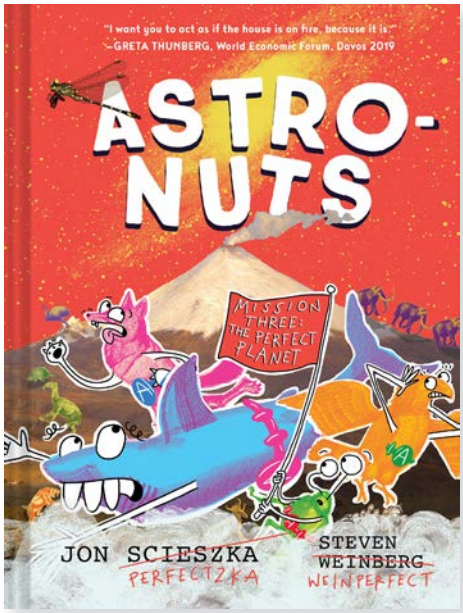


ASTRO-NUTS

Mission Three: The Perfect Planet

By Jon Scieszka
Illustrated by Steven Weinberg

9781452171210 · $14.99 HC · Ages 8 to 12
F&P Text Level Gradient: R · Lexile® Measure: 570L

ABOUT THE BOOK

AstroNuts Mission Three: The Perfect Planet follows AlphaWolf, LaserShark, SmartHawk, and StinkBug on a final mission to find a planet fit for human life after we've finally made Earth unlivable.

Time is up for our friends the AstroNuts. In fact, time is up for you, too. If they don't succeed on this mission, Earth is doomed! So when the team finds out they're being sent to a place called "the perfect planet," their mission sounds way too easy. Unfortunately, the second they land, they realize they'll be dealing with the most dangerous species of all time . . . humans. Huh? Where in the universe is this supposedly perfect place? And how will the Nuts manage to convince the humans to risk death . . . for the sake of their lives?!

ABOUT THE AUTHOR

Jon Scieszka is best known for his bestselling picture books, including *The True Story of the Three Little Pigs!* and *The Stinky Cheese Man*. He is also the founder of guysread.com and a champion force behind guyslisten.com, and was the first National Ambassador of Young People's Literature. He lives in the Catskills in New York.

ABOUT THE ILLUSTRATOR

Steven Weinberg writes and illustrates kids' books about dinosaurs, roller coasters, beards, and chainsaws. He also lives in the Catskills in New York.

NOTE ABOUT THIS GUIDE AND ASTRONUTS MISSION THREE: THE PERFECT PLANET

This guide consists of classroom extension activities, discussion opportunities, and vocabulary that can be used when reading, teaching, or discussing *AstroNuts Mission Three: The Perfect Planet*.

AstroNuts Mission Three encourages readers to explore topics such as history, science, art and more. This guide offers students opportunities to take part in research projects, analyze the author's purpose, study idioms, learn art history, and more.

The discussion opportunities and classroom extension activities in this guide are designed to be used in 4th through 7th grade as the text is read as a whole group, small group, or independently. Although this guide primarily focuses on this text's use in middle grade classrooms, that does not mean it should be limited to these grade levels.

The Next Generation Science Standards, Common Core Anchor Standards in English Language Arts, National Curriculum Standards for Social Studies, and National Core Art Standards Anchors that can be addressed using the discussion questions and activities in this guide are:

Science

3-PS2. Forces and Interactions

3-LS2. Interdependent Relationships in Ecosystems

4-PS3. Energy

5-ESS2. Earth's Systems

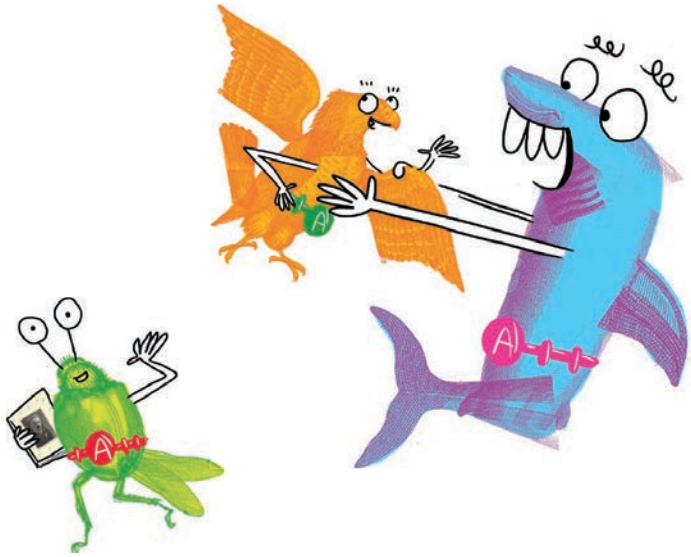
MS-PS2. Forces and Interactions

MS-LS2. Interdependent Relationships in Ecosystems

MS-LS4. Natural Selection and Adaptations

MS-ESS1. History of Earth

MS-ESS3. Human Impacts



English Language Arts

CCSS.ELA-LITERACY.CCRA.R.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.

CCSS.ELA-LITERACY.CCRA.R.3
Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

CCSS.ELA-LITERACY.CCRA.R.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.

CCSS.ELA-LITERACY.CCRA.R.6
Assess how point of view or purpose shapes the content and style of a text.

CCSS.ELA-LITERACY.CCRA.W.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.

CCSS.ELA-LITERACY.CCRA.W.7
Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

Social Studies
Theme 2: Time, Continuity, and Change
Social studies programs should include experiences that provide for the study of the past and its legacy.

Theme 7: Production, Distribution, and Consumption
Social studies programs should include experiences that provide for the study of how people organize for the production, distribution, and consumption of goods and services.

Art
Responding: Anchor Standard #7
Perceive and analyze artistic work.

ACTIVITIES

Use these activities to extend students' learning with *AstroNuts Mission Three*.

Math / Science

Pleistocene Creatures

- See pages 150–151 for information about the Survival of the Fittest Olympics Pleistocene Program, including images of each animal, their species name, and a fun fact.
- Break students up into groups and assign each group one of the animals (other than humans).
- Have each group complete a notetaker featuring their animal's common name, the years when it lived, where it lived, its description, and any fun facts.

Species:
Common name:
Years:
Habitat:
Fun Facts:

- Then, as a class, complete the Pleistocene Program with the extra information.

Extinction

- Extinct species mentioned in the book include dinosaurs, the dodo bird, the chestnut tree, the Dutch Alcon blue butterfly, the Tasmanian tiger, the golden toad, and the Yangtze River dolphin.
- As a class, use Wikipedia or another source to complete a cause/effect map looking at what caused each animal's extinction.
- When finished looking at the cause of extinction for all animals, have students answer this reflection question:
  - Looking at the causes of extinction for all of these animals, what are some things we can do as humans to slow down the extinction of animals?
- Extension activities:
  - Ask students: If we could travel back in time to save _____, what would have to be done to save it?
  - Complete the cause/effect map for other extinct animals.

Renewable Energy

- To further explore renewable energy, utilize the Office of Energy Efficiency and Renewable Energy's "Renewable Energy Activities: Choices for Tomorrow" resource: www.energy.gov/eere/education/downloads/renewable-energy-activities-choices-tomorrow
- This resource includes 12 activities for grades 5–8 (though they could be adapted for a younger audience) on the following topics:
  - What is energy?
  - Energy Conversions
  - Renewable Energy: Wind and Water
  - Renewable Energy: Biomass
  - Renewable Energy: Solar Energy

Literacy

Revisiting the Characteristics of a Leader

- In *AstroNuts Mission Three*, a battle between mission leaders takes place. Ask students to evaluate which character makes the better leader: SmartHawk or AlphaWolf. To inform their decision, have students complete a graphic organizer that charts the characteristics of a leader and indicates which character reflects each of these qualities. The below example features a circle map from Thinking Maps©, altered to fit this exercise.
  - First, have students come up with a list of words that represent the qualities of a good leader, such as "listener," "confident," etc. These words should be added within the large circle labeled "LEADER."
  - Then, when the large circle is filled with everything that students think makes a good leader, ask them to think about each quality in comparison to the two mission leaders and answer: "Which leader held these qualities?" The answer to these questions should be added in the square.
- Extension activity: Have students cite page numbers as evidence.

(EXAMPLE)

  - Once students finish their graphic organizer, have them answer: Who made a better mission leader? Why?

Idioms

- The Sapiens were living literally between a rock and a hard place while the AstroNuts were figuratively stuck between a rock and a hard place. Using this example, introduce students to idioms.
- To understand idioms, students will need to understand what "literal" and "figurative" mean.
  - Resource: https://youtu.be/D3xnQ4hzkUA
- Once students understand the basic concept behind idioms, have each student chose an idiom.
  - Ask them to think of one or assign them one.
  - Resource: https://www.theidioms.com/list/#title
- Ask students to keep their idiom in mind and create both a literal and a figurative illustration for it.

IDIOM	
Literal Meaning	Figurative Meaning

(EXAMPLE)

ON THE BALL	
Literal Meaning	Figurative Meaning
	

- Organize all your students' idioms together alphabetically into an idiom dictionary for your classroom.
- Extension activity: Have students research the origin of the idiom and use the space beneath their illustrations to share what they learn.
  - Resource: www.theidioms.com/list/#title

Inquiry Projects

- Within the book, the creators include many sidebars with a small amount of information about a person or item. Some of these sidebars include:
  - Steven Weinberg
  - Conway knot
  - Gordian knot
  - Brahmagupta
  - Katherine Johnson
  - Glenn's 1962 Mercury mission
- Have students go through the book and pick a sidebar that interests them. Then have them complete a "5 Ws and H" inquiry project on their topic. This can be formatted as a presentation, paper, or worksheet.
  - For a presentation, students should have at least one slide for each W and H.
  - For a paper, students should write at least one paragraph for each W and H.
  - For a worksheet, students may use the following template:

TOPIC:	
Who?	
What?	
When?	
Where?	
Why?	
How?	

Author's Purpose

- Have students analyze the text to determine what they believe to be the author's main purpose of the book. Have them determine a secondary purpose as well. Ask students to create a graphic organizer based on the following template:

Is it the author's main purpose to: Persuade Inform Entertain	Text evidence that supports what you believe is the main purpose of the book.		
What is the author's secondary purpose: Persuade Inform Entertain	Text evidence that supports what you believe is the secondary purpose of the book.		

- Once students have completed their graphic organizer, ask them to assemble all of the information in a paragraph.
  - If needed, provide a paragraph frame for your students:
    - In *AstroNuts Mission Three*, the author's main purpose is _____. The author supports this purpose in the text by _____, _____, and _____. The secondary purpose of the book is _____. The author supports this purpose in the text by _____, _____, and _____.

Social Studies

Inventions

- While investigating their new Abe Lincoln Beard Vehicle, the AstroNuts discover Abraham Lincoln's boat-lifting apparatus which was patented by President Lincoln on May 22, 1849 (p. 23). This small bit of information shows the reader that even though Lincoln is a well-known historical figure, there are still some parts of his life and legacy that many do not know. And Lincoln was not the only one! Assign each student a different historical figure who invented something, and have them research the invention. Use the following resources to help make assignments:
  - Historical figures you didn't know were inventors:
  - www.history.com/news/7-historical-figures-you-didnt-know-were-inventors
  - Famous politicians you didn't know were inventors: www.thoughtco.com/famous-politician-inventors-4145025
- Once students have researched their invention, have them present what they learned to their classmates.

Visual Arts

Hudson River School Artists

- In *AstroNuts Mission Three*, Steven Weinberg gives a special shout-out to the Hudson River School artists.
- Introduce your students to the Hudson River School.
  - Resource: https://youtu.be/id6CbCjfD-4
- As a class, review the introduction and the information shared on page 233. Then, ask students to share their thoughts about why the illustrator chose these specific artists to highlight.
- Send your students on a scavenger hunt! Can they find the paintings highlighted page 233 in the book?

DISCUSSION QUESTIONS

Ask your students these questions as whole class discussions, reading check-ins, or as writing prompts with *AstroNuts Mission Three*. Some can even be jumping off points for research projects/papers.

- Why does AlphaWolf say the missions were a success even though they weren't?
- Why do you think mission control changes leaders from AlphaWolf to SmartHawk?
- The AstroNuts ploop a year too early. Is it better to be early than late?
- What sets humans apart from other animals?
- When StinkBug teaches the Sapiens about ways to win at the Olympics, the three members of the Sapiens family display very different reactions. Who do you think each Sapien represents in our contemporary society?
- Why do you think the author chose wolves to be the antagonists in this story?
- While the Survival of the Fittest Olympics doesn't really occur, what do you think it represents?
- What do you think the world would be like if another species was the dominant species?
- In the book we learn about the bedtime routine for the Sapiens. What is your bedtime routine?
- There are clues throughout the book about what Urp is doing. What are some of these clues?
- How do the AstroNuts' differently colored speech bubbles help with navigating the story? When are the colors used and when are they not?
- Which AstroNut do you think plays the biggest part in completing this mission successfully?
- What makes Earth the perfect planet?

And don't forget to answer the questions that the narrator asks the reader along the way!

- Who else did you think it could be? (p. 26)
  - Have students look at other planets in our solar system—as well as any potential Goldilocks planets—to determine if they believe any could replace Earth.
- How are you going to move 7.8 billion of you? (p. 27)
  - Have students create a plan for transporting the entire human population to a new planet.
- How can we change the last 200 years of humans' carelessness? (p. 28)
  - Have students reflect on what we need to do to reverse climate change.
- So imagine traveling back in time to watch as you were five years ago. Imagine watching the beginning of something bad happening to you. Would you be able to change the past? Would you be able to make a better future? Or would it just be painfully sad all over again? (p. 36)
  - Ask students to reflect on these questions.
- But anyways, so are you guys stars or fish? (p. 57)
  - Ask students to determine if starfish are fish.
- Would dolphins make the same mistakes if they were in charge? I doubt it. Elephants? So kind. Crows? Crazy smart. Bees? Such workers. Redwood trees? The wisest species I know. (p. 81)
  - Ask students if they believe any of these animals/plants could be the dominant species.
- So is power the same as force? Is force the same as power? What is gravity? (p. 156)
  - Use this as an opportunity to discuss scientific concepts of power, force, and gravity.
- I thought I had planned everything. How did I not plan for this? Does this mean our mission is a failure? Am I a failure? (p. 201)
  - Ask students if to share whether they believe SmartHawk is a failure or a success, and why.

VOCABULARY

These vocabulary words can be found throughout the book. Use these words as a starting point for a vocabulary study with *AstroNuts Mission Three*. Research shows that reading and discussing vocabulary in context is one of the most effective ways to learn vocabulary.

- apparatus (p. 23)
- porthole (p. 25)
- atmosphere (p. 26)
- tart (p. 26)
- ecological (p. 28)
- quantum (p. 31)
- velocity (p. 32)
- ballast (p. 33)
- doilies (p. 35)
- prehistoric (p. 47)
- supersonic (p. 50)
- electromagnetically (p. 53)
- levitated (p. 53)
- abundance (p. 53)
- teeming (p. 58)
- posterior (p. 69)
- humble (p. 75)
- digestible (p. 80)
- reject (p. 83)
- bipedal (p. 85)
- cushy (p. 89)
- trample (p. 95)
- potentially (p. 101)
- attire (p. 102)
- passive (p. 109)
- advantage (p. 110)
- newfangled (p. 112)
- forage (p. 112)
- puny (p. 119)
- dominant (p. 118)
- rattled (p. 123)
- excrement (p. 145)
- equipped (p. 148)
- catastrophic (p. 152)
- eons (p. 180)

Another effective strategy for learning vocabulary is familiarizing students with affixes. Introduce the idea of affixes to students by comparing them to word part puzzles. Take familiar words and break them apart to show students how the parts come together to make meaning (redo, misspell, rewritten, helpful, etc.) Then introduce students to the list of most common affixes: www.readingrockets.org/article/root-words-roots-and-affixes

Using the list found at the above link, take words from *AstroNuts Mission Three*, break them apart, and determine their meaning. Here are examples of words with affixes found in the text:

- unexpected (p. 10)
- beautiful (p. 21)
- unreal (p. 37)
- powerful (p. 41)
- geothermal (p. 102)
- reviewed (p. 154)
- reread (p. 154)
- reorganized (p. 154)

ABOUT THE GUIDE CREATOR

This guide was created by Kellee Moye, a middle school teacher-librarian in Orlando, Florida. She holds a Master's of Arts in Elementary Education with ESOL Endorsement and Reading Graduate Certificate from the University of Central Florida. Kellee is the author of various teaching guides for all levels; the co-author of the blog Unleashing Readers; and an active member of NCTE, ALAN, and ALA. Kellee can be reached at Kellee.Moye@gmail.com.