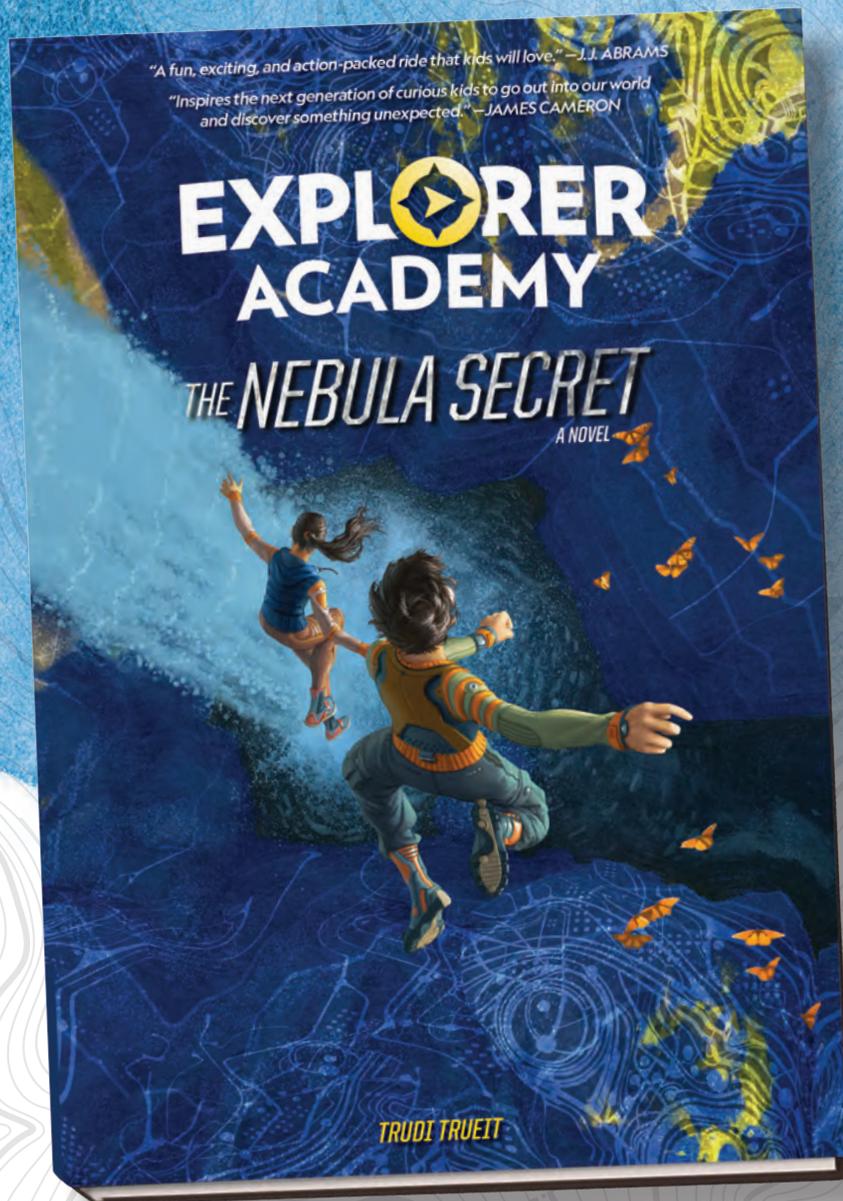


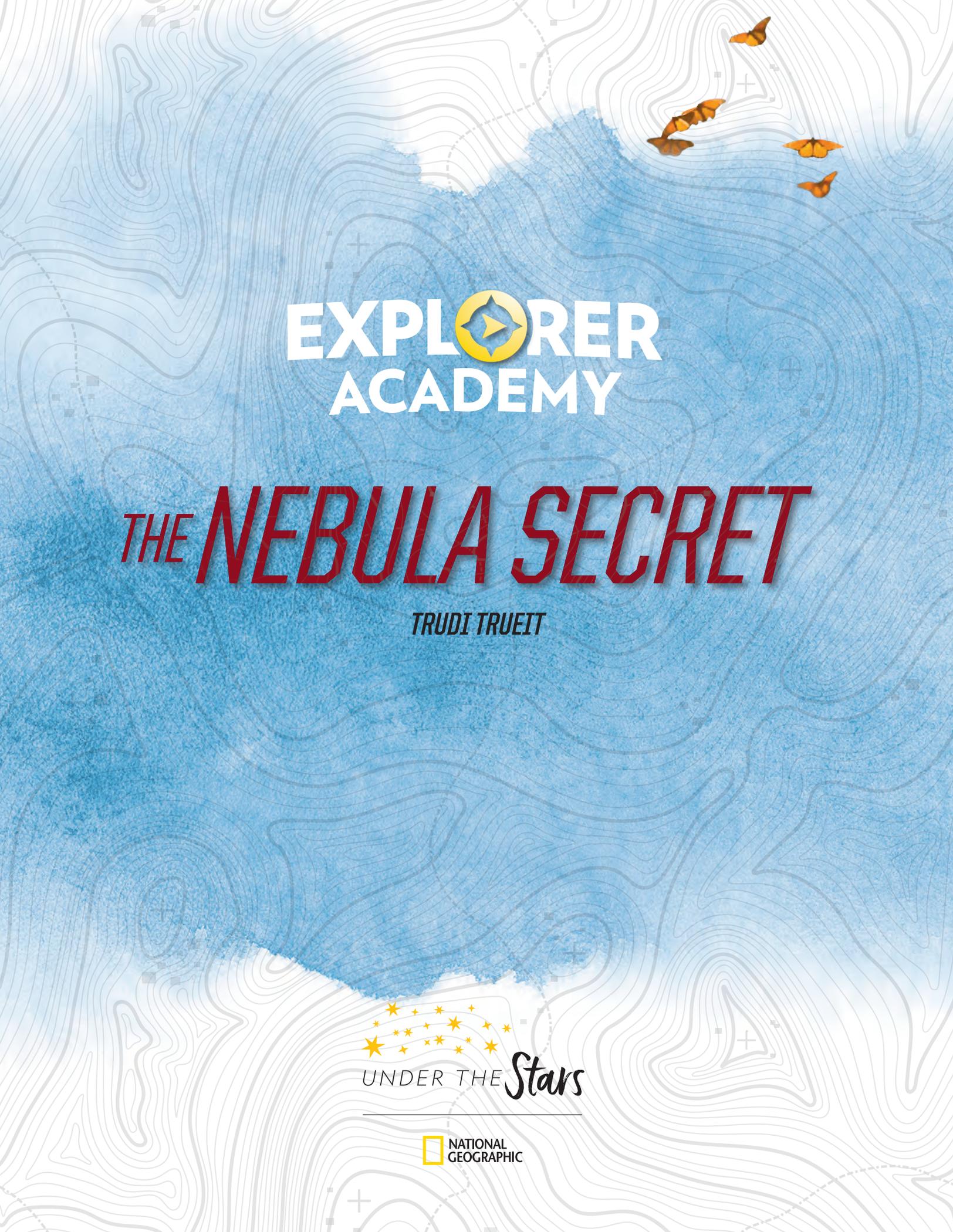
WELCOME TO
EXPLORER
ACADEMY
Educator's Guide



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The background is a topographic map with white contour lines on a light blue background. A large, irregularly shaped area in the center is filled with a darker, textured blue. In the upper right corner, several orange and black monarch butterflies are shown in flight. The text 'EXPLORER ACADEMY' is centered in the upper half of the image.

EXPLORER
ACADEMY

THE NEBULA SECRET

TRUDI TRUEIT

A graphic of a star constellation, likely the Big Dipper, with yellow stars of varying sizes connected by thin lines.

UNDER THE *Stars*

 NATIONAL
GEOGRAPHIC

WELCOME TO EXPLORER ACADEMY

The COOLEST SCHOOL on the Planet!

Dear Educator:

We welcome you and your class to Explorer Academy, where adventure, danger, and a thrilling global mission await you. Join 12-year-old Cruz Coronado and 23 other kids from around the globe as they train to become the next generation of great explorers.

But for Cruz, there's more at stake. No sooner has he arrived at the Academy than he discovers that his family has a mysterious past with the organization that could jeopardize his future. In the midst of codebreaking and cool classes, new friends, and amazing augmented-reality expeditions, Cruz must tackle the biggest question of all:

Who is out to get him ... and why?

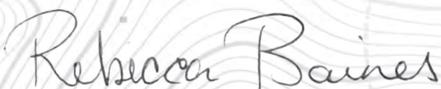
Your students will get caught up following clues and codes and the fast-paced action, while at the same time find themselves sympathetic to the everyday challenges of a new school, new friendships, new rules, and new technologies.

Many of the ideas in Explorer Academy were inspired by the research and work of actual National Geographic explorers, making Trudi Trueit's novel surprisingly closer to reality than readers may initially suspect. From the colorful lore and proud tradition of the Society's early adventurers to the high-tech and cutting-edge discoveries of today, Explorer Academy is filled with the latest research from National Geographic's explorers and scientists. For more information, see the section entitled The Truth Behind the Fiction on page 200.

This guide offers a way to bring Explorer Academy into the classroom through fact questions that check comprehension, prompts for student-led discussions, and activities for engaging students. Use this guide to connect Explorer Academy to the key curriculum areas of Language Arts, STEM, Social Studies, Ethics, Critical Thinking, and more. These connections are called out at the start of each section of the guide. The questions and activities also align with Common Core State Standards. These are listed at the end of each section.

Be sure to remind your students to keep their eyes open for secret symbols, codes, and puzzles hidden throughout the book. We wish you and your class a great first visit to Explorer Academy.

Sincerely,



Rebecca Baines
VP & Editorial Director, Kids Books





Questions of Fact

Language Arts: Reading Comprehension and Retention, Inference; Critical Thinking

1. Cruz's father gives him a letter his mother wrote to him. Why did she write the letter? What does it tell you about her?
2. What is the North Star award?
3. What is the Organic Synchronization (OS) or "Open Sesame" band, and how is it used by the Explorer Academy administration?
4. Renshaw's brother won the North Star award the previous year. How does Renshaw respond to the competitive pressure?
5. The science behind the CAVE involves these real-life technologies:
 - Holographic imagery
 - Thermal radiation sensory technology
 - 3-D printing
 - Climate controlHow do these technologies integrate to create the CAVE?
6. Why were Cruz and Sailor given bonus points even though they didn't follow protocol in the CAVE simulation?
7. Are the authorities in Explorer Academy always right, or do they make mistakes? Explain.
8. Why did Cruz suspect Emmett as the cheat?
9. What did Nebula Pharmaceuticals fear about Cruz's mother's discovery?
10. Friendship is a big part of Explorer Academy. How did friends come to Cruz's rescue?

RL 5.1, 5.2, 5.3, 5.4



Questions for Student-Led Discussions



Language Arts: Critical Thinking, Reading, Vocabulary; Speaking and Listening; Social Studies: Ethics

1. Cruz is warned that Nebula is out to get him, but he doesn't know what Nebula is. Look up the word "nebula." How does the astronomical meaning relate to the way it is used in the story? What about its medical meaning?
2. If you were a student at Explorer Academy, what would you want your dorm room to be called? Explain.
3. Taryn Secliff, the dorm adviser, tells Cruz, "*Opportunity comes in many forms. It's not how you get it that matters, but what you do with it.*" [Page 35] Discuss how that relates to you and your classmates.
4. Cruz seems eminently qualified to enter Explorer Academy, but he can't ignore the feeling that he was given preferential treatment. In fact, other students question this, too. What do you think?
5. Explorer Academy is extremely competitive, but Renshaw tells Cruz, "*My brother says ... everybody helps everybody else. The teachers encourage that.*" [Page 40] How do you feel about this—knowing that with your help, another student might succeed over you? In this kind of environment, would you hesitate to help a classmate? Why? Why not?
6. Cruz did not tell his father about what happened to him while surfing, and he lied to Aunt Marisol about almost being gassed to death in a storeroom. Is what he did acceptable? Do you tell your parents everything about what you do and what happens to you?
7. A major theme of the story is the loss of a parent. How does the loss of his mother shape Cruz? Do you know anyone who has lost a parent or other close family member? How are they coping? What can friends do to help?
8. You have read that all students wear the OS band and know how the Academy uses the information it provides. What if the band was available to the general public? What would the benefits be to the health and well-being of the people wearing it? What if people were required to wear it? In what ways could this seemingly beneficial device be abused by an agency responsible for viewing and using its data?



Questions for Student-Led Discussions - Continued



Language Arts: Critical Thinking, Reading, Vocabulary; Speaking and Listening; Social Studies: Ethics

9. Students are expected to help each other and function as a team. But the Augmented Reality Challenge (ARC) is outright head-to-head competition. What was Cruz's motivation during the ARC? What motivates you when you compete?
10. Why is it so important for Explorer Academy students to study "*the characteristics of humanity—why different cultures eat, speak, dress, think, believe, live, and act the way they do.*" [Page 111] How will knowing this enhance their experience as explorers?
11. Although Cruz is exonerated after being accused of cheating, the situation raises the question why some students resort to cheating. For Renshaw, the pressure of his brother's success was overwhelming. What do you think? Questions to discuss include: Are there any reasons you would cheat? Is cheating okay if you know you will never get caught? Would you step up and admit your guilt if someone else was blamed for your cheating?

RL 5.1, 5.2, 5.3, 5.6; SL 5.1, 5.3





Activities

► **Science and Technology: Research; Language Arts: Writing, Speaking and Listening; Cooperative Learning**

1. Real science that inspired **Explorer Academy**

- RoboBees
- 4-D printing
- Thermochromatic materials
- Heart-monitoring wristband
- Virtual reality
- Remote-control photography

Technology in Explorer Academy

- MAV: micro air vehicle (honeybee drone)
- Emoto-glasses
- Organic synchronization
- CAVE: Computer Animated Virtual Experience (Star Trek holo-deck)

Divide the class into teams to research the various technological items referred to in the book. Which are real; which are imagined? If real, are they operational or experimental? What are the possible uses? Abuses? Students should give oral reports on their findings.

RL 5.1, 5.3, 5.4; RI 5.1, 5.2, 5.4, 5.5, 5.6, 5.7; W 5.1, 5.2, 5.4, 5.5, 5.7, 5.9; SL 5.1, 5.4, 5.5

► **Language Arts: Writing; Social Studies: Economics; Art and Design**

2. Have students create their own technological devices. They should prepare a written presentation for prospective backers to ask for seed money to fund their projects.

The presentation should include:

- Description
- Uses
- Schematics, etc.

W 5.1, 5.2, 5.4, 5.5, 5.7; SL 5.1, 5.2, 5.3, 5.4, 5.5, 5.6



Activities - Continued



Language Arts: Research; Literature—characterizations, Writing, Critical Thinking

3. Below is a list of characters from *Explorer Academy: The Nebula Secret*:
- Cruz
 - Lani
 - Emmett
 - Zane
 - Ali
 - Renshaw
 - Sailor
 - Dugan
 - Bryndis

Have each student make a chart listing each of these characters' traits. Then compare the characters to their classmates or people they know. Select one character and write about how their first impression of him/her changed throughout the book.

RL 5.1, 5.2, 5.3; W 5.2, 5.4



History; Research; Language Arts: Writing; Art; Cooperative Learning

4. Cruz's class's teams are:
- Magellan
 - Cousteau
 - Galileo
 - Earhart

Divide your class into four teams and assign to each an Explorer Academy team name. Each team should research the significance of the name and then create a mission worthy of the team's namesake. Teams should create a poster with the team name, its members, its mission, and a visual representation of their goal.

RI 5.1, 5.2, 5.7, 5.9; W 5.1, 5.2, 5.4, 5.7, 5.8, 5.9



Activities - Continued

▶ Language Arts: Writing; Social Studies: Family Relationships

5. Cruz is an extraordinary person, but he is also very much like your students. He is scared that he will disappoint his father, teachers, and friends. Each student should write about a time they felt the same way as Cruz.

W 5.3, 5.4

▶ Language Arts: Writing, Speaking and Listening

6. Dr. Hightower: *“You are not here because you are smarter or stronger or braver than others. You are not here because you have more perseverance, ambition, or potential. You are not here to prove yourself. You are here because the world needs you as much as you need it.”* [Page 50]

Discuss the meaning of Dr. Hightower’s message with your class, and then have each student write their own application letter to Explorer Academy administration. Knowing that there are limited spaces available for students, the letter should be persuasive and include qualifications as well as delineate the reasons why they want to be a part of the Academy.

RL 5.4, 5.5, 5.6; W 5.1, 5.2, 5.4

▶ Speaking and Listening; Critical Thinking

7. Each student should select one of the following and deliver a three-minute speech about its meaning, values, and relevance in their own lives.
 - Motto of Explorer Academy: *“With all, cooperation. For all, respect. Above all, honor.”* Dr. Hightower adds, *“It is the very foundation of who we are and what we stand for.”* [Page 55]
 - Standards: integrity, honesty, and compassion.
 - *“Fortes fortuna adiuvat.”* Fortune favors the brave.

W 5.1, 5.4; SL 5.1



Activities - Continued



Language Arts: Writing, Critical Thinking; Arts

8. As your students read *The Nebula Secret*, they will come across incidents that by themselves seem unimportant or unrelated, but when put together, point to the mystery that is plaguing Cruz. Have your students keep track of these happenings to form a picture of how the story will progress. Each incident can be depicted as panels in a graphic novel.

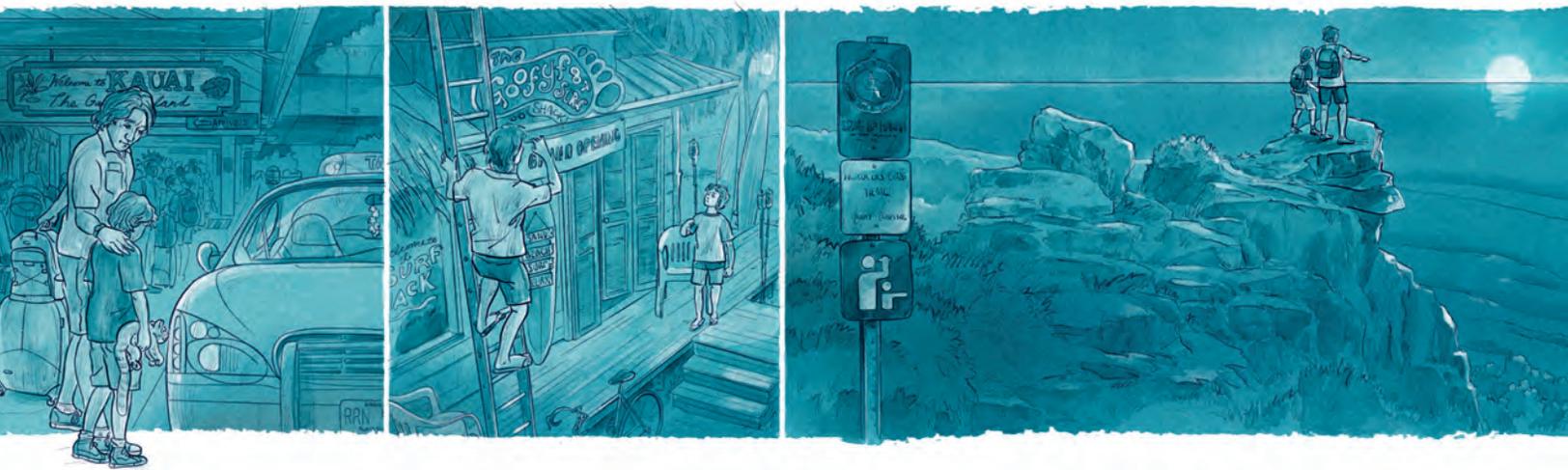
RL 5.1, 5.2, 5.3, 5.5, 5.7; W 5.3, 5.4



Language Arts: Research, Writing, Critical Thinking; Visual Literacy

9. The students at Explorer Academy are assigned to pick one subset of anthropology (biological, cultural, linguistic, or archaeological) and create a one-minute ad encouraging young people to take up the profession. Have your students do the same and create a print, video, or audio ad.

RI 5.7; W 5.1, 5.4; SL 5.5





Activities - Continued

▶ Language Arts: Writing, Critical Thinking; Arts

10. Your students know how to express themselves in 140 characters on Twitter, but can they do the same in just six words? An activity from the National Writing Project demands just that: the six-word memoir.

The six-word memoir teaches critical thinking and requires students to choose words precisely. Format of the memoirs is flexible: The words can make up a sentence or simply be a group of words that together express a thought or idea. To get some practice, your students should write six-words memoirs for themselves. They could be about what they are thinking now or what their hopes and aspirations are. After reading *Explorer Academy: The Nebula Secret*, your students should write six-word memoirs for Cruz, Emmett, Sailor, Renshaw, Dugan, or any other character they are interested in.

The memoirs can be used as captions to pictures or superimposed on images that are reflected by the memoir.

RL 5.1, 5.2, 5.4; W 5.3, 5.4

▶ 5TH GRADE COMMON CORE STATE STANDARDS KEY

RL - Reading Literature

RI - Reading for Information

W - Writing

SL - Speaking and Listening



This guide was created by Clifford Wohl, Educational Consultant