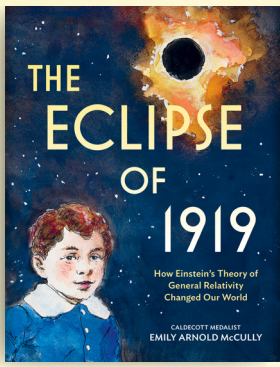


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THE ECLIPSE OF 1919:

How Einstein's Theory of General Relativity Changed Our World

CALDECOTT MEDALIST

EMILY ARNOLD McCULLY

TEACHING TIPS

The Eclipse of 1919 focuses on the period of young Albert Einstein's life in which his theory of relativity was tested and confirmed.

VOCABULARY DEVELOPMENT

On index cards, create visual representations of unfamiliar words in the text. Before the read aloud, model each term using a simple Total Physical Response (TPR) to support students' meaning-making as they listen. During the reading, reference the cards when the words appear. After, invite students to sort the cards into new science and literary vocabulary.

EXAMPLES:

Interchangeable:

- Hold up two identical cards in each hand and swap them.
- A card with two images that mean the same thing, connected by an arrow going both ways, shows how two objects can hold the same meaning or purpose.

Heartsick:

- Put a hand gently over the chest and tilt head downward.
- Draw a small blue heart.

Unspectacular:

- Shrug and open hands outward, then make a small shrugging smile.
- Draw a plain square next to a decorated one.

Protest:

- Raise one hand like holding a sign, then pretend to chant with a group.
- Draw a circle with a diagonal line through it.



Correspondent:

- Mime writing quickly while listening.
- Show a small notebook labeled "news".

Eclipse:

- Use a black circle sliding over a bright circle on a card.

Relativity:

- Stretch arms wide for "space," then slowly bring them together for "time".
- Show two clocks showing different times.

Astronomer:

- Point up at the sky, then bring hands together like holding a telescope.
- Draw 2-3 stars.

Theory:

- Hold an imaginary idea in one hand, then place pretend evidence next to it.
- show a lightbulb drawing.

Predict:

- Look ahead and point forward.
- Draw a calendar with a star on a future date.

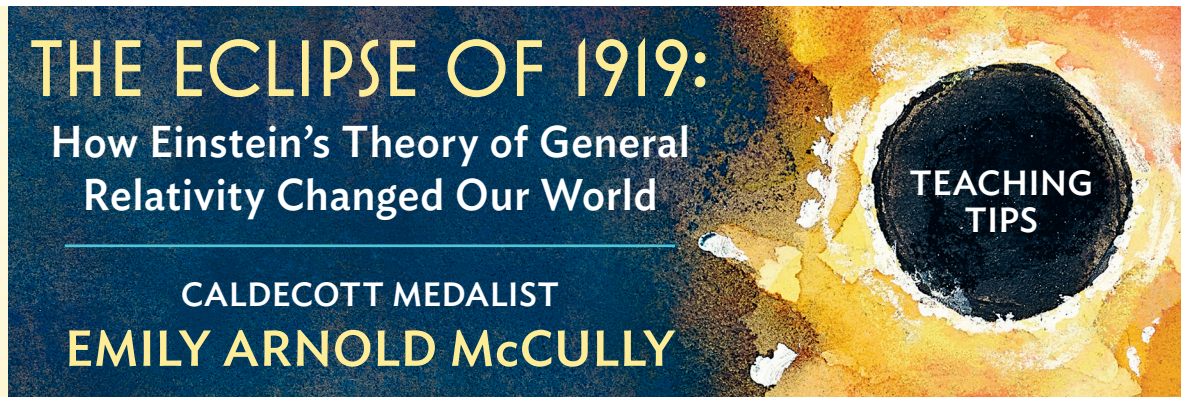
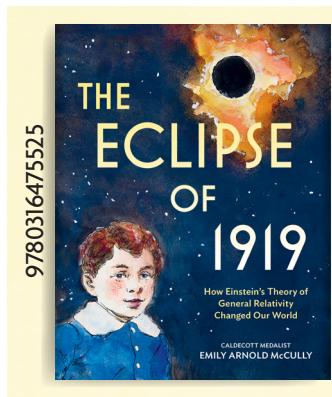
TECHNOLOGY: THEN AND NOW

Conduct a "Then and Now" matching game using illustrations associated with the time and setting of the biography. For example, students might match young Einstein's compass with today's GPS tools. They might match the chalkboard in Einstein's childhood classroom with the Smart Boards of today's classrooms. They might connect the telegraph with today's text-messaging platforms. Conclude with a discussion that connects past innovations with present-day technology. Include a personal writing prompt: *What technology do you use at home and at school? Did you see anything like it in the book?*

At my home/school I use _____.

In the book I saw _____.





ESTABLISHING THE MINDSET OF PERSEVERANCE

Foster students' mindset of perseverance by discussing how Einstein responded to challenges and setbacks. Invite them to build a "theory" of perseverance based on his actions across time. Conclude with a personal writing prompt: *What does perseverance mean?* (Meaning: not giving up, even when things get hard) *When was a time you had to persevere? What helped you keep going?*

SLOW DOWN THE MOMENT

Deepen students' understanding of character and story development via the illustrations in which Einstein's theory of relativity is tested. Explore the significance of the moment with students. Study the visual details such as perspective, color, and distance, and encourage students to share what they notice. Then, bring the scene to life with a dramatic interpretation in which students act out each page while you read the text aloud. Make note of how the weather impacted the scientists. Use guiding questions to prompt reflection: *What events are unfolding? How are the characters feeling? What might they be saying or learning? How does this moment connect to the rest of the story?*

EXTRA! EXTRA! READ ALL ABOUT IT!

Study the illustrations of newspaper headlines about Einstein's announcement to the Royal Society of London. Guide students to think like journalists and analyze the meaning of each headline. Then, invite students to contribute to the collection with their own ideas for headlines.

WRITE A LETTER TO A SPECIAL PERSON

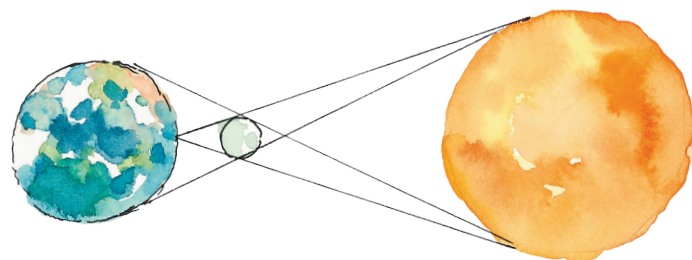
Einstein wrote a letter to his mother about the success of his experiment. He wanted to share his good news with someone very close to him. Encourage students to consider the kind of good news they would like to share with others. Invite them to write a letter to a person in their lives, celebrating a personal accomplishment. Make sure to include the parts of a letter and share your very important news. Some ideas of accomplishments relevant to students' lives include, finishing a book, doing well on a test, creating a piece of art, or learning to play a sport.

TOOLS FOR VIEWING ECLIPSES

Explore the tools people use to view eclipses safely, such as eclipse glasses, pinhole projectors, and telescopes. Practice using eclipse glasses. Teach correct use: put glasses on before looking up, keep them on while looking at the sun, and remove only when looking away. Practice with a bright light source or the sky (not the sun) so students learn how to put them on and take them off safely.

MAKE AN ECLIPSE MODEL

Build students' understanding of solar and lunar eclipses as moments when the Sun, Moon, and Earth align in a way that one blocks the light of another. Guide students through a hands-on activity to recreate an eclipse using a flashlight (representing the Sun), a large ball on a stick (Earth), and a smaller ball on a stick (Moon). In a darkened space, have students move the "Moon" between the flashlight and the "Earth" to simulate a solar eclipse, and then shift the "Earth" between the flashlight and the "Moon" to model a lunar eclipse. Encourage them to observe how shadows form and how light is blocked or revealed. Wrap up by asking: *When is the next eclipse, and how might you prepare to view it safely?*



These Teaching Tips were created by classroom teachers Ms. Angie House and Ms. Amanda Smith.



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