern, Sarah McLennan, to get to the bottom of it. There were too many to be the few secretaries employed then, so who were they, she wanted to know?

Who Were These Women?

Little did Gainer know that another person was on a similar hunt. Margot Lee Shetterly was already a step ahead. Shetterly's father was a scientist who worked at Langley Research Center in Hampton, Virginia, so growing up in the 1970s and '80s, she knew about black women at NASA. "There are these women and I knew them, and my dad worked with them and they went to our church and their kids were in my school," she said recently over the phone from her home in Charlottesville.

Shetterly and her neighbors all knew the stories of these women. "Growing up in Hampton, the face of science was brown like mine," Shetterly writes in her book. But one day she realized this was a special story. In segregation-era Virginia, NASA had hired black women to do math and research that would launch men into space.

NASA Needed Math Whizzes

Shetterly started poking around and linked up with Gainer. Gainer's intern had already begun collecting stories from former employees and their families. Shetterly wrote a book about those math whizzes called "Hidden Figures." In January 2017, a movie based on the book was released. The cast included Taraji P. Henson, Octavia Spencer, and Janelle Monáe.

With that movie, a piece of history that was nearly lost became common knowledge.

Author Margot Lee Shetterly reads from her book to Washington DC school students. NASA photo #NHQ201612140018.

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"Computers" Used Pencil and Paper

One reason the story of these smart women was almost lost is that space travel in the 1950s and 60s was different from what it is today.

Everyone knows what a computer looks like. It has a hard drive, a monitor, a keyboard and a mouse. But in the middle of the last century at Langley, it looked different. Langley was, until 1958, part of the National Advisory Committee for Aeronautics (NACA), before it became NASA. Women who used pencils and paper to do research calculations were called computers. The first of their kind were hired in 1935. During World War II, many male workers left their jobs to join the war effort, and more women were hired to find ways to build better military planes. After the war, at most companies, men returned to their jobs and women returned to the home. But not at Langley. The need for better aircraft gave way to a different kind of battle: the country wanted to beat Russia to the moon. Female computers were more essential than ever.

Poster for the 2017 movie
Hidden Figures

The women who held these jobs did not feel remarkable. They were just happy to have work that paid better than the alternatives, like teaching and nursing. The jobs were considered easy, even though they required advanced math skills.

Medal of Freedom winner dies at 101

One such woman was Katherine G. Johnson. She was one of the most famous of the computers. In 2016, she won the Presidential Medal of Freedom, saw a building named after her, and had a bench dedicated in her honor. Katherine Johnson died on February 24, 2020, at the age of 101.

Like many of the other computers, Johnson studied math in college. At NASA, she worked on the life-or-death task of determining launch timing. Her calculations helped send Alan Shepard into space and guided him successfully back to Earth. They landed Neil Armstrong on the moon and brought him home.

Women on Team Were Segregated

Johnson was a trailblazer during a time of discrimination. The first black women who worked at NASA were segregated from the computing pool of white women. They had to use different bathrooms. At lunch in the cafeteria, they had to sit at a table with a white cardboard sign that read "colored computers."
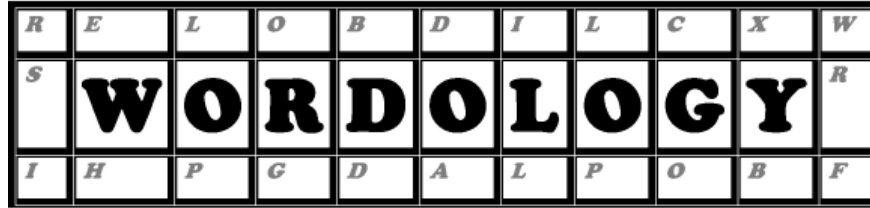
One woman, Miriam Mann, removed the sign from the table and hid it in her purse, throwing it out it at home. At first, it was regularly replaced, but Mann kept taking the signs, and finally they stopped appearing. It was the first of many victories.

Shetterly is happy that people will know not just about the John Glenns of the world, she said, but the whole team that helped them get where they were going.

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Galaxy Days 9 and 10   Name_____ Date _____

WORDOLOGY

## Wordology Activity #1: Matching Root Words

Instructions: The words in Column 1 are your Vocabulary Words. Draw an arrow to match each word to the one in Column 2 that is related to it. Then, write a sentence using the word in Column 2. An example is given.

1: Vocabulary Words	2: Related Words	3: Sentences
Historic	Calculate	
Calculations	Preservation	
Remarkable	Computer	
Preserve	Alternate	
Compute	Expect	
Alternative	History	**Example**: We need to know **history** so we don't repeat its mistakes.
Unexpected	Remark	

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Name_____ Date _____ *Galaxy* Days 9 and 10

R	E	L	O	B	D	I	L	C	X	W
S	**WORDOLOGY**									R
I	H	P	G	D	A	L	P	O	B	F
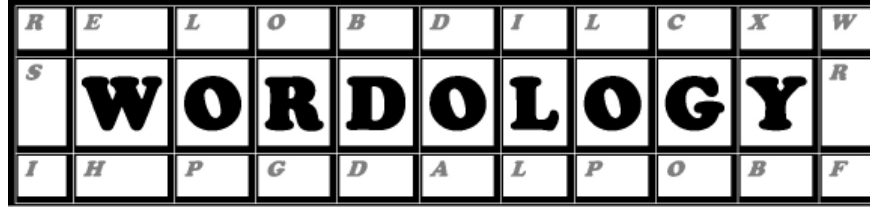
Wordology Activity #2: Reverse Crossword

Instructions: From the filled-out crossword, write down clues next to the appropriate numbers.
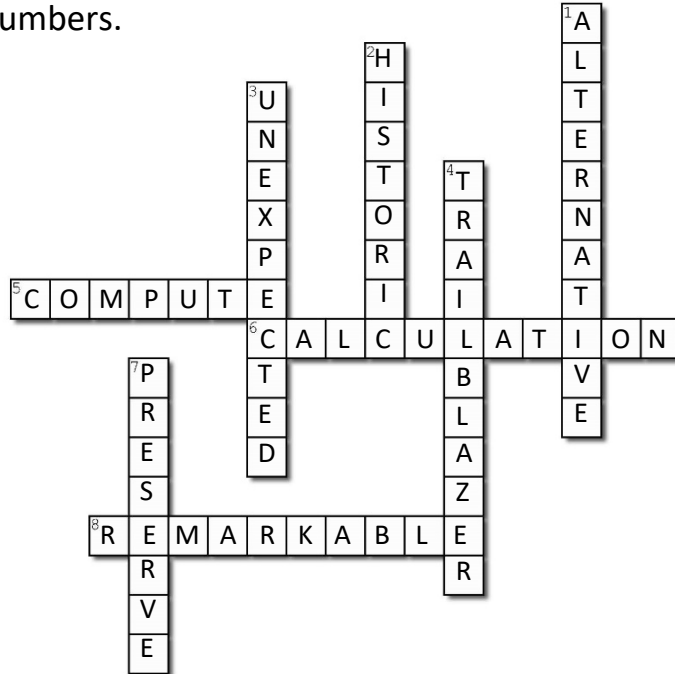
Created using the Crossword Maker on TheTeachersCorner.net

Across:

5: _____

_____

6: _____

_____
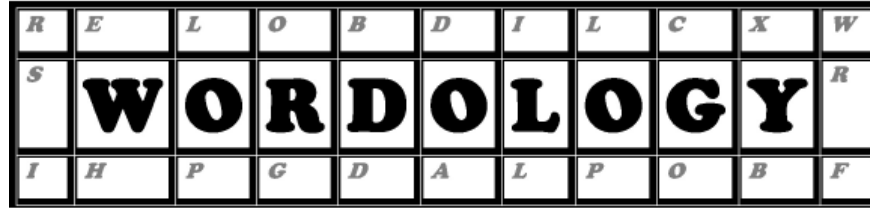
8: _____

_____

Down:

1: _____

_____

2: _____

_____

3: _____

_____

4: _____

_____

7: _____

_____

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Galaxy Days 9 and 10   Name_____ Date _____

WORDOLOGY

Wordology Activity #3: Using Vocabulary

Choose this activity **after** you have read "A Forgotten Story: Black Women Help Land a Man on the Moon." Answer the questions below in complete sentences. Include the vocabulary words in your answer.

Vocabulary Words	Guide Question	Complete Sentence
1. **unexpected; historic**	What was **unexpected** in the **historic** NASA photo that Mary Gainer found?	
2. **calculations**	What was the purpose of the **calculations** that the women were hired to do at NASA?	
3. **remarkable**	Why was it **remarkable** that NASA hired Katherine Johnson, Miriam Mann, and their coworkers for this work?	
4. **trailblazer**	In what ways were Katherine Johnson and the other black female computers **trailblazers**?	
5. **preserve**	What has been done to **preserve** the story of the black female computers at NASA?	

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Name_____ Date _____ *Galaxy* Days 9 and 10

Composing Meaningful Sentences

If you complete your chosen Wordology activity, take the remaining time at this station to write Meaningful Sentences using the vocabulary words listed below. (Remember, a Meaningful Sentence is a sentence that shows that you know what the word means!) Read and discuss your sentences with your teammates.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

__Word Bank__			
historic	compute	remarkable	trailblazer
preserve	calculation	alternative	unexpected

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Galaxy Days 9 and 10   Name_____ Date _____

COLLABORATION   **STATION**
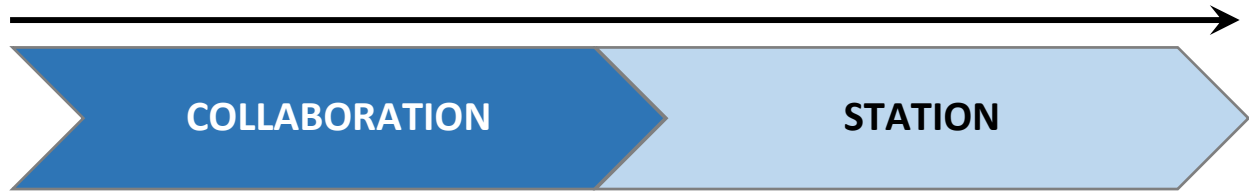
Collaboration Station: Partner Reading

Instructions: With a partner, read aloud the **first page** of "A Forgotten Story: Black Women Helped Land a Man on the Moon." Discuss answers to the questions below with your partner, then write down your answers on your own.

1. Why do you think Mary Gainer was so interested in learning more about the 1943 photo that she found at NASA?

2. How did Margot Lee Shetterly's background help her write a book about the story of the black women who worked at NASA?

3. If you were making a movie about black female math whizzes at NASA, what types of events would you include to make the movie interesting?

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Name_____ Date _____ *Galaxy* Days 9 and 10

🎧 Media Madness

***Hidden Figures* Trailer**

Instructions: Watch the trailer of the 2017 movie *Hidden Figures* at this link:

https://www.youtube.com/watch?v=RK8xHq6dfAo

This movie tells the true story of black women engineers and mathematicians who worked at NASA in the 1950s and 60s to help send astronauts into space. After watching the video once or twice, answer the questions below.

1. What does the video suggest about the challenges that these women faced while working at NASA?

_____

_____

_____

_____

2. What important national goals did the women help NASA accomplish?

_____

_____

_____

_____

3. What can you guess from the video about the attitudes that helped these women succeed?

_____

_____

_____

_____

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