COPERNICUS LEGACIES IN ANGLOPHONE CHILDREN'S LITERATURE

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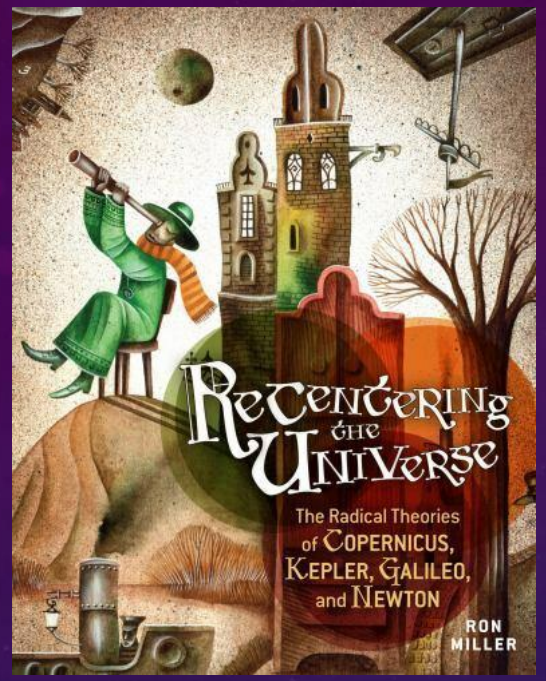
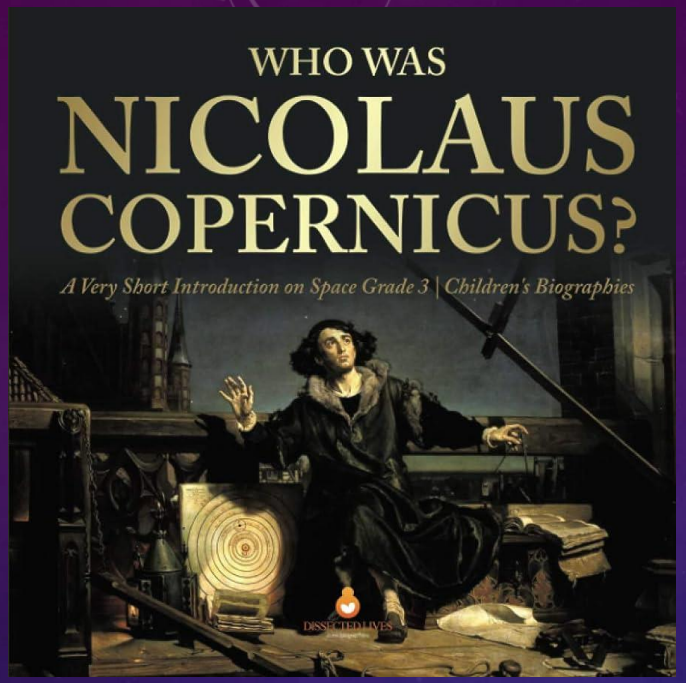
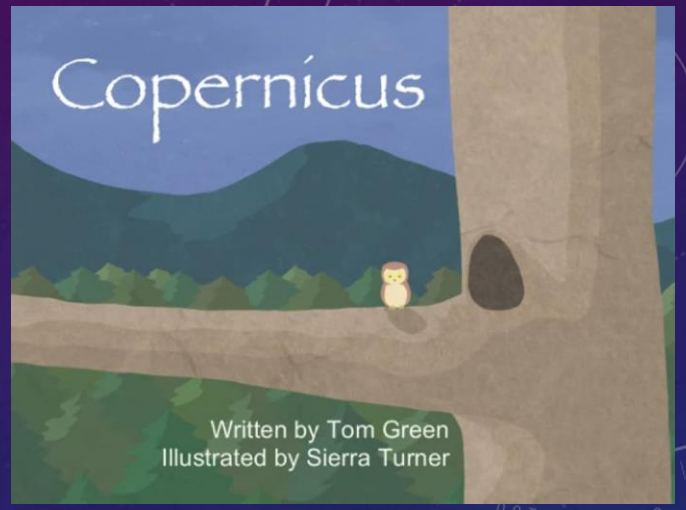
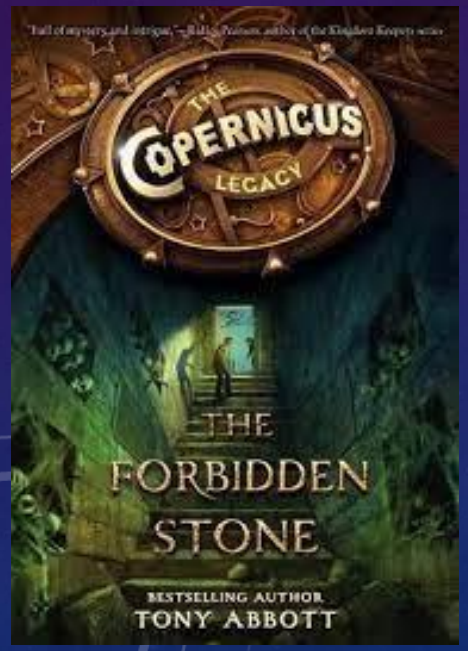
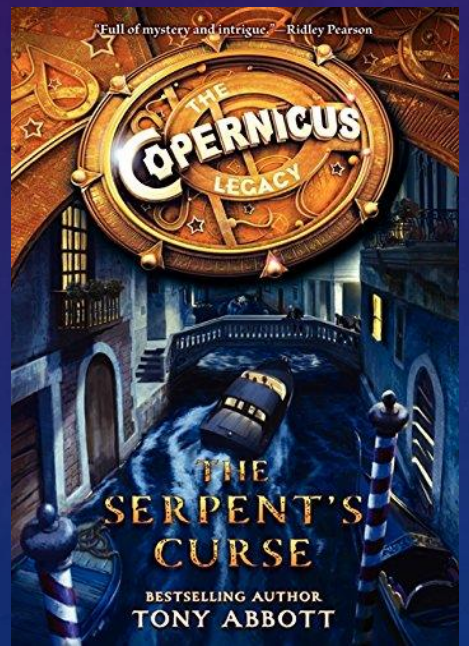

Recentering the Universe
The Radical Theories of Copernicus, Kepler, Galileo, and Newton
Ron Miller

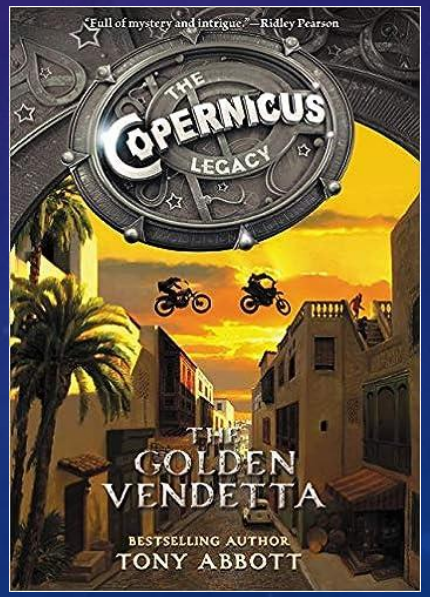

WHO WAS
NICOLAUS COPERNICUS?
A Very Short Introduction on Space Grade 3 | Children's Biographies


HARRY & LARRY'S EPIC ADVENTURE
The Copernicus Chronicle


Copernicus
Written by Tom Green
Illustrated by Sierra Turner


THE COPERNICUS LEGACY
THE FORBIDDEN STONE
BESTSELLING AUTHOR
TONY ABBOTT


"Full of mystery and intrigue." —Ridley Pearson
THE COPERNICUS LEGACY
THE SERPENT'S CURSE
BESTSELLING AUTHOR
TONY ABBOTT


"Full of mystery and intrigue." —Ridley Pearson
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THE GOLDEN VENDETTA
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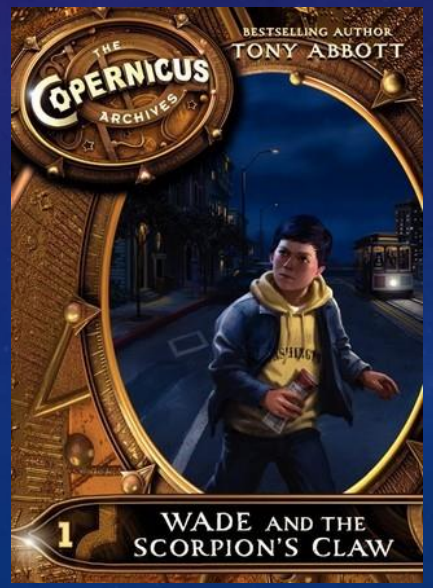
THE COPERNICUS ARCHIVES
BESTSELLING AUTHOR
TONY ABBOTT
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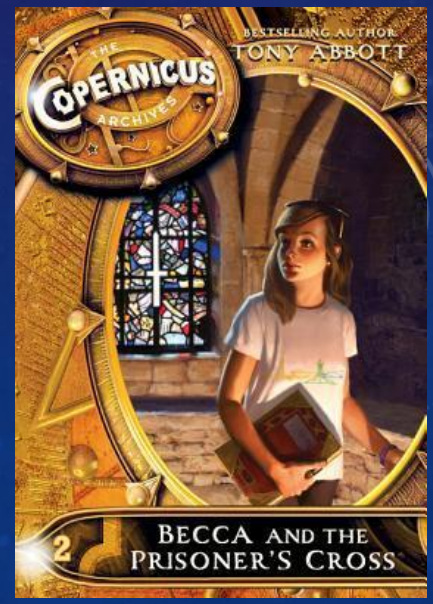
WADE AND THE SCORPION'S CLAW


THE COPERNICUS ARCHIVES
BESTSELLING AUTHOR
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BECCA AND THE PRISONER'S CROSS

Childrens culture as

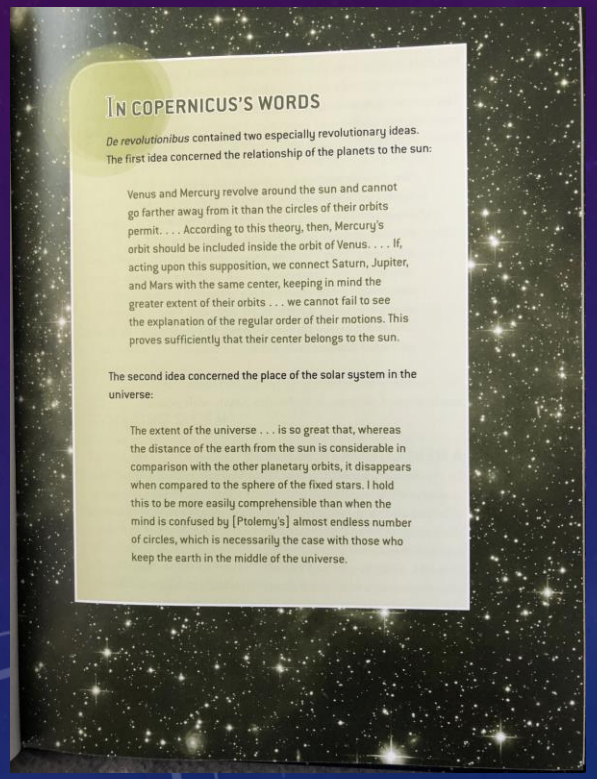
- modeling young readers' perceptions of scientists and science
- contributing to critical literacy's project of inviting children to the exercise of thinking about information rather than receiving it passively (Sanders 2017)
- inviting reflection on what it means to represent an adult life from the past to a contemporary child; on what it means to inspire children today; and on what it means to think of the child's agency in the future

THE BIOGRAPHEMES

points of contact between the reader and the historical figure -- “temporal tunnels or wormholes, through which the future-bound child and the past adult are allowed to interact” (Beauvais 2020)

RECENTERING THE UNIVERSE: THE RADICAL THEORIES OF COPERNICUS, KEPLER, GALILEO, AND NEWTON (2014)

BY RON MILLER



IN COPERNICUS'S WORDS

De revolutionibus contained two especially revolutionary ideas. The first idea concerned the relationship of the planets to the sun:

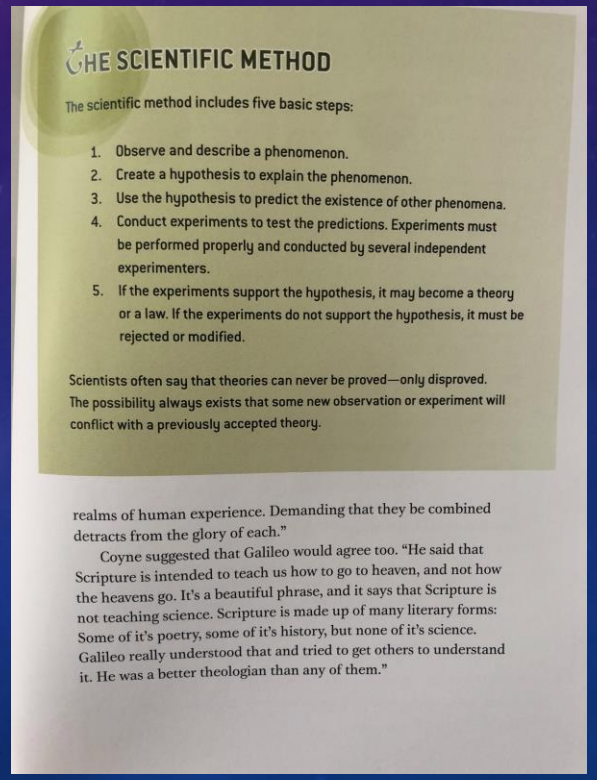
> Venus and Mercury revolve around the sun and cannot go farther away from it than the circles of their orbits permit. . . . According to this theory, then, Mercury's orbit should be included inside the orbit of Venus. . . . If, acting upon this supposition, we connect Saturn, Jupiter, and Mars with the same center, keeping in mind the greater extent of their orbits . . . we cannot fail to see the explanation of the regular order of their motions. This proves sufficiently that their center belongs to the sun.

The second idea concerned the place of the solar system in the universe:

> The extent of the universe . . . is so great that, whereas the distance of the earth from the sun is considerable in comparison with the other planetary orbits, it disappears when compared to the sphere of the fixed stars. I hold this to be more easily comprehensible than when the mind is confused by [Ptolemy's] almost endless number of circles, which is necessarily the case with those who keep the earth in the middle of the universe.

THE ASTRONOMER'S TOOLS

Before the invention of the telescope in the early 1600s, astronomers had many tools for observing the universe. Most were for accurately measuring the positions and movements of the stars and the planets. Tools for determining what stars were made of or how far away they were had not yet been invented. In Copernicus's time, astronomers used instruments such as the astrolabe *(right)* and the quadrant to determine the positions of stars and to measure the distances between them. Star movements helped people anticipate the seasons, and they helped sailors guide their ships.



THE SCIENTIFIC METHOD

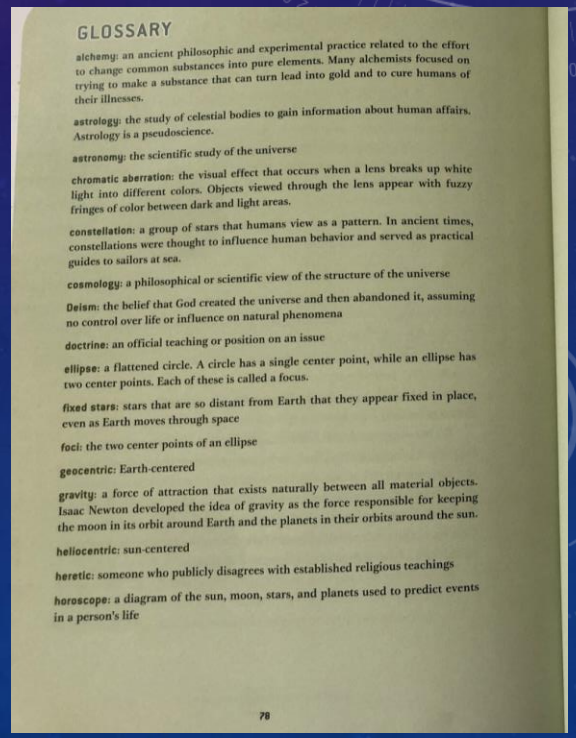
The scientific method includes five basic steps:

1. Observe and describe a phenomenon.
2. Create a hypothesis to explain the phenomenon.
3. Use the hypothesis to predict the existence of other phenomena.
4. Conduct experiments to test the predictions. Experiments must be performed properly and conducted by several independent experimenters.
5. If the experiments support the hypothesis, it may become a theory or a law. If the experiments do not support the hypothesis, it must be rejected or modified.

Scientists often say that theories can never be proved—only disproved. The possibility always exists that some new observation or experiment will conflict with a previously accepted theory.

realms of human experience. Demanding that they be combined detracts from the glory of each."

Coyne suggested that Galileo would agree too. "He said that Scripture is intended to teach us how to go to heaven, and not how the heavens go. It's a beautiful phrase, and it says that Scripture is not teaching science. Scripture is made up of many literary forms: Some of it's poetry, some of it's history, but none of it's science. Galileo really understood that and tried to get others to understand it. He was a better theologian than any of them."



GLOSSARY

alchemy: an ancient philosophic and experimental practice related to the effort to change common substances into pure elements. Many alchemists focused on trying to make a substance that can turn lead into gold and to cure humans of their illnesses.

astrology: the study of celestial bodies to gain information about human affairs. Astrology is a pseudoscience.

astronomy: the scientific study of the universe

chromatic aberration: the visual effect that occurs when a lens breaks up white light into different colors. Objects viewed through the lens appear with fuzzy fringes of color between dark and light areas.

constellation: a group of stars that humans view as a pattern. In ancient times, constellations were thought to influence human behavior and served as practical guides to sailors at sea.

cosmology: a philosophical or scientific view of the structure of the universe

Deism: the belief that God created the universe and then abandoned it, assuming no control over life or influence on natural phenomena

doctrine: an official teaching or position on an issue

ellipse: a flattened circle. A circle has a single center point, while an ellipse has two center points. Each of these is called a focus.

fixed stars: stars that are so distant from Earth that they appear fixed in place, even as Earth moves through space

foci: the two center points of an ellipse

geocentric: Earth-centered

gravity: a force of attraction that exists naturally between all material objects. Isaac Newton developed the idea of gravity as the force responsible for keeping the moon in its orbit around Earth and the planets in their orbits around the sun.

heliocentric: sun-centered

heretic: someone who publicly disagrees with established religious teachings

horoscope: a diagram of the sun, moon, stars, and planets used to predict events in a person's life

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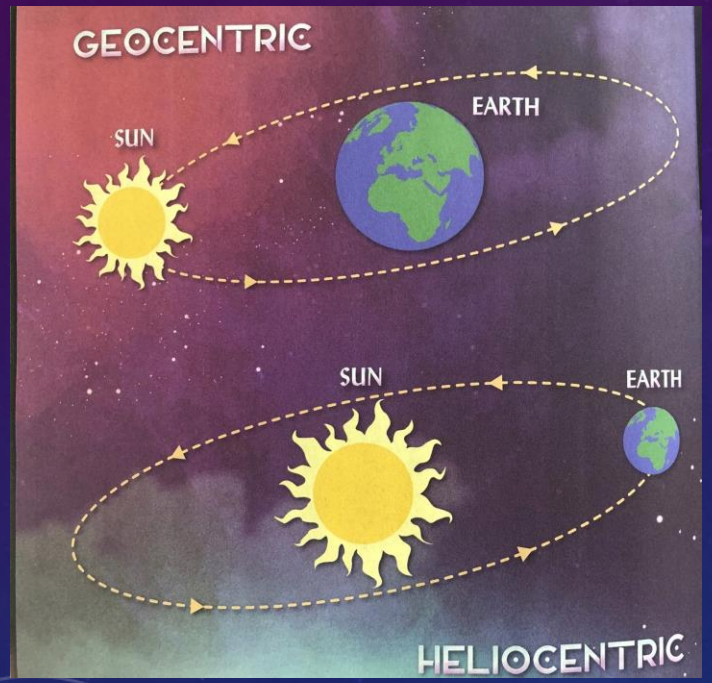
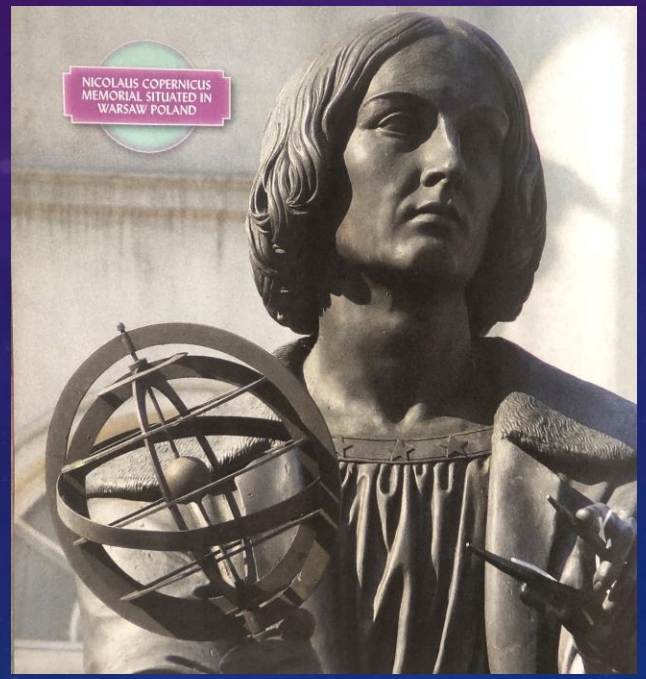
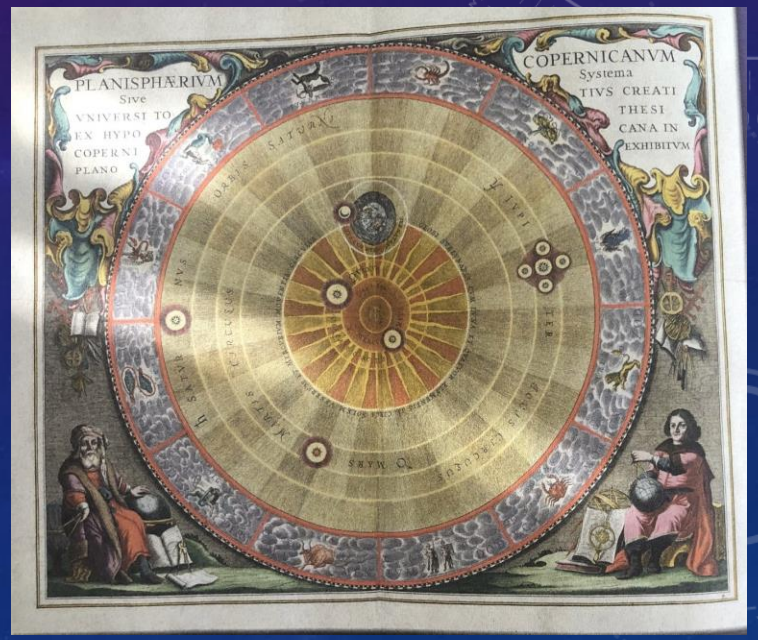
WHO WAS NICOLAUS COPERNICUS: A VERY SHORT INTRODUCTION ON SPACE GRADE 3 / CHILDREN'S BIOGRAPHIES (2019)

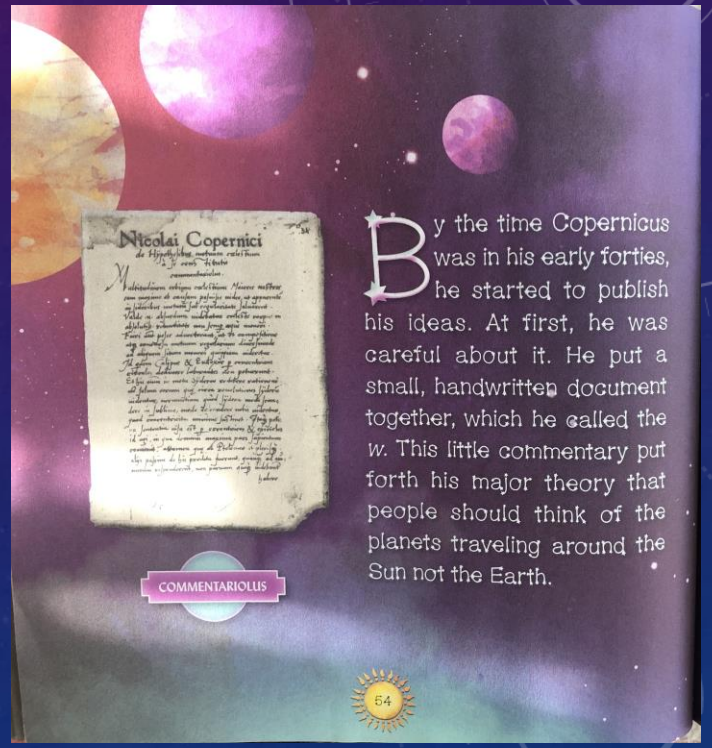







CASTLE OF FROMBORK
IN POLAND


COPERNICUS WAS ACTING
AS AN APPRENTICE TO
DOMENICO MARIA NOVARA


Nicolai Copernici
COMMENTARIOLUS
By the time Copernicus was in his early forties, he started to publish his ideas. At first, he was careful about it. He put a small, handwritten document together, which he called the w. This little commentary put forth his major theory that people should think of the planets traveling around the Sun not the Earth.
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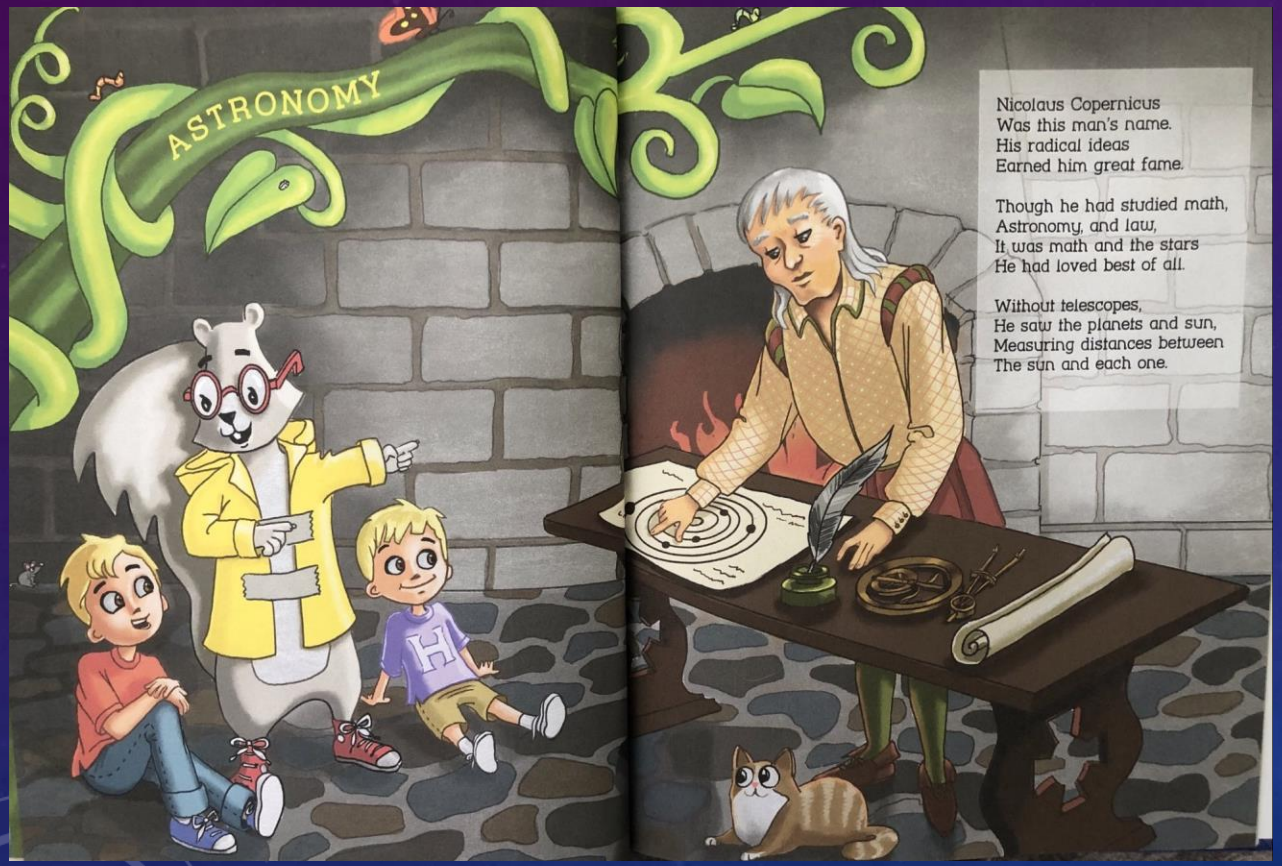
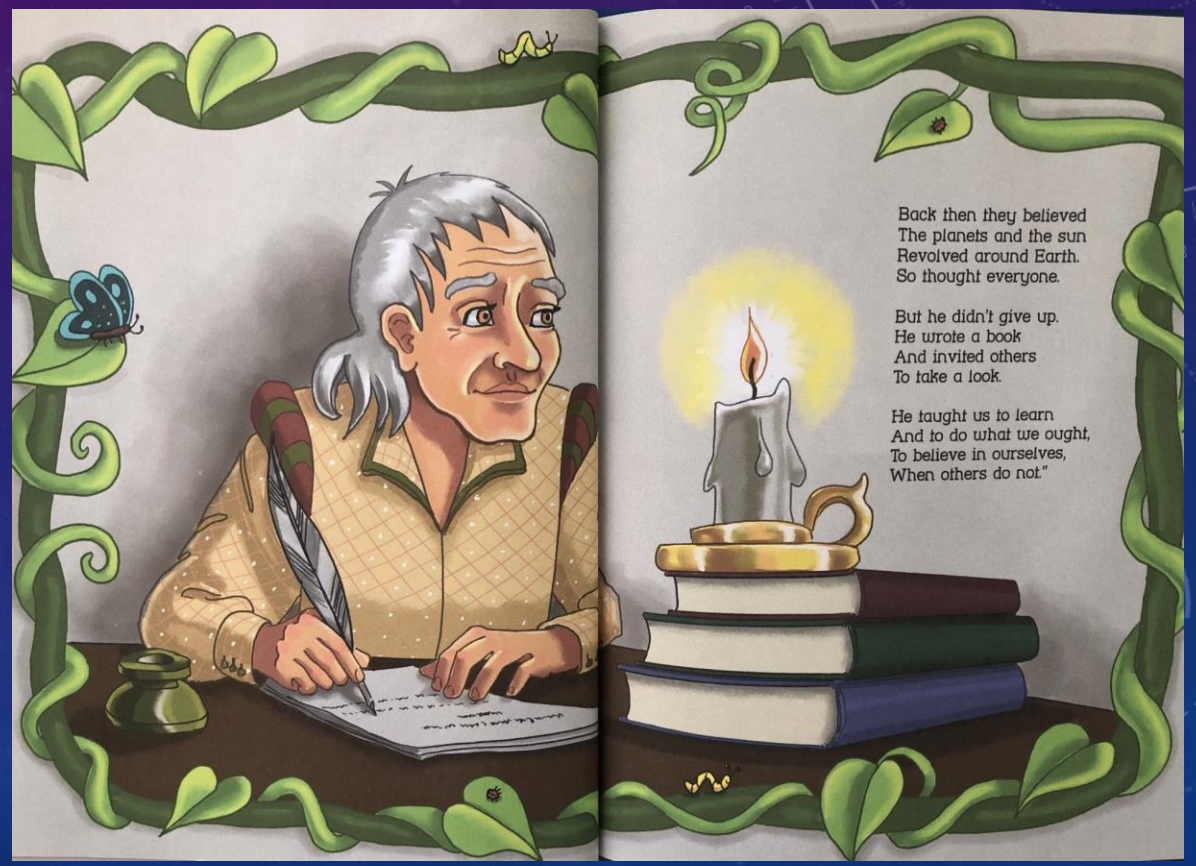
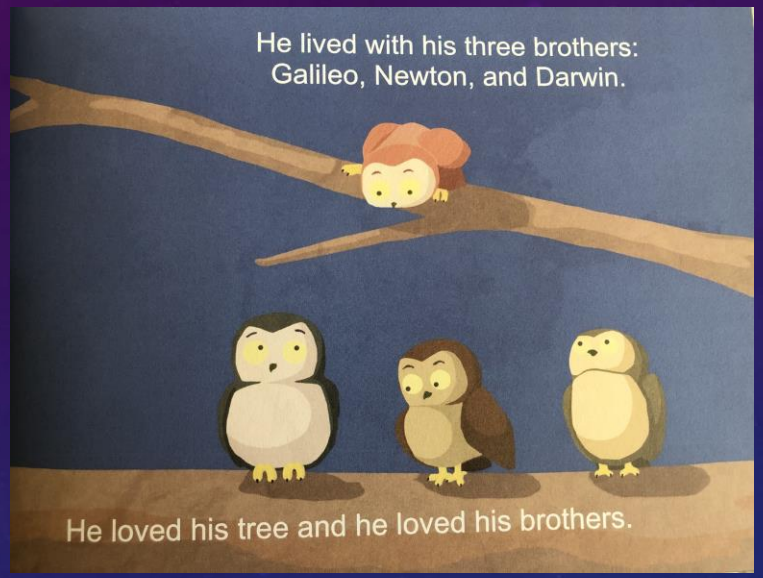
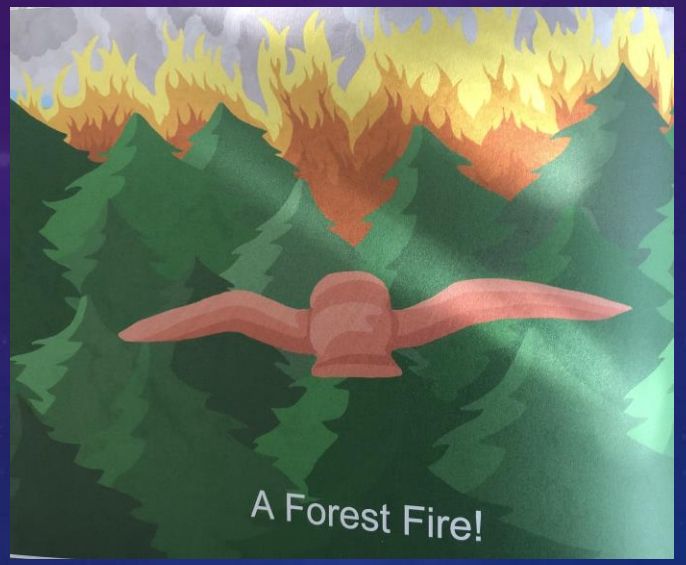
HARRY & LARRY'S EPIC ADVENTURE: THE COPERNICUS CHRONICLE
BY TRACEY O'BRIEN (2021)

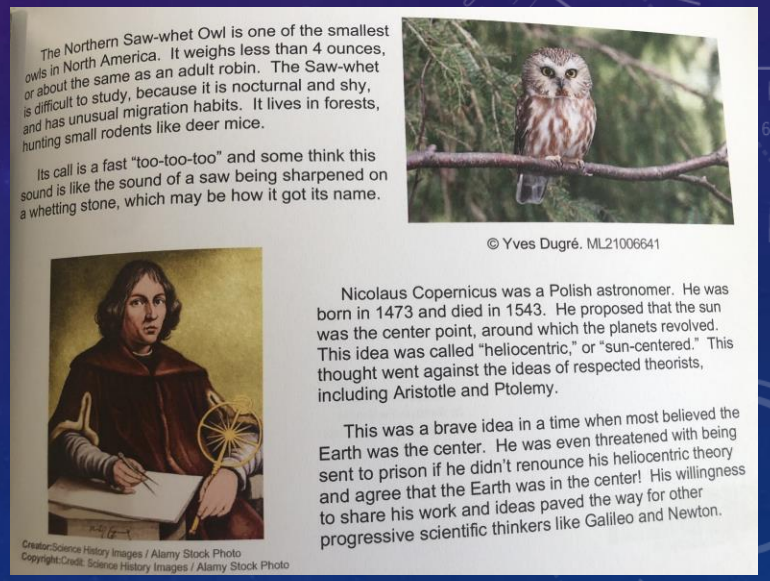




COPERNICUS (2019)
WRITTEN BY TOM GREEN AND ILLUSTRATED SIERRA TURNER






The Northern Saw-whet Owl is one of the smallest owls in North America. It weighs less than 4 ounces, or about the same as an adult robin. The Saw-whet is difficult to study, because it is nocturnal and shy, and has unusual migration habits. It lives in forests, hunting small rodents like deer mice.

Its call is a fast "too-too-too" and some think this sound is like the sound of a saw being sharpened on a whetting stone, which may be how it got its name.

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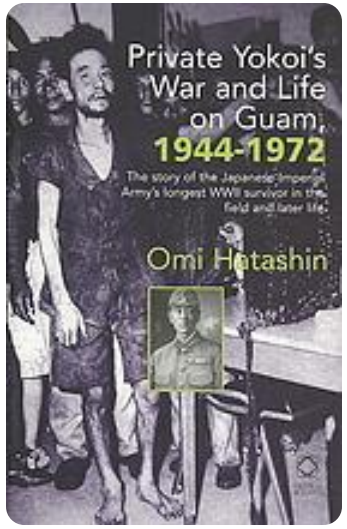
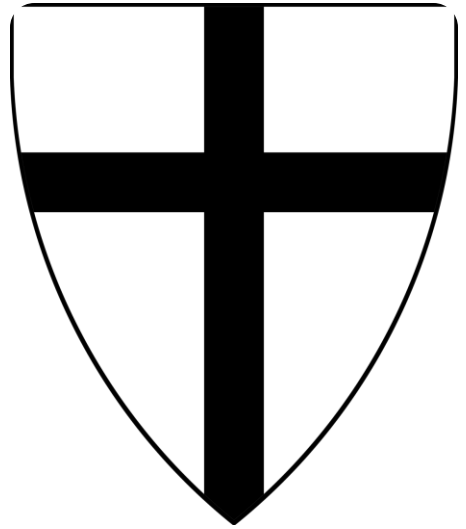
Nicolaus Copernicus was a Polish astronomer. He was born in 1473 and died in 1543. He proposed that the sun was the center point, around which the planets revolved. This idea was called "heliocentric," or "sun-centered." This thought went against the ideas of respected theorists, including Aristotle and Ptolemy.

This was a brave idea in a time when most believed the Earth was the center. He was even threatened with being sent to prison if he didn't renounce his heliocentric theory and agree that the Earth was in the center! His willingness to share his work and ideas paved the way for other progressive scientific thinkers like Galileo and Newton.

THE COPERNICUS LEGACY (2014)
AND
THE COPERNICUS ARCHIVES (2014-2015)
BY TONY ABBOTT

Ptolemaic armillary sphere





Museo Astronomico Copernicano, Rome

HISTORICAL TRUTH VS. FICTION?

- An aesthetic of believability (Beauvais 2020)

- Young readers' capability for scientific constructivism: where the books about Copernicus invite and do not invite questions (Sanders 2017) – about representing the past, about the constructedness and emplotments of historical and scientific accounts; about who creates knowledge and how scientific knowledge evolves historically; about how authors find and select information they include in their books

WHAT IS THE YOUNG READER TO DO WITH LITERARY PORTRAITS OF COPERNICUS?

- Didactic content mixed with the intention to elicit young readers' admiration for Copernicus
- Centrality of the confrontations between religion and science and Copernicus's courage and relentlessness in questioning the established ideas
- Awareness of social and scientific continuities across time and space
- Copernicus as a superhero - impossible to follow? Limited gender diversity
- The value of curiosity, wonder, and love of learning in test-driven education and the rapidly changing job market

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