

A Common Core State Standards & Next Generation
Science Standards-Aligned Discussion/Project Guide
for

VIRGINIA WOULDN'T SLOW DOWN: THE UNSTOPPABLE DR. APGAR AND HER LIFE SAVING INVENTION

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This book is an excellent choice for STEM/STEAM collections. ~School Library Journal (starred)

Written by Carrie A. Pearson

Illustrated by Nancy Carpenter

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The Apgar Score is known the world over: a test given to babies to determine their health moments after they are born. Less well-known is the story of the brilliant, pioneering woman who invented it.

Born at the turn of the twentieth century, Virginia “Ginny” Apgar soared above what girls were expected to do—or not do. She wasn’t quiet, she wore all sorts of outfits, she played the sports she wanted to—and she pursued the career she chose, graduating near the top of her class at Columbia University and becoming only the second board-certified female anesthesiologist in the United States. The simple five-step test she created—scribbled on the back of a piece of paper in answer to a trainee’s question—became the standard and continues to impact countless newborn babies’ lives today.

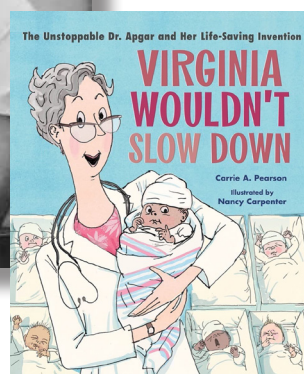
Ginny adored science, hated cooking, drove fast, made her own violins, earned a pilot’s license, and traveled the world. Here, Carrie Pearson’s jaunty storytelling and Nancy Carpenter’s playful illustrations capture the energy and independence of a woman who didn’t slow down for anything—and changed newborn care forever.

Guide created by
Debbie Gonzales, MFA



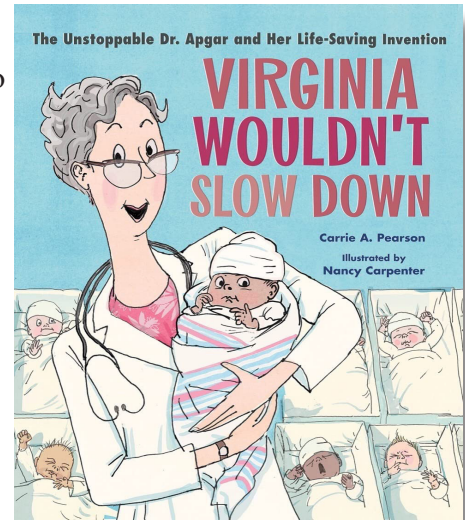
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Pre-Reading Discussion

- VIRGINIA WOULDN'T SLOW DOWN is a nonfiction biography meaning that it is a true story about a person who accomplished remarkable things. Consider the illustration featuring Virginia on the cover of the book. What remarkable things do you think Virginia accomplished?
- Describe the action taking place in the illustration. Notice the expression on Virginia's face. Why is she smiling so broadly in this illustration?
- The subtitle of the book reads THE UNSTOPPABLE DR. APGAR AND HER LIFE SAVING INVENTION. Define the word "unstoppable". Make a good guess about the type of 'life saving invention' being referenced in the subtitle.
- Based on the cover and the title, predict what this book is going to be about.



Meet the Author - Carrie A. Pearson:

Carrie Pearson is a former early education teacher who is now a children's book author of five books on the shelf and more forthcoming. She writes informational fiction, narrative nonfiction, standalone biography and collective biographies. Her writing work has taken her from the tallest tree on earth to an interview with a Nigerian princess. For much more, visit her website at www.carriepearsonbooks.com.



Meet the Illustrator- Nancy Carpenter:

Nancy Carpenter is the celebrated illustrator of more than forty books for children. Her unique multimedia approach to illustration has garnered numerous honors, including two Christopher Awards and the Jane Addams Children's Book Award. Ms. Carpenter lives in Brooklyn, New York, with her family and dog.



Post-Reading Discussion

But Ginny was different.

- The word *different* is defined as being unusual, odd, unique, and special. Tell how, as a young girl, Virginia's personality and behaviors were different from other girls like her.
- Explain how, as compared to other young girls born at that time in history, not being interested in homemaking or wearing feminine clothing made her seem unusual or odd.
- Determine how watching her father in his basement laboratory helped inspire Virginia to develop a unique interest in the medical field.
- Attributes are qualities and characters that make an individual special. List the attributes that made young Virginia Apgar both different and very, very special.

Ginny decided to become a doctor, even though most doctors in her time were men, and she'd never seen a female doctor.

- Though women were not encouraged to pursue a career as a physician, Virginia was determined to become a doctor. To be *determined* means to be strong-willed, stubborn, and persistent. Explain why Virginia needed an extra dose of determination to achieve her goal to become a doctor.
- Identify how Virginia persistently focused on her dream, no matter what struggle was placed before her.
- Discuss what her commitment to repay those who helped pay for her studies reveals about the type of person Virginia was.
- Virginia finally became a doctor during the Great Depression, a time long ago when many people lost their jobs, and there wasn't enough money for people to buy things they needed. It started in 1929 and lasted for many years. Determine the impact The Depression had on Virginia's goals and dreams.

Virginia made the most of her opportunities.

- An *anesthesiologist* is a doctor who helps make sure patients don't feel any pain while having procedures or surgery by giving special medicine. While the medicine is working in the patient's body, anesthesiologists care for the patient, making sure they are safe until the procedure or surgery is over. Tell how being an anesthesiologist provided Virginia with opportunities to help all kinds of patients in the hospital.
- Discuss how the phrase "Virginia made the most of her opportunities." reflects Virginia's enthusiastic outlook on life.



What she found in the delivery room shocked her.

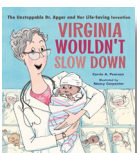
- If the obstetricians delivering the babies could not agree on the medical needs of infants, why was Virginia concerned for them?
- Consider how, in the medical world, being a female served as a hurdle for Virginia to overcome. Explain why becoming an advocate for infant care was such a challenge for Virginia to overcome.
- Determine how Virginia's character, life experiences, and determination uniquely prepared her to discover new ways to care for newborns.
- Discuss how Virginia's early experiences in the delivery room serve to define her life's work and ultimate impact on the world...forever.

One day, a young doctor in training asked Virginia how someone could quickly measure the health of a newborn. Virginia said, "That's easy! You do it this way!"

- Imagine you're Virginia, and you're in a hospital with tiny babies who need special care. You know exactly what these babies need to get better because you've learned a lot about them. But when you try to tell the doctors, they don't listen to you because you're a woman, and they think that women don't know as much. Discuss the unfairness of this type of thinking.
- Virginia was like a superhero on a mission. Nothing could stop her. What made her keep trying, even when it was super tough? Why did she keep wanting to tell her important ideas to others?
- Finally, a young doctor asked her how to evaluate newborns. Describe how Virginia must've felt when she realized there was a way to easily measure the health of a newborn and keep them safe.

It is likely someone tested you with the APGAR Score when you were born. It is even possible that it showed the people who cared for you that you needed help right away. Perhaps someday, the person who gives the APGAR Score – and saves a baby's life – will be you.

- Imagine you're the person using the APGAR Score to check on a newborn baby. How would you feel knowing you could help save a baby's life?
- Why do you think it's important for us to remember the people who came up with ways to help others, like Dr. Apgar and her APGAR Score?
- If you could talk to Dr. Apgar, what would you ask her about her invention?
- What are some ways that you can help people when you grow up, just like Dr. Apgar still helps babies with her score?



Vocabulary Building Activities: The APGAR Scorecard

Objective: Students will match key terms related to the APGAR Score with their correct definitions to build their understanding of the vocabulary used in assessing newborn health. These activities serve as the foundational knowledge for the role-playing and group research activities, ensuring that students are familiar with the specific medical terminology related to the APGAR Score. Engaging with these terms through interactive and fun vocabulary exercises will enhance students' understanding and retention, setting a solid stage for the more complex activities to follow.

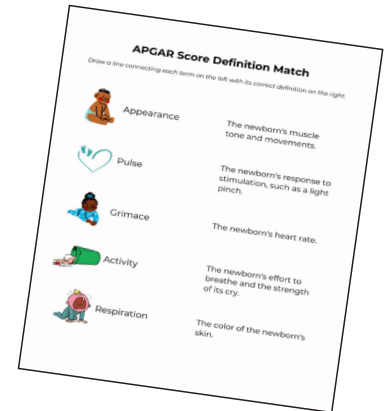
Activity 1: APGAR Score Definition Match

Materials:

- APGAR Score Definition Match, (Guide, pg. 7)
- APGAR Score Definition Match Answers, (Guide, pg. 8)
- Pens, pencils, or highlighters

Procedure:

- Begin with a brief overview of the APGAR Score, explaining its importance in newborn health assessments.
- Introduce the five terms used in the APGAR Score: Appearance, Pulse, Grimace, Activity, and Respiration.
- Hand out a copy of the APGAR Score Definition Match to the students.
- Students will draw lines connecting each APGAR Score term in one column to its correct definition in the other column.
- Encourage students to use the APGAR Score Definition Match Answer guide if they need help with the meanings.
- Ask students to think about why each of these categories is important for understanding a baby's health at birth.



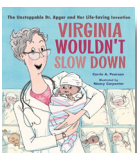
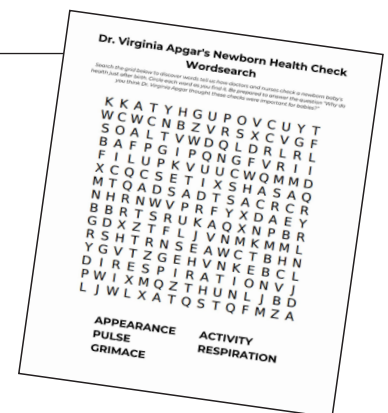
Activity 2: APGAR Score Vocabulary Wordsearch

Materials:

- Dr. Virginia Apgar's Newborn Health Check Wordsearch, (Guide, pg. 9)
- Dr. Virginia Apgar's Newborn Health Check Wordsearch Answers, (Guide, pg. 10)
- Pens or pencils

Procedure:

- Quickly review the APGAR Score terms and their meanings as a refresher from the previous activity.
- Distribute the word search puzzles to the students, ensuring each term from the APGAR Score is hidden within the puzzle.
- Students will search for and circle each term related to the APGAR Score.
- Once everyone has found all the terms, discuss the meaning of each one again, reinforcing the definitions.



APGAR Score Definition Match

Draw a line connecting each term on the left with its correct definition on the right.



Appearance

The newborn's muscle tone and movements.



Pulse

The newborn's response to stimulation, such as a light pinch.



Grimace

The newborn's heart rate.



Activity

The newborn's effort to breathe and the strength of its cry.



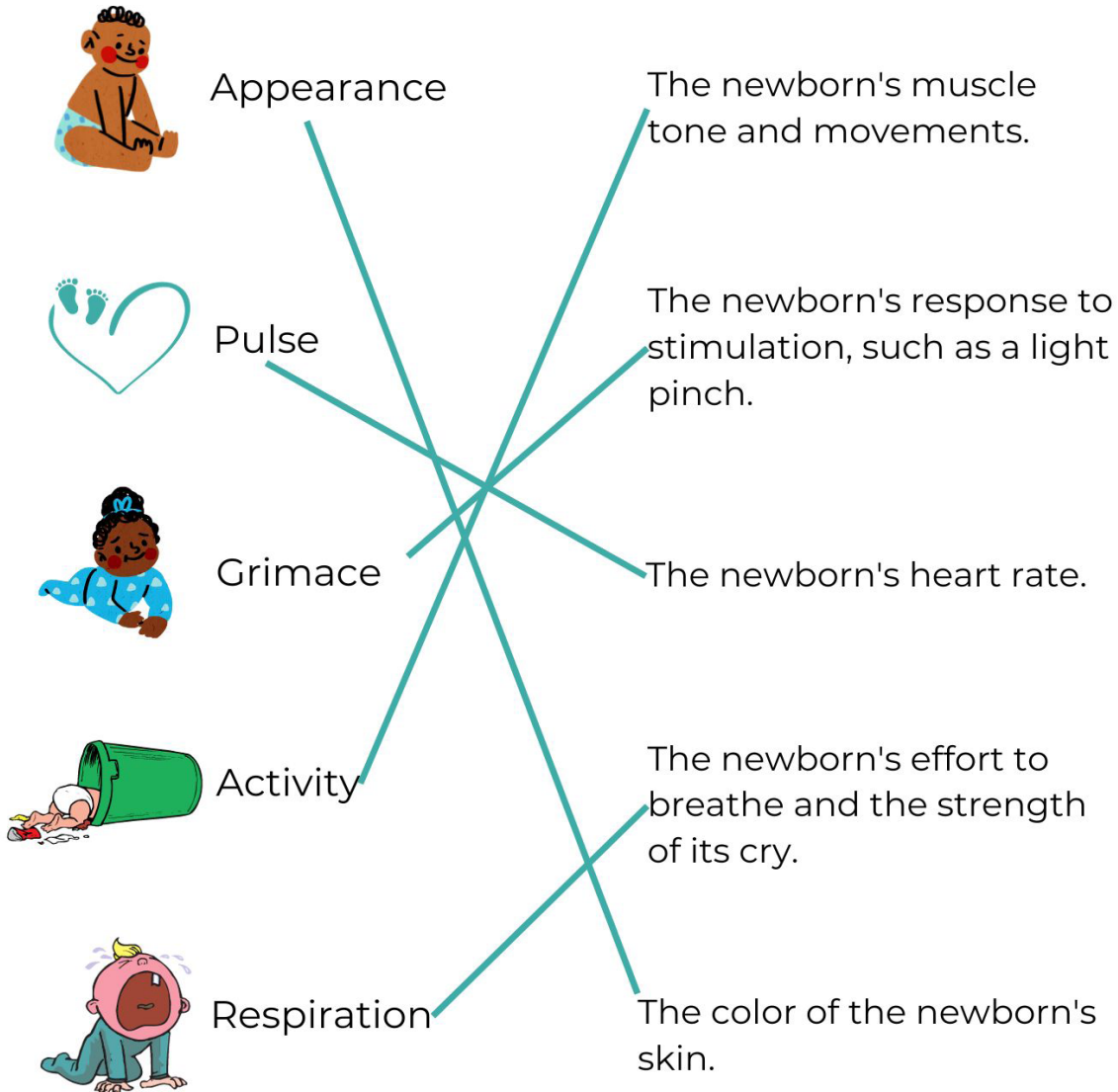
Respiration

The color of the newborn's skin.



APGAR Score Definition Match Answers

Draw a line connecting each term on the left with its correct definition on the right.



Dr. Virginia Apgar's Newborn Health Check

Wordsearch

Search the grid below to discover words tell us how doctors and nurses check a newborn baby's health just after birth. Circle each word as you find it. Be prepared to answer the question "Why do you think Dr. Virginia Apgar thought these checks were important for babies?"

K K A T Y H G U P O V C U Y T
 W C W C N B Z V R S X C V G F
 S O A L T V W D Q L D R L R L
 B A F P G I P Q N G F V R I I
 F I L U P K V U U C W Q M M D
 X C Q C S E T I X S H A S A Q
 M T Q A D S A D T S A C R C R
 N H R N W V P R F Y X D A E Y
 B B R T S R U K A Q X N P B R
 G D X Z T F L J V N M K M M L
 R S H T R N S E A W C T B H N
 Y G V T Z G E H V N K E B C L
 D I R E S P I R A T I O N V J
 P W I X M Q Z T H U N L J B D
 L J W L X A T Q S T Q F M Z A

APPEARANCE

PULSE

GRIMACE

ACTIVITY

RESPIRATION



Dr. Virginia Apgar's Newborn Health Check Wordsearch Answers



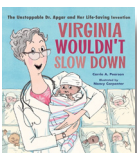
APPEARANCE

PULSE

GRIMACE

ACTIVITY

RESPIRATION



Score a Newborn! Role-Playing Activity

Objective: Give students a hands-on experience to understand the APGAR Score and how it's used by simulating a health provider's role with baby dolls. This activity allows students to embody the role of a healthcare professional, making the learning experience tactile and memorable, while providing them with a greater appreciation for the APGAR Score's significance in real-life settings.

Materials:

- VIRGINIA WOULDN'T SLOW DOWN, the book
- Dr. Virginia Apgar's Newborn Health Check Score Card, (Guide, pg. 12)
- Baby dolls (one for each small group or pair of students)
- Stopwatch or timer
- Stethoscopes (toy ones would work, or just make them out of craft material)
- Blankets
- Cardstock
- Scissors

Criteria	0 Points	1 Points	2 Points
Appearance	Blue or pale all over	Body pink, extremities pale	Completely pink
Pulse	No heart rate	Fewer than 100 beats per minute	At least 100 beats per minute
Grimace	No response	Grimace or feeble cry when stimulated	Coughs, sneezes, pulls away when stimulated
Activity	Little or no movement	Some flexion of arms or movement	Active, spontaneous movement
Respiration	Absent, no breathing	Weak, irregular, or slow breathing	Strong, regular cry; good breathing

Total APGAR Score _____




Procedure:

- Print copies of Dr. Virginia Apgar's Newborn Health Check score cardstock. Use scissors to trim around the borders of the score cards.
- Explain to the students that, in this lesson, they will be playing the a health provider's role just like Dr. Virginia Apgar by using her special APGAR Score to check the health of newborn babies.
- Divide the students into pairs or small groups and give each a baby doll. Instruct them to play the role of a doctor and evaluate their newborn baby using the APGAR Scorecard.
- Distribute copies of the APGAR Scorecard and stethoscopes to the students.
- Show the students how to "evaluate" a baby doll using the APGAR criteria using the following criteria:
 - Appearance: Check the baby's skin color. Is it blue, pink, or a mix of both?
 - Pulse: Pretend to listen to the baby's heart using the stethoscope. Is it fast, slow, or just right?
 - Grimace: Tickle the baby's foot. How does it react?
 - Activity: See how much the baby moves. Is it very active, a little active, or not moving at all?
 - Respiration: Pretend to listen to the baby's breathing pattern. Does the baby have a loud cry?
- Once they've finished their evaluations, group share their baby's APGAR Score with the class.
- Discuss the importance of each criterion and why Dr. Apgar created the score. Ask them how they felt being a "healthcare provider" and checking newborns.



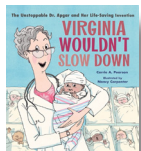
Dr. Virginia Apgar's Newborn Health Check



Criteria	 0 Points	 1 Points	 2 Points
Appearance	<i>Blue or pale all over</i>	<i>Body pink, extremities blue</i>	<i>Completely pink</i>
Pulse	<i>No heart rate</i>	<i>Fewer than 100 beats per minute</i>	<i>At least 100 beats per minute</i>
Grimace	<i>No response</i>	<i>Grimace or feeble cry when stimulated</i>	<i>Coughs, sneezes, pulls away when stimulated</i>
Activity	<i>Limp, no movement</i>	<i>Some flexion, limited movement</i>	<i>Active, spontaneous movement</i>
Respiration	<i>Absent, no breathing</i>	<i>Weak, irregular, or slow breathing</i>	<i>Strong, robust cry; good breathing</i>



Total APGAR Score _____

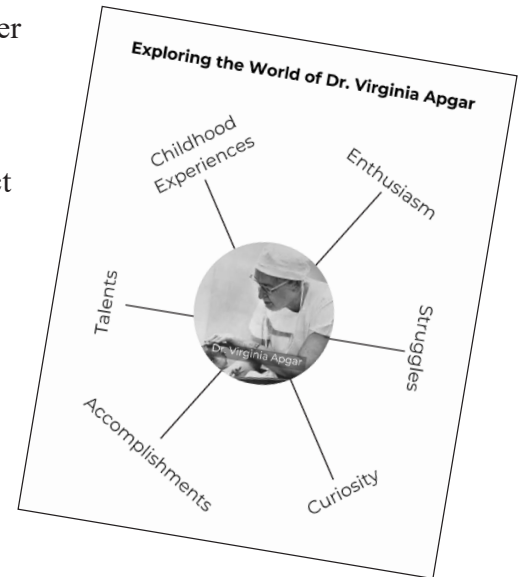


Exploring the World of Dr. Virginia Apgar

Objective: Students will identify and understand the key character traits of Dr. Virginia Apgar and how these traits influenced her life and contributions to medicine. This activity not only aids in understanding the character traits of Dr. Apgar but also in understanding how one's character can shape their life and impact the world.

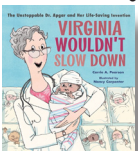
Materials:

- VIRGINIA WOULDN'T SLOW DOWN, the book
- Exploring the World of Dr. Virginia Apgar Word Web template, (Guide, pg.14)
- Large sheets of paper or poster boards
- Markers, crayons, or colored pencils
- Printed images or drawings of Dr. Apgar (optional)
- Sticky notes or index cards
- Reference materials about Dr. Virginia Apgar (books, articles, or videos)

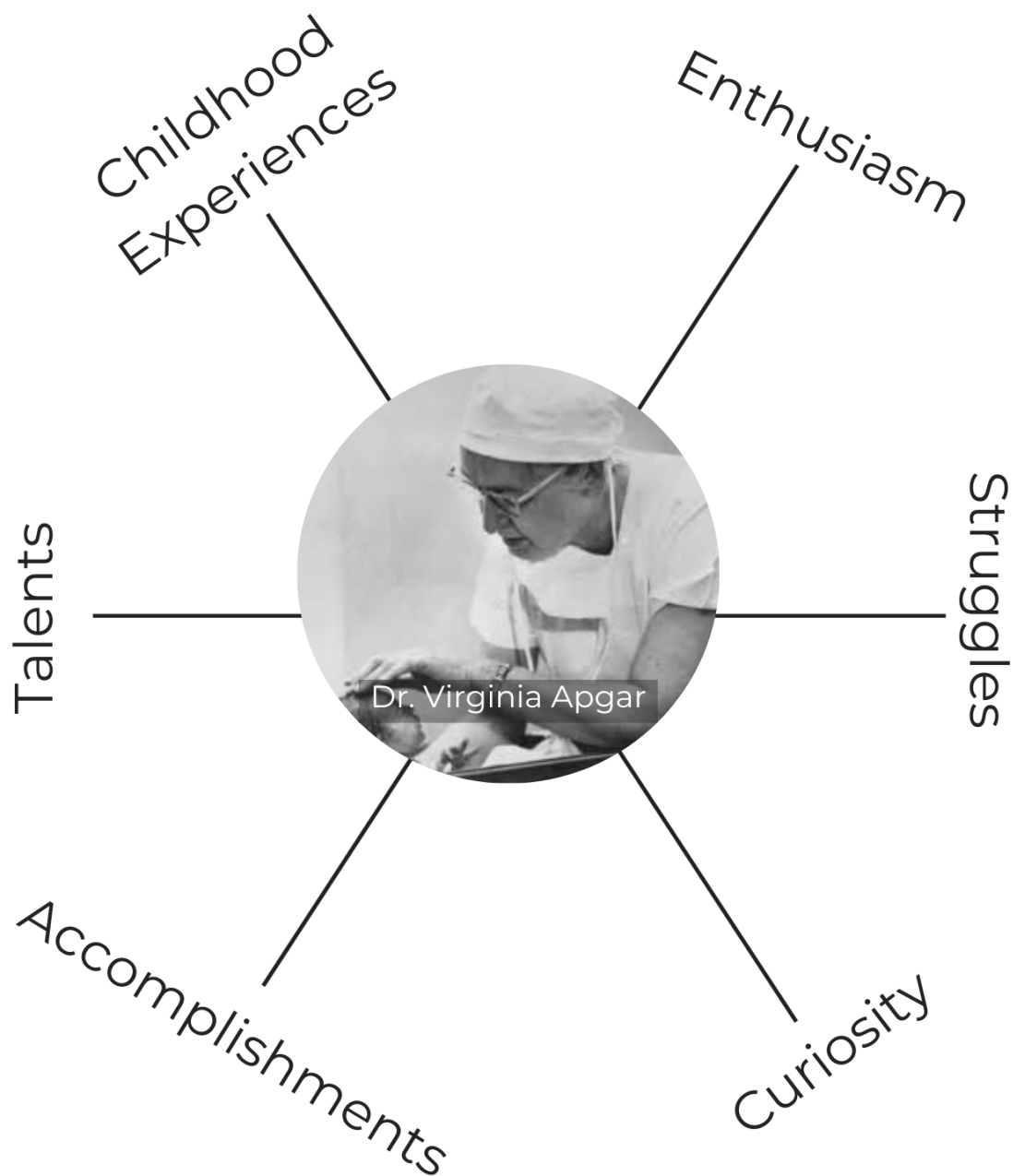


Procedure:

- Lead a discussion about Dr. Virginia Apgar, highlighting her best-known achievement: the Apgar Score, which assesses the health of newborns. Examine her significance in the medical field and provide a general overview of her life.
- Using the Exploring the World of Dr. Virginia Apgar Word Web template as reference, place a picture or the name of Dr. Virginia Apgar in the center of the large paper. Around this central point, write the key aspects you want to explore: Childhood Experiences, Talents, Interests, Enthusiasm, Struggles, Accomplishments, and Curiosity.
- Break students into small groups and assign each group a character trait to start with.
- Provide each group with reference materials and guide them to find information related to their assigned trait.
- Encourage students to draw or write down words or short phrases related to their trait on sticky notes or index cards.
- Have each group stick their notes around the trait word on the large paper, creating a 'spoke' of the web.
- Once the groups have completed their sections of the web, bring everyone together. Have each group present their findings and attach their sticky notes or index cards to the web.
- Discuss how Dr. Apgar's traits may have influenced or been influenced by her life experiences and achievements.
- Ask students how they think these traits helped Dr. Apgar in her career. Have them think of times they have or could exhibit these traits in their own lives.
- Discuss how these interconnected traits formed the basis of Dr. Apgar's character helped her overcome obstacles and succeed.
- Display the completed word web in the classroom for students to see and be inspired by Dr. Apgar's story.
- Students can write a short paragraph or story imagining a day in the life of Dr. Apgar, incorporating the traits discussed.



Exploring the World of Dr. Virginia Apgar



Educational Standards Alignment

Common Core State Anchor Standards

		Discussion	Vocabulary Match	Word Search	Role Play	Mind Map
College and Career Readiness Anchor Standards for Reading						
Key Ideas and Details						
	1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.	X	X	X		
	2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.	X				X
	3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.	X			X	X
Craft and Structure						
	4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.	X	X	X	X	X
Integration of Knowledge and Ideas						
	7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.	X	X	X	X	X
Range of Reading and Level of Text Complexity						
	10. Read and comprehend complex literary and informational texts independently and proficiently.	X	X	X	X	X
College and Career Readiness Anchor Standards for Writing						
Text Types and Purposes						
	2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.					X
Production and Distribution of Writing						
	4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.					X
	5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.					X
Research to Build and Present Knowledge						
	7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.					X
	9. Draw evidence from literary or informational texts to support analysis, reflection, and research					X

Next Generation Science Standards

3-LS1-1 From molecules to Organisms: Structures and Processes						
	Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.	X	X	X	X	X
LS1.B: Growth and Development of Organisms						
	Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.	X	X	X	X	X

