

Grades 5–8

Science &  
Society

*Creating a Constitution*

# The Space Colony



OFFICIAL OKLAHOMA ADOPTION REVIEW  
DO NOT REPRODUCE

*Creating a Constitution*  
**The Space Colony**

**by Margit E. McGuire, Ph.D.**

Professor of Teacher Education, Seattle University

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1-800-421-4246

[www.teachstorypath.com](http://www.teachstorypath.com)

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## Content Consultant

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–Margit E. McGuire

## Storypath Advisory Panel

The Storypath advisors review each unit prior to publication. We sincerely thank the following advisors for their comments and recommendations regarding *Creating a Constitution: The Space Colony*:

Dr. Amy Jo Baker  
San Antonio School District  
San Antonio, Texas

Su Hickenbottom  
Snohomish School District  
Snohomish, Washington

Marilyn Linqvist  
Bloomington Public Schools  
Bloomington, Minnesota

Barbara Moses  
Philadelphia School District  
Philadelphia, Pennsylvania

**Program Consultants:** Katherine L. Schlick Noe, Ph.D., Professor and Director of Literacy, Seattle University; H. “Sonny” Carreno, B.A. Education, Licensed Instructor, English as a Second/New Language (Texas, Wisconsin, Indiana)

**Program Management:** Morrison BookWorks LLC

**Program Design:** Herman Adler Design

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# ABOUT STORYPATH

## THE STORYPATH STRATEGY

Storypath offers both a structure for organizing the social studies curriculum and an instructional strategy for teaching. The structure is a familiar one: the story. The strategy is grounded in a belief that children learn best when they are active participants in their own learning, and places students' own efforts to understand at the center of the educational enterprise. Together, the structure and the teaching strategy ensure that students feel strongly motivated and have meaningful and memorable learning experiences.

Originally developed in Scotland during the 1960s, Storypath draws support from decades of experience with teachers and students. The approach has its roots in these beliefs about children and learning:

- The world is complex and presents many layers of information. Children know a good deal about how the world works and have a reservoir of knowledge that is often untapped in the classroom.
- When children build on that knowledge through activities such as questioning and researching, new understandings are acquired. Because children construct their own knowledge and understanding of their world, their learning is more meaningful and memorable.
- Problem solving is a natural and powerful human endeavor. When children are engaged in problem-solving, they take ownership for their learning.
- The story form integrates content and skills from many disciplines and provides a context for children to gain a deeper, more complex understanding of major concepts.

## AN INQUIRY APPROACH

Questioning, by both teacher and students, is a key component of Storypath. Through the story structure and the discourse it creates, the teacher guides students in their search for meaning and understanding as they acquire new knowledge and skills. Your questions, and the discussions they engender, cause students to:

- ask their own questions and think critically about what they know;
- use their prior knowledge to make sense of new information;
- connect personally to important social studies concepts.

The story structure and inquiry guided by unit goals provide the framework for students to integrate skills and complex content through problems they encounter. As they do so, their understanding of important concepts is extended and key connections are made.

## THE STORY STRUCTURE

For thousands of years, stories have helped us create order and make connections between events. Storypath's narrative structure helps students understand concepts that they often find difficult to comprehend in the traditional social studies curriculum.

Each Storypath unit centers on a unique and engaging story that provides a concrete context for understanding the social science content. This story may be based on actual historical events, as developed in *Struggle for Independence*. Or the story might instead be based on typical community or business structures, as developed in *Families in Their Neighborhoods* or in *Understanding the Marketplace*. From all of these structures, students develop a meaningful context for developing understanding of the topic.

### Typical structure of a Storypath unit

#### CREATING THE SETTING

Students create the setting by completing a frieze or mural of the place.

#### CREATING THE CHARACTERS

Students create characters for the story whose roles they will play during subsequent episodes.

#### BUILDING CONTEXT

Students are involved in activities such as reading, writing, and research to stimulate them to think more deeply about the people and the place they have created.

#### CRITICAL INCIDENTS

Characters confront problems typical of those faced by people of that time and place.

#### CONCLUDING EVENT

Students plan and participate in an activity that brings closure to the story.

# USING THE COMPONENTS

## TEACHER'S HANDBOOK

Each Storypath unit includes a Teacher's Handbook, which is designed to be flexible and easy to use.

### Episode Planning Guides

Each episode opens with an overview of the instructional plan and materials needed.

### Teaching Notes

Each Handbook contains detailed support for instruction.

**BUILDING CONTEXT**  
**LIFE AND WORK IN COLONIAL BOSTON**

**INTRODUCING COLONIAL LIFE** page 28

Students discuss colonial life and determine ways they can learn more about it.

**Materials** None

**Grouping** Whole class

**Schedule** Approximately 30 minutes

**RESEARCHING COLONIAL LIFE** page 28

Students write a report describing the daily life and work of their characters.

**Materials** Teaching Master 5, Sample Report: *The Bakery*, T11 p. 62  
Teaching Master 6, *Making a Dinosaur or Potter*, T11 p. 63  
Portfolio 7, *Presenting a Report*, pp. 10-11  
Portfolio 8, *Writing a Report*, p. 12  
Portfolio 9, *Self-Assessment*, p. 13  
Coaster Cards 2 and 3

**Optional:** cardboard grocery boxes for dioramas, poster board for posters, construction and tissue paper; textured materials such as yarn, fabric scraps, cotton balls, colored markers, crayons, colored chalk, glue, tape, scissors; assorted colors of paint, brushes, water cans

**Grouping** Family groups for planning and research; individually for writing the reports

**Schedule** 2-3 hours plus time for students to write reports

**CONCLUDING EPISODE 3** page 30

Students reflect on the experience, add to the word bank, and write about life and work in colonial Boston.

**Materials** Portfolio 10, *Presenting a Report*, p. 14  
Portfolio 11, *Taking Notes: Daily Life Presentations*, p. 15  
Preps for presentations if students so choose

**Grouping** Whole class for the word banks; individually for the writing activity

**Schedule** Approximately 1½ hours

**EPISODE OBJECTIVES**

- **Culture/Social Interaction** Identify how wants and needs were met in colonial times.
- **History** Describe how people's lives were affected by the conditions that existed in colonial times.
- **Character** Identify how characters' work contributed to the economy of colonial Boston.
- **Social Skills** Organize, plan, and make decisions while planning reports with group members.
- **Critical Thinking** Identify criteria for quality reports.
- **Library** Conduct research, take notes, draft, and edit a written report.
- **Library** Present and reports to the class to share information.
- **Library** Listen actively to and take notes during oral presentations.

3  
EPISODE

Struggle for Independence 27

from the *Struggle for Independence* unit

**INTRODUCING COLONIAL BOSTON**

**TIMELINE**

Start a timeline to record and sequence the events that will be presented throughout the Storypath. Make the timeline horizontal and display it in the classroom. You might divide the timeline into ten-year segments, beginning with the year 1600 and ending with 1800. Let students add dates as the story progresses. Begin by posting these dates and events:

- 1621: First European settler in the area (Rev. William Blackstone)
- 1630: Boston founded

After students create the frieze, let them speculate about when their buildings were built and add this date to the timeline. Many buildings in colonial Boston were built in the late 1600s and early 1700s. For the timeline, students might choose one date such as 1700.

**Launch the unit**

Tell students that they will be creating a story about colonial Boston that begins around 1763. Ask a student to point out Boston's location on a map. Explain that often we can understand our own lives and communities better when we learn about the lives and communities of others in the past.

Review with students the elements of a story: setting (when and where the story takes place), characters (the people in the story), and plot (critical incidents or important events). In this episode, students will create the setting for the story—a view of colonial Boston.

Create groups of four or five students. Students will work with these same group members throughout the Storypath.

**ELL build background or introduce**

Build background on the concept of colony and the relationship of colonies to the parent country.

Explain that people living in a new territory but keeping ties with their parent country are called colonies. Colonies usually remain dependent on the parent country.

Explain that many people living in a new territory but keeping ties with their parent country are called colonies. Colonies usually remain dependent on the parent country.

Explain that many people living in a new territory but keeping ties with their parent country are called colonies. Colonies usually remain dependent on the parent country.

Then read the following information to the class:

After Columbus's arrival in 1492, other European nations attempted to establish settlements in the Americas. The most successful settlements were in North America. Although the colonies lived far from their parent country, they were still dependent on them.

EPISODE 1  
Struggle for Independence 15

from the *Struggle for Independence* unit

### Teaching Masters

Masters provide nonfiction content, writing models, or other information specific to the unit's content. These Masters can be copied for students, displayed in the classroom, or made into transparencies, depending on your teaching needs.

**EPISODE 4**  
**TEACHING MASTER**  
**T8**

Name \_\_\_\_\_ Date \_\_\_\_\_

**PUBLIC NOTICE: TAXES FROM BRITAIN**

**Stamp Act, passed 1765**

By an Act of Parliament, a tax must be paid to the customs official for any transactions involving the following items.

Item	Tax
Legal document submitted in a court of law	3 pence
College diploma	2 pounds
Bill of sale	4 pence
Liquor license	20 shillings
Will	5 shillings
Land purchase under 100 acres	3 shillings
Contract	2 shillings and 6 pence
Pack of playing cards	1 shilling
Pair of dice	10 shillings
Newspaper	1 penny
Advertisement in a newspaper	2 shillings
Almanac or calendar	2 pence
Any document listed above that is written in a language other than English	Double the tax listed above

**Townshend Acts, passed 1767**

Taxes must be paid on the following items imported from Britain.

Item	Tax
For every 100 pounds of glass	4 shillings and 8 pence
For every 100 pounds of lead	2 shillings
For every 100 pounds of paint	2 shillings
For every pound of tea	3 pence
For every 500 sheets of paper	12 shillings

TEACHING MASTER  
Struggle for Independence 65

from the *Struggle for Independence* unit

### Assessment

Each Handbook contains strategies for assessing learning throughout the unit, as well as unit questions for review and synthesis activities.

**SYNTHESIS ACTIVITIES**

The following synthesis activities offer your students the opportunity to demonstrate what they've learned in this unit. These activities are also a powerful assessment tool for you because they're ungraded. They allow for variances in students' abilities as learners.

**1. PORTFOLIO RESPONSE**

**Activity**

Have students review their Portfolio and identify at least five items that represent important ideas or skills learned. After students have selected the items, they should write at least one paragraph in response to the following questions.

- List three important ideas from your Portfolio. Why are these ideas important?
- What challenges did your character face? How did your character respond to these challenges?
- What are three costs and three benefits of seeking independence from Britain?
- What skills do you believe improved as a result of this unit? Explain why.

**Criteria for Assessment**

Learning objectives are demonstrated if

- the portfolio demonstrates an understanding of how the colonists lived, the effects of British rule on the colonists, the Boston Massacre, and how the colonists responded to and were shaped by the events of the time;
- the reflections are thoughtful, well organized, and clearly communicate;
- the paragraphs demonstrate appropriate writing conventions.

**2. ANALYSIS OF A CURRENT EVENT**

**Activity**

Students can locate a current event in the newspaper that they believe has similarities to events in the Storypath. Students should

- summarize the current event. What is happening? Why is there conflict? How are people responding to the conflict? What injustices have been identified?
- list three ways the event is similar to the events in the Storypath.
- write a paragraph offering suggestions for what the people who are involved in the conflict should do. Suggestions should be based on what students have learned from the Storypath.

Struggle for Independence 75

from the *Struggle for Independence* unit

# STUDENT PORTFOLIO

Students use the Portfolio to read, write, conduct research, and complete other activities crucial to the specific Storypath unit. The Portfolio helps students manage their work throughout the unit. And when completed, the Portfolio becomes an authentic assessment tool.

EPISODE 5 PORTFOLIO 14

DATE \_\_\_\_\_

PRIMARY SOURCE: NEWSPAPER ARTICLE

**The BOSTON Evening-Post.**

*Containing the fullest & most interesting Advice, Foreign and Domestic.*

October 29

The inhabitants of this town have been late greatly insulted and abused by some of the officers and soldiers, several have been assaulted on frivolous pretences, and put under guard without any lawful warrant for so doing. A physician of the town walking the street the other evening, was pushed by an officer, when a scuffle ensued, he was afterwards men by the same officer in company with another, both as yet unknown, who repeated his blows, and as he supposed gave him a stroke with a pistol, which so wounded him as to endanger his life. A mob of this town on going under the rails of the Common in his way home, had a threat in the breast with a bayonet from a soldier, another person passing the street was struck with a musket, and the last evening a mob of the town was struck down by an officer who went into the coffee-house, several gentlemen following him on, and expatriating with the officers, were treated in the most ungentle manner; but the most atrocious offence and alarming behaviour was that of a captain, the last evening, who in company with two other officers, endeavoured to persuade some

Negro servants to ill-treat and abuse masters, assuring them that the soldiers were come to protect their freedoms, that with their help and assistance, they should be able to drive all the English to the devil with discourse of that import, tending to excite an insurrection. Depositions are now taking before magistrates, and prosecutions at common law are intended; the inhabitants are determined to oppose by the law of proceedings, apprehending it the most honourable as well as the most successful method of obtaining satisfaction and redress; at the same time they have a right to expect that General Gage will remain an unprovoked spectator, and refuse to act in any manner but such a conduct in any manner but such.

*—How do you think you may hold your own the first time getting up from that of history a standing army. Troops are ordered open on as a time of preparation of preserving order in a manner as to be ready before their arrival at any large town in the whole extent of his Majesty's dominions; and a little time will show whether we are to be governed by the laws or the common law of the land.*

—from The Boston Evening-Post, October 29, 1768.

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EPISODE 5 PORTFOLIO 15

DATE \_\_\_\_\_

PRIMARY SOURCE READING GUIDE

**The Boston Evening-Post**

The article from the Boston Evening-Post is a primary source. It was written in 1768. Historians can use this article to learn about events in Boston during this time period.

Effective readers first think about the author's purpose for writing and then about what they already know about the topic. Then they often read and reread to make sure that they understand the text. Read this article at least two times. Read it aloud to a partner at least one time. Look for the most important ideas. Then use the questions below to help you better understand the article.

- In colonial times, newspapers sometimes tried to persuade others to think or act in certain ways. Do you think the writer is trying to persuade the reader? Give examples from the text to support your answer.
- Do you think the writer supports the patriots or the loyalists? How do you know?
- The writer effectively used the writing trait of word choice to help persuade the reader. The article contains lively verbs, specific nouns, and colorful adjectives (or describing words). Circle the words and phrases that you think help the writer effectively convey his message.
- Reread the last paragraph of the article. What are the **three** main points?
- What is this article mostly about?

19 PORTFOLIO Page 19

from the *Struggle for Independence* unit

**What was the Boston Tea Party?**

On December 16, 1773, three ships from Britain loaded with chests of tea were docked in Boston Harbor. Britain had cut the price of tea in half, but the tea tax remained. The next day, the governor was going to have the tea unloaded, and the tax would be paid. The people of Boston had other ideas.

1. What might people watching from the shore have thought? (making inferences)

3. Why do you think the colonists dressed as Mohawk Indians? (making inferences)

2. How did this protest differ from a riot? (scanning)

**What happened at the Boston Massacre?**

Paul Revere's Engraving of the Boston Massacre

Paul Revere, an artist and silversmith, made this engraving of the Boston Massacre at the request of Samuel Adams. Many prints were made and distributed all over the colonies.

Crispus Attacks in the Boston Massacre

This print shows Crispus Attacks, a black patriot, charging at the soldiers. Attacks was one of two people who died that night.

Compare how the two pictures are the same and different. (understanding, comparing and contrasting) Did Revere depict the event the way it really was? (making inferences)

**British Colonies in North America, 1765**

The British colonies were divided into three regions.

- New England: Massachusetts, Rhode Island, Connecticut, and New Hampshire
- Middle Colonies: New York, New Jersey, Pennsylvania, and Delaware
- Southern Colonies: Maryland, Virginia, the Carolinas, and Georgia

**Colonial Government**

In 1705, British citizens had the right to elect the people who governed them. British citizens living in England voted for members of Parliament, who passed laws for all of Great Britain. In the colonies, British citizens voted for an assembly. The assembly made laws, raised money through taxes, and decided how that money should be spent. Most colonies also had a governor who was appointed by the king of Great Britain. The governor's job was to make sure the colonies followed British laws. The governor could veto, or strike down, an assembly's law if it went against a British law.

In order to vote for the assembly, a colonist had to be a white male Christian who owned property. Because it was relatively easy to own land in the colonies, voting was more widespread than it was under other governments. However, Jews, slaves, free African Americans, Native Americans, and all women were barred from voting.

from the *Struggle for Independence* unit

# CONTENT SLIDE SETS & HANDOUTS

Each unit includes sets of Content Slides and Handouts that offer flexibility in how they are used to support student learning. The number of sets varies from unit to unit. The slides and handouts in each set provide focused non-fiction content and can be used for independent, paired, or small group reading.

Students use the slides to build context and deepen their understanding of the unit's content. You can use the slides as most appropriate to your situation along with the handouts. For those with laptops, display the appropriate slides for student reading and discussion or reproduce the slides as needed for each episode for individuals, pairs or small groups. The handouts may also be used without the slides.

In the overview of each episode, slide sets needed are listed and specific suggestions are provided for how to use the slides as you proceed through the episode. Best practice is for the slide to be available to the students either on a laptop in front of them or in hard copy. Then the teacher can use a large screen to display and support discussion related to the slide.

A "reading tips" chart in PDF format (located on the CD) provides quick reminders of key reading strategies. Reproduce "reading tips" for each student or group.

Note that the slides and handouts are conveniently available in a printable format on the CD.



# LITERACY AND STORYPATH

With the Storypath strategy, students deepen their understanding of major social studies concepts. Storypath provides literacy support to help students access and make sense of the social studies content. Students apply literacy skills such as reading comprehension, prewriting and writing skills, speaking and listening skills, and vocabulary development.

## Reading

Content Slide Sets and Handouts present opportunities for students to engage in focused content reading. Students can use the slides and handouts to engage in shared reading or listen as a teacher or another student reads.

**Colonial Exports**

Most of the colonies' exports were natural resources, or useful things from the land. Imports from Great Britain were mostly manufactured goods, or useful things made by people. Britain also sent ships and soldiers to protect the colonies.

Most colonies imported more than they exported. This was good for Britain, which profited from what it sold to the colonies.

Colony	Export
New England	fish, whale products, lumber, tar
Middle colonies	grain, iron
Southern colonies	cotton, tobacco, rice, indigo (a plant that produces a blue dye for coloring fabric)

**3. Identify items exported to Britain and imported to the colonies. How are these items different? (understanding visuals)**

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In order to vote for the assembly, a colonist had to be a white male Christian who owned property. Because it was difficult enough to own land in the colonies, voting was more widespread than it is for other governments. However, women, slaves, free African Americans, Native Americans, and all women were barred from voting.

## Comprehension

Questions in each Content Slide Set help students focus on important content. Questions are labeled with suggested reading strategies.

## Visual Literacy

Each unit offers numerous opportunities to evaluate and respond to visuals such as photographs, maps, diagrams, and illustrations.

## Reading Tips

For easy reference, Reading Tips for using the reading strategies are included on the CD.

Struggle for Independence		
Reading Tips		
Reading Strategy	When do I use the strategy?	How do I use it?
Main idea/ supporting details	Use it to find the big idea, and then identify the facts and details that support it.	<ol style="list-style-type: none"> <li>1. Think about what you want to know and what you already know.</li> <li>2. Read the text and think: "What is the 'big idea' here?"</li> <li>3. Look for information that is important to the big idea. Some facts are interesting but not important.</li> <li>4. The details you find may cause you to change your big idea.</li> </ol>
Comparing and contrasting	Use it to find information that tells you how two or more ideas are alike and different.	<ol style="list-style-type: none"> <li>1. Think about what you want to know.</li> <li>2. Choose two events or ideas to compare and contrast.</li> <li>3. List important information about one event or idea.</li> <li>4. For each item on the list, look for information about how the other idea is the same or different.</li> <li>5. Look for clue words such as "similarly," "also," and "however."</li> </ol>
Making inferences	Use it to understand information not stated directly in the text, or to "read between the lines."	<ol style="list-style-type: none"> <li>1. Think about what you want to know and what you already know.</li> <li>2. Look for clues in the text that give you new information.</li> <li>3. Compare this new information with what you already know to figure out what the author is saying.</li> </ol>
Connecting	Use it to understand new information by connecting it with what you already know.	<ol style="list-style-type: none"> <li>1. Think about what new information you want to remember.</li> <li>2. Think about what you already know.</li> <li>3. Look for connections between the new information and what you already know from experience or reading.</li> <li>4. These connections will help you remember the new information.</li> </ol>
Scanning	Use it to quickly find the specific information you need.	<ol style="list-style-type: none"> <li>1. Think about what information you need to find.</li> <li>2. Move your eyes over the page looking for subheadings, italicized or bold print words, and key ideas.</li> <li>3. When you find what you're looking for, slow down and read carefully.</li> </ol>
Understanding visuals	Use it to find information presented in visual form, such as maps, graphs, photographs, diagrams, and timelines.	<ol style="list-style-type: none"> <li>1. Think about what you want to know and what you already know.</li> <li>2. Look for information that explains the visual. For example, look at labels, captions, arrows, or map keys.</li> <li>3. Search for the specific information you want.</li> <li>4. Put the information into words to help you understand the visual.</li> </ol>

from the *Struggle for Independence* unit

## Writing

Throughout each unit, students complete writing activities to prompt thinking as well as to demonstrate what they have learned.

EPISODE 3  
PORTFOLIO  
8

DATE \_\_\_\_\_

**WRITING: A REPORT**  
**Daily Life in Colonial Boston**

In your report, you will explain important aspects of your character's daily life. Use the space below to organize your ideas from your prewriting. Keep in mind the criteria on the self-assessment rubric shown on Portfolio page 13.

Title: \_\_\_\_\_

Introduction: \_\_\_\_\_

\_\_\_\_\_

**Supporting Examples and Details**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Conclusion: \_\_\_\_\_

\_\_\_\_\_

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Struggle for Independence © 2008 High Schools

from the *Struggle for Independence* unit

## Speaking and Listening

Students refine these skills by presenting ideas to the class and resolving issues through discussion and collaboration.

EPISODE 3  
PORTFOLIO  
10

DATE \_\_\_\_\_

**PRESENTING A REPORT**  
**Daily Life in Colonial Boston**

You will present your report to the class. Use the guidelines below to prepare for your presentation.

The title of my report: \_\_\_\_\_

Three important facts to share about my topic

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Props or costumes I can use

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Ways to make my presentation interesting

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Special information or details to include

\_\_\_\_\_

\_\_\_\_\_

Practice your presentation in your family groups. Ask a member of your group to check off the boxes below that you included in your practice presentation. Use feedback from your family group to make improvements to your presentation.

- I presented the information in the role of my character.
- I included three important facts.
- I kept the presentation short and to the point.
- I spoke clearly and confidently.
- I used dramatic expression to communicate the role of my character.

14 PORTFOLIO  
Struggle for Independence © 2008 High Schools

from the *Struggle for Independence* unit

## Vocabulary Development

In each unit, students are exposed to specialized vocabulary for speaking and writing. Students create word banks in their Portfolio by recording content words.

PORTFOLIO  
24

DATE \_\_\_\_\_

**WORD BANK**

Keep track of the words you learn or words that interest you. Words in your word bank may come from class discussion, research, or any other source during the unit. Next to each word, write a definition of the new word or words that describe the new word. You might even draw a sketch of the word to help you remember its meaning.

\_\_\_\_\_

\_\_\_\_\_

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Struggle for Independence © 2008 High Schools

from the *Struggle for Independence* unit

## Reading Mini-Lessons

Use the Reading Mini-Lesson Framework on p. 71 of the Teacher's Handbook to conduct reading mini-lessons.

**HOW TO CONDUCT READING MINI-LESSONS**

The Reading Tips chart on the back of each Content Card provides a quick reminder for students to use as they work with the cards. These Reading Tips cover strategies that are especially effective for reading and understanding non-fiction text:

- Identifying main ideas and supporting details
- Comparing and contrasting
- Making connections
- Making inferences
- Scanning for specific information
- Understanding visuals

You can use the Reading Tips as the basis for mini-lessons.

The unit assumes that these strategies have been taught and practiced in other classroom contexts and that the purpose of the Storypath mini-lesson is to provide a quick review. You will decide which reading strategies are most applicable for each reading task within the unit. In addition, the discussion questions on the Content Cards suggest applicable strategies that the students will need to use on their own.

**READING MINI-LESSON FRAMEWORK**

1. Describe the strategy, explaining when and why readers use it. Your students may need some help in understanding the reading strategy and knowing when it might be useful. Use the Reading Tips chart for information on explaining the strategy and helping students understand when and why readers use it.

2. Model the steps as you "think aloud" with a sample text. Demonstrate how you would use each strategy, using text from or similar to text in the Storypath unit. First, read some of the text aloud and then talk about what happens in your head as you use the strategy. This modeling makes the hidden reading processes become more visible and concrete for developing readers. Language that will help you includes the following:

- "I think about what I already know..."
- "When I look for the main idea, I..."
- "Here is a clue that will help me..."
- "That makes me think..."

3. Guide students to apply these steps as they read during the unit. Support students as they apply the various reading strategies in the Storypath unit and begin to use the strategies independently. For example, after you model your own thinking, ask students to try out the strategy with your guidance before asking them to apply it on their own. This will help you determine which students understand the strategy and which students need more help.

4. Assess students' progress. Students' independent use of the various reading strategies will give you valuable opportunities to assess their growing proficiency with the strategy, as well as their understanding of social studies content.

85  
Struggle for Independence

from the *Struggle for Independence* unit

# ENGLISH LANGUAGE LEARNERS AND STORYPATH

English Language Learners, or ELL, is a term that applies to students whose primary language is not English. These students are in the process of acquiring English as a way to communicate ideas and gain content knowledge. They don't yet have the tools at their fingertips that native English speakers have that allow them to easily navigate classroom activities and contribute to classroom experiences. ELL students don't lack ability; they just don't know the language.

As ELL students gain experience in an English-speaking classroom, their abilities and comfort level increase. But remember that regardless of the progress made by ELL students, new material will revert them back to beginner status simply because they do not have the same background knowledge that a student who was born here does.

There are some very basic things the teacher can do to make the classroom a place of learning for ELL students. For example, text-rich activities, without visuals, should be avoided. Visually rich activities should be commonly used, and the senses should be engaged whenever possible. Music and kinesthetic activities, such as role-playing, are excellent tools for ELL students.

**Activate prior knowledge.** English language learners are similar to native English speakers in the most fundamental ways: they possess a great deal of prior knowledge, and are excited about sharing that knowledge. To provide scaffolding, preteach new vocabulary and introduce concepts with visuals that relate to the subject matter. When studying another time period, it is important to connect concepts to both the present and the past.

**Allow extra time for small group work.** ELL students will benefit from working with partners and small groups. These situations allow students more opportunities to contribute to conversations and complete tasks. In small groups, assign ELL students a specific task to complete, and allow them extra time to complete this task if needed. When you do have whole class discussions, you might have ELL students follow this discussion by working with a partner to recap the important ideas or the assignment.

**Model tasks and thought processes.** Modeling makes tasks and thinking processes more concrete. For example, if students are expected to write a short poem, model the process of writing a poem. Then have them refer to the model poem as they write their own.

**Develop vocabulary.** Vocabulary development is key to comprehension, so preteach vocabulary whenever possible. Use illustrated word banks and vocabulary exercises that encourage interaction with words. For example, students can write the word and draw an illustration of each word in the word bank and then verbally explain how the word relates to the big ideas in the unit.

**Allow use of the native language.** For students who possess few English words, allow them to complete writing activities in their native language. As they learn more English, they will begin to incorporate English into their written and oral language. This validates the students' native language and their prior knowledge, and also helps bridge the gap on their way to learning—and using—their new language.

**Encourage involvement in class discussions.** English language learners will likely be reluctant to contribute to whole group discussions, so encourage them to contribute in a way that is comfortable for them—words, phrases, simple sentences. Make sure the classroom is a safe and supportive environment.

**Modify assignments and assessments.** Students can use many different modes to communicate their understanding of unit concepts. Illustrating, cutting and pasting vocabulary activities, using graphic organizers such as timelines, and completing sentence stems are all excellent and valid methods for responding to content. ELL students should also work on and present material with a partner or in small groups whenever possible. In these situations, you will gain a more valid assessment of what ELL students have learned.

Additionally, at the beginning of the school year and anytime new material is introduced, limit the number and complexity of the activities you assign. Allow students to use methods other than writing to respond to information.



Look for this icon throughout this Teacher's Handbook. This icon indicates that an activity is particularly appropriate for English Language Learners.

OFFICIAL OKLAHOMA ADOPTION REVIEW  
DO NOT REPRODUCE

# ASSESSMENT

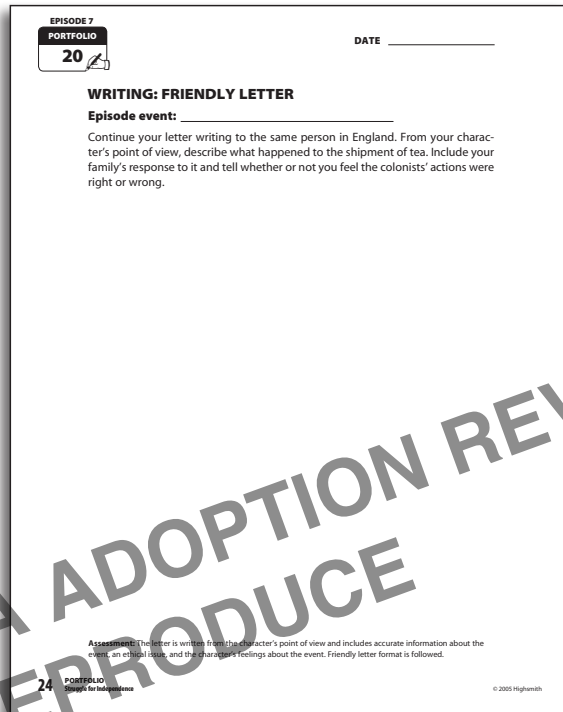
Each Storypath unit offers a range of options for assessing student learning.

## Portfolio Assessment

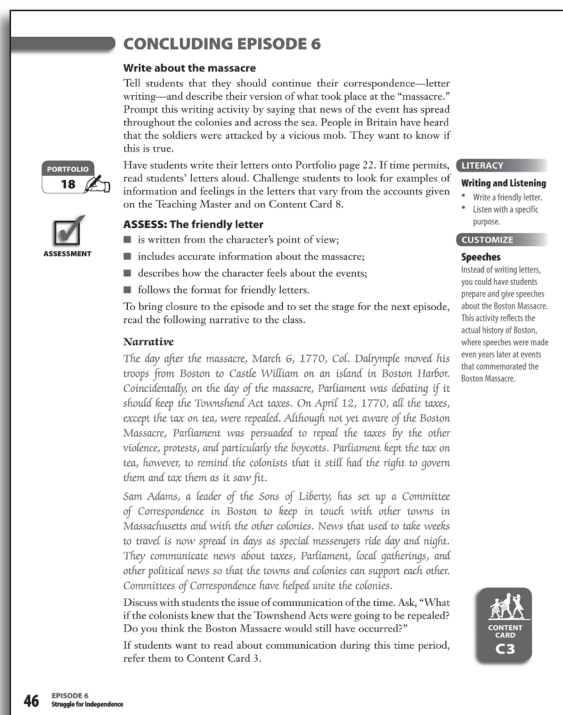
The Student Portfolio provides ongoing assessment of student understanding of unit objectives through writing and other response activities.

## During Each Episode

Assessment suggestions are included throughout the Teacher's Handbook and align with the Student Portfolio. Complex thinking and problem-solving abilities are assessed as students role-play and respond to critical events throughout the unit.



from the *Struggle for Independence* unit



from the *Struggle for Independence* unit

## Self-Assessment

Students have opportunities to assess their own work, such as writing and oral presentations. There are also opportunities for student reflection at the end of each episode.

**EPISODE 3**  
**PORTFOLIO**  
**9**

DATE \_\_\_\_\_

**SELF-ASSESSMENT**  
**Report on Daily Life**

Use the rubric below to evaluate your report. The first column describes expectations for the assignment.

Rate yourself by putting a number in the second column.

1 = missed the mark; needs lots of work  
2 = on target; met the basic requirements of the assignment  
3 = outstanding work; went beyond expectations

In the last column explain why you assigned that number for that criterion.

**Ideas and Content**

Criteria for assessment	Rating	Explanation for rating
The content is accurate and realistic to the family created.		
The description of daily life is focused and includes relevant details.		
The relationship to Britain is included.		
Clear descriptions are included about tasks and tools/materials.		
The writing is insightful. The reader can picture daily life because of the vivid descriptions.		

**Organization**

Criteria for assessment	Rating	Explanation for rating
The introduction is inviting and a satisfying conclusion is provided.		
The sequence is logical and effective.		
The descriptions flow from one event to the other.		

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*Struggle for Independence* **13**

from the *Struggle for Independence* unit

## Social Skills

A social skills master is provided to support student self-assessment and can be used at the teacher's discretion whenever students need to reflect and build on such skills.

**TEACHING MASTER**  
**T15**

Name \_\_\_\_\_ Date \_\_\_\_\_

**SELF-ASSESSMENT: SOCIAL SKILLS**

Social skills are an important part of belonging to a community. Use this chart to keep track of how well you work with others during this unit.

**Episode:** \_\_\_\_\_

Describe the group situation or event: \_\_\_\_\_

Criteria	I need to work on this.	I do this some of the time.	I do this most or all of the time.
I respectfully listened to others.			
I contributed actively to the group.			
I encouraged others to participate.			
I suggested solutions to problems.			
I did my fair share of work.			

One thing our group did well together: \_\_\_\_\_

One thing our group needs work on: \_\_\_\_\_

One thing I really did well: \_\_\_\_\_

One thing I could do better: \_\_\_\_\_

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*Struggle for Independence* **73**

from the *Struggle for Independence* unit

## End of the Unit

At the conclusion of the unit, synthesizing questions reinforce unit objectives. Optional synthesis activities are included to guide students to apply what they've learned. Each synthesis activity includes criteria for assessment—you decide how best to use these options.

**UNIT QUESTIONS FOR REVIEW**

**DISCUSSING COLONIAL BOSTON AND THE STRUGGLE FOR INDEPENDENCE**

Lead a discussion that reinforces the concepts and generalizations taught throughout this unit. The following questions encourage a discussion of major concepts. Include questions about any problem-solving situations you've added to the unit.

- ❶ How was living in colonial Boston similar to living in a city today? How was it different?
- ❷ How did people communicate over long distances? How did this affect the relationship between the colonies and Britain?
- ❸ What were some major concerns of people living in colonial Boston? concerns of the British government?
- ❹ If you had lived at that time, what would you have thought of the Sons of Liberty? Would you have been a friend of Sam Adams? Explain.
- ❺ Why do people resort to vigilantism? What are some other ways people can take action and make their ideas known?
- ❻ How would you describe the way the British government handled events during this time period?
- ❼ Could the colonists have remained loyal but still have asked for changes?
- ❽ If Britain had never taxed the colonies, do you think the colonies would have still become an independent nation? Explain.
- ❾ What do people look for in a government? Why were the colonists dissatisfied with their government?

**REFLECTING ON COLONIAL BOSTON AND THE STRUGGLE FOR INDEPENDENCE**

Students need time to reflect on their experiences and their progress through this unit. Have them respond to questions like these.

- What have I learned about colonial Boston and the events that led to independence?
- What was the most surprising thing I learned?
- What is the best work I did? Why was it good?
- What work could I have done better? How could I have done it better?
- What did I like most about working with others? What did I like least?

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*Struggle for Independence*

from the *Struggle for Independence* unit

**SYNTHESIS ACTIVITIES**

The following synthesis activities offer your students the opportunity to demonstrate what they've learned in this unit. These activities are also a powerful assessment tool for you because they're multimodal. They allow for variances in students' abilities as learners.

**1. PORTFOLIO RESPONSE**

**Activity**  
Have students review their Portfolios and identify at least five items that represent important ideas or skills learned. After students have selected the items, they should write at least one paragraph in response to the following questions.

- List three important ideas from your Portfolio. Why are these ideas important?
- What challenges did your character face? How did your character respond to these challenges?
- What are three costs and three benefits of seeking independence from Britain?
- What skills do you believe improved as a result of this unit? Explain why.

**Criteria for Assessment**  
Learning objectives are demonstrated if

- the portfolio demonstrates an understanding of how the colonists lived, the effect of British rule on the colonies, the Boston Massacre, and how the colonists responded to and were shaped by the events of the time;
- the reflections are thoughtful, well organized, and clearly communicated;
- the paragraphs demonstrate appropriate writing conventions.

**2. ANALYSIS OF A CURRENT EVENT**

**Activity**  
Students can locate a current event in the newspaper that they believe has similarities to events in the Storypath. Students should

- summarize the current event. What is happening? Why is there conflict? How are people responding to the conflict? What injustices have been identified?
- list three ways the event is similar to the events in the Storypath.
- write a paragraph offering suggestions for what the people who are involved in the conflict should do. Suggestions should be based on what students have learned from the Storypath.

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*Struggle for Independence*

from the *Struggle for Independence* unit

# PLANNING THE UNIT

## CREATING A CONSTITUTION THE SPACE COLONY

### MAKE KEY DECISIONS

**Make Space for the Storypath.** You will need enough wall space for students to make the space colony frieze and to display their characters and the various projects they complete during the unit. Sometimes teachers are tempted to put the planet posters, frieze, and characters in the hallway outside the classroom. It is important, however, to display these items inside the classroom where students can easily refer to them throughout the Storypath.

**Gather Resources.** Selecting a planet for colonization and planning its settlement will require that students find information about planets in our solar system. The Content Slides provide some information, but you may want to assemble other resources for students beforehand.

**Reserve Adequate Time and Resources for the Writing of the Constitution** Although space and the colonization of a planet are the focus of many of the Storypath episodes, the most significant experience in the unit will probably be the writing of the space colony constitution in Episode 6. Be sure to budget enough time and resources for this important process. For background information on constitutional governments, see TH pages 66–67.

**Balance Imagination with Fact.** Throughout the unit students will use their imaginations to create a space colony. Science fiction has often led to new ways of thinking about space and science. Encourage students to use their imaginations, but challenge them to support their ideas with facts. Given the fast pace of technological advancements, some of these young people may well become the space colonists of the future!

### CUSTOMIZE THE UNIT

**Adapt the Unit.** There will likely be many times in this unit when you will want to modify the curriculum to suit your own needs and follow the logical progression of the story. Alternative activities or special arrangements are suggested at various points during the unit to assist in adapting the unit to meet your unique needs. The primary challenge of this unit is to keep students focused on the key ideas. The topic is very broad, and students can become mired in details that lead away from the primary learning goals. You may need to keep students pointed in the direction you want to follow in the Storypath.

Frequently students will provide an unanticipated twist to the Storypath, or important learning opportunities will arise. The Storypath allows for the accommodation of such special circumstances.

There are times when students will role-play the characters in the story to understand particular viewpoints. At other times students will reflect on the events of the unit while out of role so that situations can be examined and understood from students' own perspectives. These are opportune times to help students draw upon their own experiences to deepen their understanding of the role of colonists both in the future and the past.

**Connect to the World of Work.** This unit reinforces the connection between the world of school and that of work. Students create biographies for their characters, consider occupations needed within the colony, and examine ways colonists work together effectively. Exploring the jobs of colonists and the work they do makes the learning experience meaningful and relevant to the world of work.

**Connect to Other Storypaths.** *The Struggle for Independence in Colonial Boston* can be taught prior to or following this unit. Students will then be able to evaluate and compare decisions related to our democratic governing process in two settings: an historical colony and their space colony.

**Integrate the Science Curriculum.** If you normally study space in your science curriculum, you will find many ways to integrate science activities into this unit. Various science experiments and other activities can be substituted for those suggested. However, be careful not to get sidetracked by such experiments and thereby lose the momentum of the story.

## INVOLVE OTHERS

**Involve Families.** Family members and other adults can serve as excellent resources for you and your students. It is possible that family members have special knowledge about space or work in businesses that have benefited from space technology. Invite them to share what they know. Some families may have emigration experiences and may be willing to share their feelings about leaving their homelands to come to a new and different place.

**Involve Experts.** Flight museums or space-related companies in and near your community can also serve as excellent resources. Field trips or presentations by guest speakers in your classroom can enrich students' experiences. Such activities should be carefully timed, however, and should take place only when students are truly interested in learning from the field trip or are ready to listen to the guest speaker. Field trips or visits by guest speakers should occur at the end of the unit when students can knowledgeably compare and contrast their own "space colonization" experiences with the new information they are receiving.

**Create a Learning Community.** An open and supportive atmosphere is essential for students to engage in the discourse that is basic to the learning process of the Storypath approach. Students should understand the value of reflective discussions and the importance of collaborative work in deepening their understanding of complex ideas. Consequently, students should be expected to listen carefully and respond thoughtfully and respectfully to one another's ideas.



# 1

# EPISODE

## CREATING THE CHARACTERS THE COLONISTS

### INTRODUCING THE SPACE COLONY

page 15

Students listen to the reading of a newspaper article and brainstorm a list of jobs for people living in a space colony.

- Materials** Teaching Master 1, *Newspaper Article*, TH\* p. 49
- Grouping** Whole class
- Schedule** Approximately 30 minutes

### CREATING THE COLONISTS

page 16

Students create their own characters for the space colony.

- Materials** Teaching Master 2, *Job Application*, TH p. 50  
Portfolio 1, *Making a Character*, p. 4  
For the characters:
- various colors of construction and tissue paper
  - ribbon, lace, buttons, cotton balls, fabric and wallpaper scraps, paper doilies
  - colored markers, crayons, colored chalk, glue, scissors
  - optional: wool fiber for hair
- Grouping** Students work independently.
- Schedule** 1 hour

### CONCLUDING EPISODE 1

page 18

Students introduce their characters “in role” to the class and then begin travel logs that they will use throughout the Storypath.

- Materials** Teaching Master 3, *Travel Log Model*, TH p. 51  
Portfolio 2, *Prepare for Introduction*, p. 5  
Portfolio 3, *Active Listening Guide*, p. 6  
Portfolio 15, *Travel Log Rubric*, p. 19  
Portfolio 16, *Travel Log Entry 1*, p. 20  
Pocket folders or sturdy paper to make folders (one per student)
- Grouping** Individuals and pairs to practice introductions; whole class for presentations; individuals for writing in travel logs
- Schedule** Approximately 1 1/2 hours spread over several days

#### EPISODE OBJECTIVES



- **Science and Society** Create characters who will use science and technology to change the physical environment of a planet in our solar system.
- **Social Skills** Organize, plan, and make decisions while creating characters.
- **Critical Thinking** Organize ideas from class discussion and conduct research to create unique characters.
- **Literacy** Listen to and discuss a fictional newspaper article.
- **Literacy** Organize information to create a job application.
- **Literacy** Write an entry in a travel log.

\*TH = Teacher's Handbook

# INTRODUCING THE SPACE COLONY

## Launch the unit

Tell students that they will create a present-day story about a group of space colonists who create a settlement on another planet in our solar system. Discuss with students the elements of a story: setting (when and where the story takes place), characters (the people in the story), and plot (critical incidents). In this episode, students will create the characters for the story—the space colonists. Each student will create one character and will role-play that character throughout the Storypath.

Read to students Teaching Master 1, which contains a mock newspaper article about plans for setting up a new space colony. Ask students to discuss which countries would likely be involved in the Global Group and what their various motivations might be for creating a space colony. During the discussion, the class could agree on a list of member countries.

## Discuss the newspaper article

Use questions like the following to get students thinking about the newspaper article. During the brainstorming, create a list of students' ideas.

- 1 What is a colony? (*a group of people who settle in a new place but retain ties to their previous homes*)
- 2 The article mentions past colonies that have caused wars and other major problems. What colonies might the article be talking about? (*Students will likely mention the Thirteen Colonies, which became the United States. They might also mention colonies in South America and Africa.*)
- 3 What countries might want to have some of their people participate in this project? (*Accept all suggestions for countries, but encourage students to explain the reasons for their choices. Try to generate a list long enough so that each student can represent a different country, although any one country may be represented by more than one character. Students will select countries for their characters later in this episode.*)
- 4 What kinds of activities do you think space colonists will carry out? (*building shelters, scientific research, exploring, mining*)

TEACHING  
MASTER

T1

### AUTHOR NOTE

#### Creative Thinking

As the Storypath begins, you are asking lots of questions to activate students' imaginations, engage them in the story, and have them begin to elaborate on the characters they will create.

### CUSTOMIZE

#### Current Events

Frequently there are reports in the news about plans to develop space stations or space colonies. If one of these reports has recently occurred, adapt it for this Storypath.

### CUSTOMIZE

**ELL** In whole-class discussions such as this one, encourage students to

- share ideas first with a partner;
- contribute words, phrases, or simple sentences;
- use visuals to make concepts more concrete;
- share their prior knowledge related to the topic;
- draw or write their ideas.

## LITERACY

### Vocabulary

As students discuss various job roles and space travel, introduce and discuss vocabulary related to such topics.

- colony
- engineer
- geologist
- meteorologist
- physicist
- solar system

## Brainstorm jobs

Have students brainstorm a list of jobs that space colonists might have. Ask them what jobs would be needed both to set up the colony and to provide for the continuing needs of the colonists. Sometimes it is helpful to use prompting questions such as, “Would the space colony need a doctor? An artist? A scientist who knows about crops and soil? Would it be helpful to have someone with musical talent? Why might that be helpful?” Write students’ responses on the board or on chart paper. The list might look like this:

<i>architect</i>	<i>educator</i>	<i>photographer</i>
<i>artist</i>	<i>engineer</i>	<i>physicist</i>
<i>astronaut</i>	<i>farmer</i>	<i>plumber</i>
<i>computer scientist</i>	<i>geologist</i>	<i>metalworker</i>
<i>doctor</i>	<i>governor</i>	<i>meteorologist</i>

## AUTHOR NOTE

### Job Roles

You will want a governor to serve as the leader of the colony.

## CREATING THE COLONISTS

## AUTHOR NOTE

### Using Prior Knowledge

Students may select nations they already know about because of family heritage, travel, or other personal experiences. Encourage them to make use of this knowledge to embellish their characters.

### Select countries of origin

Explain to students that each of them will create one character for the space colony. First, you will need to determine how students will select the countries of origin for their characters. It is best if they can select the countries themselves because then there will be more investment in developing their characters. However, there should also be a wide variety of countries, including the United States, represented in the space colony.

One country may be chosen by more than one student, but if you find that many students are selecting the same few countries, guide them to choose other countries so that there is greater global representation.

### Create the characters

Now students can begin imagining their characters in general terms, such as names, ages, and the jobs they might have in the colony. You might provide students with some guidelines—for example, all characters will be adults. But encourage students to use their imaginations. Suggest they look at reference materials to find information about food, music, and other topics that would be related to their characters’ countries of origin. As the unit progresses, allow students time to research their country of choice.

After students have listed general traits of their characters, direct them to Portfolio page 4 “Making a Character”—or provide instructions for making another type of figure. You can also have students preview Teaching Master 2, “Job Application,” TH page 50, at this time in order to help them create their characters.

## PORTFOLIO

1



## CONNECT

### Mathematics

Inform students that the figures they are making are scale models. If the figures represent characters that are about 5’ 8” tall, what scale is being used? In other words, how many times reduced are the characters? (The scale is approximately 7:1.)

TEACHING  
MASTER

T2

**TEACHING MASTER****T2****AUTHOR NOTE****Learning Strategies**

Have students make their figures first—so they start with the concrete—and then move to the less familiar job applications. Students can always change their figures later.

**LITERACY****Vocabulary**

- Create a word bank
- Identify jobs for a space colony
- Identify attributes and skills necessary for various jobs

When the characters are completed, display them where they can be viewed throughout the Storypath. Later, the characters can be placed in or near the space colony.

**Complete the characters' job applications**

Once students have created their characters, distribute Teaching Master 2, "Job Application," TH page 50, to each student.

To generate ideas for the applications, brainstorm possibilities for the categories of information on the form. Students can complete the applications after they've listed ideas generated by the following discussion. Here are some questions to get the discussion under way:

- 1 What jobs might your characters have in a space colony? (*Have students build on the earlier discussion about space colony jobs. Encourage a large variety of occupations.*)
- 2 What kinds of education would people have for these various occupations? (*Many of these jobs would require undergraduate, technical/vocational, and graduate degrees. This is an ideal opportunity to reinforce for students the connection between career choices and the necessary schooling.*)
- 3 What kinds of prior work experience might people have that would be useful for the space colony? (*Help students connect realistic work experiences that would be appropriate for the job application—other space projects, scientific experiments, or whatever is appropriate and logical to the story.*)
- 4 What special skills would be important for working in a space colony? (*Encourage students to consider a wide range of skills, such as mechanical, artistic, musical, organizational, and people skills.*)
- 5 How can you choose the favorite holidays, music, and leisure activities for your characters? (*Lead students to consider researching holidays, music, and lifestyles in their characters' countries of origin. A good place to begin research would be an encyclopedia.*)
- 6 What are some personality traits that colonists might have? (*Have students consider particular personality traits, such as courageous, dependable, and adventuresome, that would be helpful in a new undertaking.*)
- 7 Why would people want to join such a project? Think about this for the character and for the country of origin. (*Guide the discussion so that students understand the personal and national benefits of such an endeavor.*)

**Create word banks**

Students should create word banks of unfamiliar words, both on Portfolio page 26 and for display in the classroom. There are many unfamiliar terms in this unit and using new vocabulary words in context will reinforce language skills. Encourage students to write definitions and examples of the words or to sketch images that help them understand and remember the words. As the Storypath progresses, any word that relates to the unit or is interesting or unknown to the student can be added to the Portfolio word bank. For the classroom word bank, consider making a mobile word bank for each episode's focus and categorize words accordingly.

**CUSTOMIZE****Celebrating Differences**

Many paper companies sell colors of construction paper that reflect the different skin tones of people. Students can use this paper to create figures that reflect the variety of skin colors in the world.

**CONNECT****Technology**

Actual job descriptions can be viewed on the Internet. One site worth exploring is the Occupational Information Network, <http://online.onetcenter.org>.

**CUSTOMIZE**

**ELL** Encourage students to add words in their native languages to the word bank. Another option is to illustrate the words or cut and paste pictures that illustrate them.

## Guide student work

At this point in the Storypath, there is a great deal of activity, because students must make many decisions about their characters. You'll have to facilitate students' work and clarify directions as needed. As students develop their characters, monitor the job applications so that there is a range of jobs. For example, if everyone wants the role of governor, the class should discuss what other jobs might be considered. Make sure that the colony has a governor whom you can depend on to help organize group activities throughout this Storypath.

As much as possible, you want students to make their own decisions about their characters. Some of those decisions can set the stage for a problem-solving situation later in the Storypath. Students are very adept at adding new information about their characters to fit the story as it develops. For example, a student may say, "I forgot to tell you that this person was once a veterinarian before she became a doctor, so she will be able to take care of both the people and the animals of the colony."



### ASSESSMENT

#### ASSESS: Job applications

- are based on the discussion, research, and the students' own ideas;
- provide accurate information related to their characters' countries of origin;
- connect education and previous work experience to appropriate job roles;
- provide logical reasons for joining the space colony.

## CONCLUDING EPISODE 1

### Meet the characters

Now that students have created their characters, they should introduce them to the class. Have students use their characters' job applications to help them prepare their introductions. Have students take on the identities of their characters as they practice presenting their introductions to partners. Have students use Portfolio page 5, "Prepare for Introduction," to guide the process and to self assess their performance.

After students have introduced their characters to their partners—and incorporated any improvements they've thought of—have a few students each day introduce their characters to the whole class. After each introduction, allow time for students' questions about the character and have students complete Portfolio page 6, "Active Listening Guide." Ask questions yourself to stimulate students' thinking. For example, "How might Drew (a geologist) and Shane (a farmer) work together in the space colony?"

To help students (and you) remember the names of the characters, have students make name tags with their character's name, occupation, and country of origin. Each day as the Storypath begins, have students put on their name tags. This helps them get into role and reminds them of the various characters in the Storypath.

### CUSTOMIZE

#### Religion

You may want to have students identify the religions their characters practice. This will lay the groundwork for a later discussion on religious freedom when students create a constitution in Episode 6. Encyclopedias identify a country's major religions.

### LITERACY

#### Speaking and Listening

Introductions can be used to

- reinforce oral communication skills, such as speaking clearly, asking appropriate questions, and listening;
- build self-confidence when speaking before a group;
- teach the cultural norms for social introductions;
- listen with a purpose.

### PORTFOLIO

2

3



### CONNECT

#### Geography

Using a world map, have students mark the countries of origin for their colonists. If possible, leave the map on display as a reminder of the different nationalities represented by the various colonists.



**ASSESSMENT**

**ASSESS: Introductions**

- demonstrate eye contact was maintained with audience;
- are clearly pronounced and easy to understand; are spoken in a volume that is not too loud or too soft;
- use notes sparingly;
- do not use filler words (*um, uh, like*);
- do not include fidgeting, rocking back and forth, or pacing;
- demonstrate good posture;
- include relevant information about work and life experience(s) related to the job and country of origin.

**Facilitate role plays**

At various times during the Storypath, you will want to do role plays with the students so that they continue to think about themselves as space colonists. Watch for opportunities that would allow a few students to move into the roles of colonists to react or respond to a situation. Events that come directly from their own stories help students develop important connections to the Storypath.

A few students at a time can participate while others watch. Keep the role plays short—about three to five minutes each. You can set the scene for the role play, ask a question to start the role play, or pose a problem. For example, students can discuss what special items they will bring from home as remembrances of Earth. You can prompt the role play by saying something like, “Chase, why did you decide to bring this photo album?” Then prompt students as necessary to move the role play along.

The first few times students are involved in the role play, select students you believe would be good models for others who participate later.

**Create a travel log**

Students can begin travel logs for their colonists that can be used throughout the Storypath. These travel logs will give students time to reflect on their work and will emphasize the role that students’ characters play in the Storypath. Have students start their travel logs by responding to one or more of the following questions. You can also use these questions to spark a class discussion.

- How do you feel about leaving Earth and traveling into space?
- How will you interact with the other colonists?
- Are there people you will become friends with? Work closely with?
- Why does your character want to be part of the space colony?

**ELL** Use the Teaching Master 3, “Travel Log Model,” TH page 51, to demonstrate for students how to write a travel log. Have students use Portfolio page 19, “Travel Log Rubric,” to identify the qualities of the travel log. Have students write their first travel log entry on Portfolio page 20, “Travel Log Entry 1.”

**CONNECT**

**Drama**

The type of unscripted role-playing suggested here deepens students’ understanding of the colonists and the story, as well as boosts motivation and commitment.

**AUTHOR NOTE**

**Student Leadership**

Don’t be surprised if students you least expect assume leadership roles. The process of character development, which capitalizes on imagination and perspective taking, often helps students to assume roles they wouldn’t otherwise.

**PORTFOLIO**

15

16



**TEACHING MASTER**  
**T3**

Encourage students to add visuals to their travel logs. They can paste in images from magazines or make drawings that illustrate their written entries.

### Rubric for assessing students' travel logs

As students proceed through the Storypath, you can use the criteria below to assess their travel logs. This rubric also appears as Portfolio page 19, "Travel Log Rubric."

#### CUSTOMIZE

**ELL** Encourage students to write and draw directly on the rubric, in ways that will help them understand and remember the meanings of the various criteria.

	Developing	Acceptable	Strong
Ideas and Content	The event is briefly stated. There is no main idea. The information is general and not focused. The ideas seem disconnected.	The event is described with at least two details. The information is reasonably clear with general observations.	The event is described with many relevant details. The information is fresh and insightful.
Makes Connections	Rarely or incompletely explains how the events impact his or her character and the overall story.	Explains how the events affect his or her character and the overall story.	Explains why events are important to his or her character and how the events connect to the overall story.
Personalizes Learning	Not written from the character's point of view. Rarely connects information to other characters.	Written from the character's point of view and includes other characters. Doesn't elaborate on specific information.	Written convincingly from the character's point of view. Includes other characters, based on job roles, personal characteristics, and country of origin.

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### **Create Portfolio folders**

When students complete their travel logs, have each of them make a folder with a pocket or distribute ready-made folders with pockets to each student. At the end of the Storypath, the folder pockets can be used to hold students' figures and other important items.

### **Discuss students' experiences**

Give students time to reflect on their work while out of character. Encourage them to record their ideas and opinions as they respond to questions like these:

- Why is your character suited to her or his job?
- How will your character contribute to the space colony?
- Why can't all the space colonists have the same job?
- How is your character similar to and different from you?
- How did you choose favorite holidays, skills, and other characteristics for your character?

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# 2

## BUILDING CONTEXT OUR SOLAR SYSTEM

# EPISODE

### INTRODUCING OUR SOLAR SYSTEM

page 23

Students discuss possible colony sites and brainstorm a list of planet characteristics to guide their research.

<b>Materials</b>	None
<b>Grouping</b>	Whole class
<b>Schedule</b>	About 20 minutes

### CREATING PLANET POSTERS

page 24

Students work in small groups to research planets and create informative posters.

<b>Materials</b>	Portfolio 4, <i>Creating A Planet Poster</i> , p. 8 Portfolio 5, <i>Working Together Effectively</i> , p. 9 Content Slide Sets 3 and 4 For the posters: <ul style="list-style-type: none"><li>■ poster board, colored markers, crayons</li><li>■ glue, tape, paper, ruler, protractor</li><li>■ craft materials</li><li>■ optional: computer with graphics program</li></ul> For the optional activity: <ul style="list-style-type: none"><li>■ cardboard tubes</li></ul>
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**Grouping** Small groups, with each group working on a different planet

**Schedule** 1–2 hours

### CONCLUDING EPISODE 2

page 25

Students reflect on the episode.

<b>Materials</b>	Portfolio 17, <i>Travel Log Entry 2</i> , p. 21
<b>Grouping</b>	Individuals for writing in the travel logs; whole class for discussing questions
<b>Schedule</b>	Approximately 30 minutes

#### EPISODE OBJECTIVES



- **Social Skills** *Organize, plan, and make decisions while creating a poster.*
- **Social Skills** *Practice compromising and negotiating to resolve any conflicts that might occur between or among group members.*
- **Critical Thinking** *Organize ideas from class discussion and reference materials in new ways to create a poster.*
- **Critical Thinking** *Identify criteria for successful posters.*
- **Literacy** *Used specialized vocabulary to understand and communicate concepts about the solar system.*
- **Literacy** *Create an informative poster about a planet.*
- **Literacy** *Write an entry in a travel log.*

# INTRODUCING OUR SOLAR SYSTEM

## CUSTOMIZE

### Time Considerations

You can skip this episode and simply tell students Mars has been chosen as the planet for colonization. Then have students complete the Portfolio pages 8–9, “Creating A Planet Poster” and “Working Together Effectively,” with a focus only on Mars. This will familiarize students with the planet they will colonize.

### Set the stage

In this episode, students will research the planets in our solar system in order to make posters about them. Later, in Episode 3, students will use the information to help choose a site for the colony. Read the following passage to introduce Episode 2. If necessary, modify the passage to conform to your specific story.

*The colonists have been assembled for this important mission. We represent many different countries and we have many different languages, traditions, and views about life. But we all have one goal in common: to establish a colony. This goal ties us together and motivates us to work toward achievement of this goal. It will not be easy. Many challenges lie ahead. We have come together to begin our work. Our first challenge is to gather data about the various planets to decide on the best one for colonization.*

### Activate prior knowledge about our solar system

Use questions like the following to stimulate discussion about our solar system. During the brainstorming, create a list of students’ ideas.

- ❓ What planets might be good places for the colony? *(For now, students will probably mention planets, such as Mars and Jupiter, that are in our solar system. They might also suggest Earth’s Moon.)*
- ❓ Why do you think the Global Group wants the colony to be located in our solar system? Why not pick a planet revolving around another star? *(Colonizing a planet from another star system would be impractical. Students need to recognize the difference between science fiction and current technology. Tell them that at the speed traveled by the Apollo spacecrafts, it would take thousands of years to reach Alpha Centauri, the star system closest to our sun.)*
- ❓ Why would it be helpful to study Earth before deciding on a planet to colonize? *(By studying how Earth provides for our needs, we can decide whether or not another planet would be able to support a colony.)*
- ❓ What are the basic things that people need to survive? *(food, water, breathable air, and shelter)*
- ❓ What should we find out about the planets in our solar system in order to make an informed decision? *(Encourage students to list factors that would make it possible to colonize a planet. The list might include a somewhat moderate temperature range and whether or not there’s water.)*

# CREATING PLANET POSTERS

## Establish criteria for visual displays

Explain to students that they need to investigate possible sites for their colony by learning about the planets. Tell students that they will create posters displaying information about the planets. Refer students to Portfolio page 8, “Creating A Planet Poster,” and ask, “Why is it important to know this kind of information?”

### PORTFOLIO

4



- diameter of planet
- distance from the sun
- atmosphere
- surface temperatures
- length of daylight/darkness cycle
- length of year, as compared to Earth
- natural resources
- type of surface (rocky, gaseous)
- major landforms, if a rocky planet

### CUSTOMIZE

#### Create Criteria

Students build commitment to their work when they create criteria for their posters.

Ask, “What will a quality poster look like?” Brainstorm with students a list of criteria. Guide students to include general criteria, such as the following:

- carefully prepared and organized
- accurate information
- attractive
- correct spelling and grammar

Display the criteria so students can use them as a reference as they prepare their posters. The list can be used for assessment and may be modified as students continue their research and discover other important criteria they want to include. Encourage students to include additional information or images on their posters.

## Organize the work

There are many ways to organize students as they work on their posters. Here’s one method:

**Step 1** Divide the class into nine groups—one for each planet in our solar system. Have each group meet to discuss ways to work together effectively. Portfolio page 9, “Working Together Effectively,” will facilitate this process. Each group can complete the Portfolio page independently, or you can use it to teach a mini-lesson.

### PORTFOLIO

5



### CONNECT

#### Technology

Students can use the Internet to locate information about planets. See page 72 of this Handbook for Web site addresses to start students’ research.

### VOCABULARY

#### Add to the Word Bank

As students identify new words related to the space, such as *gravity* and *rotation*, have them add the words to their Portfolio word bank and to the class word bank.

### CUSTOMIZE

#### Grouping

If students have expressed interest in other potential sites for the colony, such as Earth’s moon, you can divide the class into ten or eleven groups



### CUSTOMIZE

**ELL** Creating visual displays allows students with limited English an opportunity to express what they know.

**Step 2** Determine a strategy students can follow to access the resources they need for their research. For example, students could start their research by looking at Content Slide Sets 3–4. Then they can investigate their planets further using resources such as reference books, the school library, the Internet, and CD-ROMs.

**Step 3** After students make overall plans, they can conduct the necessary research and complete their visual displays.

**Step 4** Have students briefly share what they have learned about the planets. (Students will examine the information in more depth in Episode 3.)

**Step 5** Prominently display students’ posters in order based on distance from the sun. Students will refer to them in Episode 3 when they decide which planet to colonize.

### Guide student work

As students make their posters, your role is to assist groups as needed and, when necessary, teach mini-lessons to clarify content, develop skills, or introduce or clarify new vocabulary. Portfolio page 27, “Glossary,” contains a glossary of words that you can use as the basis for a mini-lesson.

### ASSESS: The posters

- fulfill the criteria agreed to earlier;
- accurately present important information about their group’s planet.



ASSESSMENT

### CONNECT

#### Drama

Space agencies train astronauts by simulating missions on the ground. Have a few students use the flight center to simulate the launch of their mission while in character.



ASSESSMENT

### Optional Activity: Creating a flight center

Making your room into an imaginary flight center is one way to make the Storypath more concrete for learners—especially for learners who would benefit from hands-on experiences. The flight center can be used when planning for the mission and as a scene for role plays. Students can make one or more of the following items:

- Large solar system diagram or three-dimensional model
- Entryway sign to the classroom with a name and logo for the flight center
- Full-size control panel models with buttons, computer screens, and dials
- Model or diagram of the spacecraft that will transport the colonists to the planet
- Model or diagram of telescope

### ASSESS: The flight center

- demonstrates knowledge about space exploration by incorporating suitable items;
- successfully models items found in a flight center;
- displays accurate information about our solar system.

### CUSTOMIZE

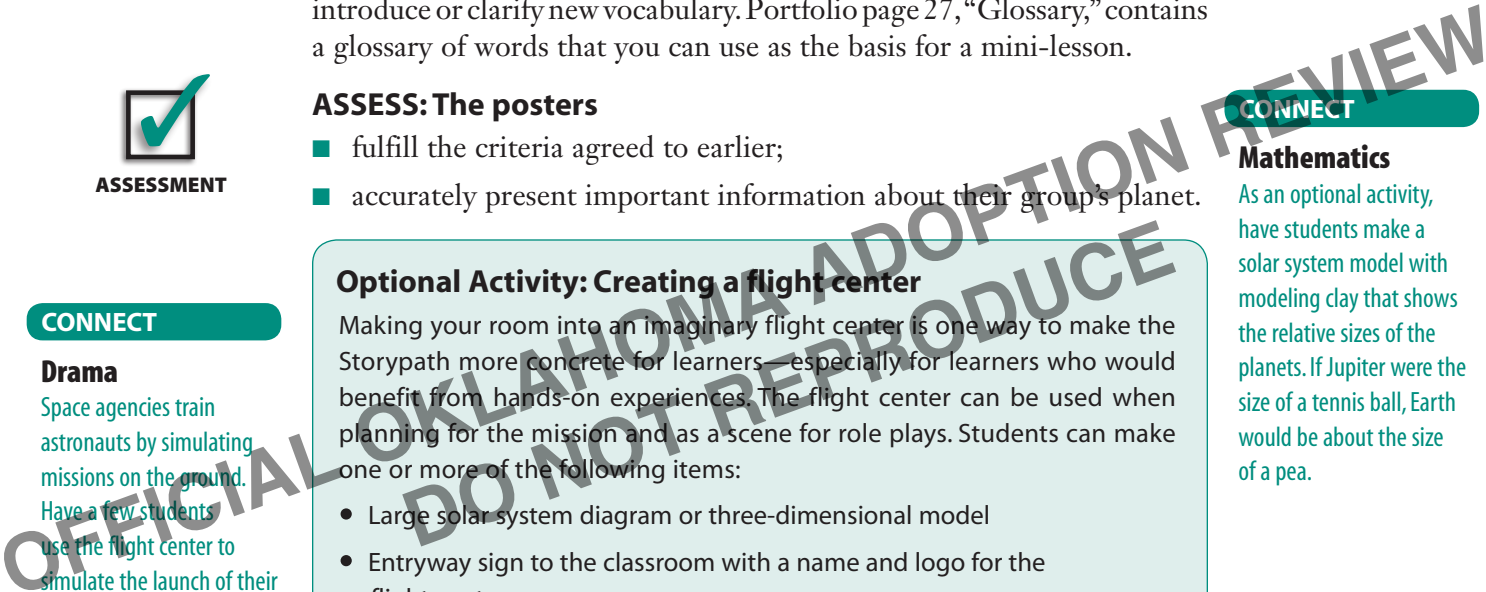
#### Incorporating New Information

Scientists do not think Pluto is a planet. Introduce this information to show how new information can challenge old understandings.

### CONNECT

#### Mathematics

As an optional activity, have students make a solar system model with modeling clay that shows the relative sizes of the planets. If Jupiter were the size of a tennis ball, Earth would be about the size of a pea.



## CONCLUDING EPISODE 2

### PORTFOLIO

17



### Reflect on the episode

Have students complete Portfolio page 21, “Travel Log Entry 2,” by responding to one or more of the following questions while in character. You can use the rubric on TH page 20 in Episode 1 to assess students’ work.

- Which planet does your character want to colonize? Why?
- What issues must the colonists consider when colonizing the planet?
- Why is it important to learn about all the planets before choosing one to colonize?

To reinforce concepts related to our solar system, discuss the following questions with students. You can also use these questions to assess students’ understanding.

- ❓ What do all the planets have in common? (*They all revolve around the sun.*)
- ❓ Which planet is closest to the sun? (*Mercury*)
- ❓ Which planet is the largest? (*Jupiter*)
- ❓ What do you think makes Earth capable of supporting life? (*Students may suggest a breathable atmosphere, moderate temperatures, a rocky surface, and the presence of liquid water.*)

### Reflect on group skills

Have students discuss how well their teams worked together. They could hold the discussion first in small groups and then as a whole class. Use the following questions to initiate discussion.

- Did everyone have an opportunity to share his or her ideas when you made your posters?
- From what you have learned from class presentations, what are specific things you have in common?
- What are some things you disagreed about?
- What did you do when two or more people disagreed in your group?
- What are some ways to work together effectively?
- What could you do better the next time you work in a small group?

# BUILDING CONTEXT

## SELECTING A PLANET

# 3

# EPISODE

### INTRODUCING THE EPISODE

page 28

Students discuss conditions they should consider when deciding which planet to colonize.

**Materials** Portfolio 6, *Comparing Planets*, p. 10  
Content Slide Sets 6 and 8

**Grouping** Whole class

**Schedule** Approximately 15 minutes

### INVESTIGATING PLANETARY CONDITIONS

page 28

Students carry out investigations to help them decide which planet to colonize.

**Materials** Portfolio 7, *Investigating the Effects of Gravity*, p. 11  
Portfolio 8, *Investigating the Effects of Color on Temperature*, p. 12  
Portfolio 9, *Investigating Insulation*, p. 13

For the gravity station:

- backpacks and canvas bags/tote bags
- books and other heavy objects, scale

For the color station:

- clear plastic cups (or glass jars)
- black and white paper, scissors, water, thermometers

For the insulation station:

- clear plastic cups (or glass jars)
- ice water, hot water, plastic wrap, masking tape, scissors
- coffee cans, soil, thermometers

**Grouping** Small groups

**Schedule** Approximately 2 hours

### CONCLUDING EPISODE 3

page 31

Students reflect on the planet they will colonize.

**Materials** Portfolio 18, *Travel Log Entry 3*, p. 22  
Optional: telephone (to use as a prop)

**Grouping** Individuals for writing in the travel logs; whole class for discussing questions

**Schedule** Approximately 1 hour

#### EPISODE OBJECTIVES



- **Science and Society** *Describe how the colonists might use science and technology to change the physical environment of a planet.*
- **Social Skills** *Work with a group to conduct scientific investigations and decide on a planet.*
- **Critical Thinking** *Use preselected criteria to decide which planet to colonize.*
- **Civic Competence** *Participate in a meeting to choose a planet for colonization.*
- **Literacy** *Organize information to create a chart comparing the planets.*
- **Literacy** *Write an entry in a travel log.*

## INTRODUCING THE EPISODE

### Setting the stage

In this episode, students use information from posters they made in Episode 2 to complete a table comparing planets in our solar system. Then they will carry out experiments to help choose a planet to colonize. Introduce the episode by calling a meeting of the colonists. Tell them that the first task is to decide on the planet that is most suitable for settlement. Have the governor lead a discussion about the best conditions for settling the colony. Guide the discussion using questions like these:

- 1 Is there air to breathe on the planets? (*Students will likely know that Earth is the only planet with a breathable atmosphere. Refer students to Content Slide Set 8, which contains current scientific ideas about generating a breathable atmosphere on another planet.*)
- 2 Should the planet we colonize have a water supply? Why? (*Students, knowing the importance of water to life here on Earth, should conclude that the colony would need a supply of water.*)
- 3 Is there a solid surface? (*Mercury, Venus, and Mars have solid surfaces. Jupiter, Saturn, Uranus, and Neptune do not.*)
- 4 How might the surface temperature of a planet affect our colony? (*A planet with extremely hot or cold temperatures would require a lot of energy to colonize.*)
- 5 Why might sunlight be important to our colony? (*To provide energy for growing plants and for producing solar electricity.*)
- 6 Why should we consider the gravitational pull of a planet? (*A planet with a much greater or much lighter gravitational pull than Earth's would be difficult for people to adapt to. Refer students to Content Slide Set 6, which discusses the effect of weightlessness on astronauts.*)

After the discussion, have students complete Portfolio page 10, “Comparing Planets,” which contains a table that students can fill in with important information about the planets. Students can find the information on the posters they made in Episode 2 or conduct further research if necessary. As students complete the hands-on activities in this episode, they can refer to the table to help decide which planet to colonize. A completed table comparing planets can be found on TH page 67, under Background Information.

## INVESTIGATING PLANETARY CONDITIONS

### Set up the investigations

In Experiment 1, students observe and record the effects of gravitational pull. In Experiment 2, students determine how color affects the absorption of sunlight. In Experiment 3, students investigate how to use insulation in their colony.

### CONNECT

#### Mathematics

While comparing and contrasting planets, students can

- convert miles to kilometers;
- calculate percentages for gravity and mass.

### CUSTOMIZE

**ELL** The Content Slides provide visuals that put concepts about the planets in context.

### CUSTOMIZE

#### Comparing Planets

You could have students make a large version of Portfolio page 10 “Comparing Planets.” Each group could fill in a large paper strip with information corresponding to the planet it researched in Episode 2. The strips could then be assembled, forming the complete table.

CONTENT  
SLIDE SET  
8

CONTENT  
SLIDE SET  
6

PORTFOLIO  
6

## CUSTOMIZE

### Managing the Investigations

You can organize the investigations in several ways. One option is to model the investigation process by displaying the Portfolio pages and conducting the experiments as whole-class activities. Another option is to have students do the experiments as homework assignments.

#### PORTFOLIO

7-9



Arrange students in groups of three or four. Then set up several work stations in the classroom. Groups can rotate from station to station as they complete their investigations. The following items will be needed at each station:

#### Gravity station

- backpacks and canvas bags/tote bags
- books and other heavy objects
- scale
- Portfolio page 11, “Investigating the Effects of Gravity”

#### Color station

- clear plastic cups (or glass jars)
- black and white paper
- scissors
- water
- thermometers
- Portfolio page 12, “Investigating the Effects of Color on Temperature”

#### Insulation station

- clear plastic cups (or glass jars)
- ice water
- hot water
- plastic wrap
- masking tape
- scissors
- coffee cans
- soil
- thermometers
- Portfolio page 13, “Investigating Insulation”

## CONNECT

### Science

As students carry out the investigations in this episode, they

- simulate the conditions on other planets;
- determine the effect of color and insulation on temperature;
- observe outcomes.

## CUSTOMIZE

### Organizing Students

This investigation should not be done by students who are physically unable to carry the extra weight. These students can instead interview participating students.

#### PORTFOLIO

7



### Experiment 1: Investigating gravity

Explain to students that scientists need to observe the effects of gravity on the colonists. The gravitational pull on the colony’s planet will be different from Earth’s. In this experiment, students will each attach approximately 20 pounds to themselves and wear that extra weight for a period of time. The extra weight is designed to simulate how it might feel to be on a planet with higher gravity. Objects would weigh more on a planet with higher gravity than they do on Earth.

Portfolio page 11, “Investigating the Effects of Gravity,” will guide students through the investigation. As they work, use the following information and suggestions to assist them.

**Step 1** Students will need a way to attach books or other heavy objects to their bodies. If possible, they should attach the weights so they are evenly distributed. They could put some objects in a backpack and others in a bag like a newspaper carrier wears.

**Step 2** Just after students put on the weights, they should notice them but not feel too encumbered. They might predict that they would feel tired after wearing the weight for an hour.

**Step 3** After wearing the weight for an hour, students should feel tired. Their bodies might respond by sitting down a lot, slouching, or feeling slightly sore. Students might suggest that after a year, wearing such weight would become very difficult. After looking at the table on Portfolio page 10, “Comparing Planets,” they will probably suggest colonizing a planet, such as Mars or Mercury, with a weaker gravitational pull than Earth’s.

### Experiment 2: Investigating color

## AUTHOR NOTE

### Establishing the Weights

As you know, some students are self-conscious about their weight. Having all students each wear an extra 20 pounds avoids the need for students to calculate figures based on how much they themselves weigh. This figure is based on an average student weight of 100 pounds.

#### PORTFOLIO

6





Students have already discussed the issue of temperature in deciding on an appropriate planet to colonize. Now they can investigate ways to cope with extreme temperatures. In this experiment, students will observe that sunlight heats water differently in black, white, and clear cups.

Portfolio page 12, “Investigating the Effects of Color on Temperature,” will guide students through the investigation. As they work, use the following information and suggestions to assist them.

PORTFOLIO

8



**Step 1** Students will need to start the experiment with water that is at room temperature. You can prepare a water supply in two ways. The first is to leave a large container of water sitting out overnight in the classroom. The second is to measure the room temperature with a thermometer, fill a container three-quarters full with cold tap water, and then slowly add hot water until the water is at room temperature.

**Step 2** Inexpensive thermometers sometimes vary by a few degrees, so students will get confusing results if they use a different thermometer for each cup. The best way to conduct this experiment is to move one thermometer from cup to cup, waiting about thirty seconds before taking each reading. Students will find that the water in the black cup becomes hotter than the water in the other cups. The water in the white cup should remain the coolest.

**Step 3** Students should determine that dark colors would be best for building materials on a cold planet, and that light colors would be best on a hot planet. Looking at the Portfolio page 10, “Comparing Planets,” students should conclude that Mars would be the best planet to colonize, because its surface temperature is closest to that of Earth.

PORTFOLIO

6



### Experiment 3: Investigating Insulation

By finding out how insulation affects temperatures, students can gather more knowledge to help them decide which planet to colonize and how to build the colony. In this experiment, students insulate cups of hot and cold water and observe how the insulation affects temperature changes over time.

Portfolio page 13, “Investigating Insulation,” will guide students through the investigation. As they work, use the following information and suggestions to assist them.

**Step 1** Students fill two cups with hot water, cover with plastic wrap, and place one in a coffee can packed with soil. Make sure that the tap water students use is not scalding. Do the same with ice water.

**Step 2** As in Experiment 2, students should use one thermometer to measure the water temperature in all four cups. Students will find that the water in the insulated cups cools off and heats up more slowly than the water in the uninsulated cups.

**Step 3** Students should explain that insulating the colony’s living spaces will be an important strategy for coping with extreme temperatures. Depending on the planet students choose for colonization, building underground can also serve as protection against UV rays, solar flares, and meteoroids.

CONNECT

**Mathematics**

Students can use the data they collect in Step 2 to create a line graph.

CONNECT

**Science**

Students can design additional insulation experiments to extend their knowledge. Have them use the same procedure, but substitute different materials for the soil.

PORTFOLIO

9





## ASSESSMENT

### ASSESS: Students' investigations

- follow directions for gathering data;
- suggest at least one reason that gravitational pull needs to be considered when choosing a location for a space colony;
- observe how color and insulation affect temperature;
- apply the information about gravity, color, and insulation to living on various planets.

## CONCLUDING EPISODE 3

### Choose a planet to colonize

Have the governor lead a discussion to determine the best planet to colonize. Playing the roles of their characters, students should propose different planets. Remind them to clearly state the reasons for their choices. Have the governor use the following questions to start the discussion. After the discussion, students should select the best planet to colonize.

- 1 Should we consider planets with greater gravitational pulls than Earth's? *(Based on their investigations, students will probably say no. A greater gravitational pull would be a strain on the human body.)*
- 2 What problems might we encounter on a planet with a lesser gravitational pull than that of Earth? *(Students might know that astronauts working in zero gravity need to exercise a lot so that their muscles don't deteriorate. Refer them to Content Slide Set 6 to get more information. Students might suggest steady exercise to combat the problem of another planet's lesser gravity.)*
- 3 How can we use the information we gathered about color and temperature to plan our colony? *(If students choose a hot planet, they can make the colony with light-colored building materials to reflect sunlight. On a cold planet, dark-colored materials will help them keep warm.)*
- 4 On planets where there is little atmosphere, the temperatures on the daylight side of the planet can be very hot, but when night comes it can be very cold. How can we deal with this situation? *(Encourage students to use their imaginations. They might suggest using heat-absorbing sun shields during the day and then storing the heat for use during the night.)*
- 5 How important will insulation be to our colony? *(Students should realize that insulation will be very important to maintaining a livable environment on another planet.)*
- 6 Which planet should we colonize? *(Students will probably decide to colonize Mars.)*

### CONNECT

#### Drama

As students discuss which planet to colonize, remind them to consider their characters' occupations. For example, a biologist might prefer to colonize Mars rather than Earth's Moon, because Mars is considered by many to be a potential location site for living organisms.



### CONNECT

#### Science

Having students discuss both the advantages and disadvantages of settlement on each of the various planets reinforces their knowledge of our solar system.

### AUTHOR NOTE

#### Building a Knowledge Base

Deciding on a planet lays the groundwork for establishing the colony in the next episode. As students think about the living conditions on another planet, the scaffolding is being built for the more specific decisions that will be made later.

### Guide students' decisions

It is important that students decide for themselves which planet to colonize, but their decision should be based on current scientific knowledge of the planets. Use the following information and tables to help you guide the class discussion as students choose a planet to colonize.

Scientists believe that Mars is the most likely planet for colonization, because of its relatively Earth-like temperatures, likeliness of a supply of water, and reasonably close proximity to Earth. Students may also decide to colonize Earth's Moon, which is very close and might contain a supply of water at its poles.

Appropriate Places for Colonization	
Mars	Has water and mineral resources that could be used to manufacture building materials; has an atmosphere; reasonably close to Earth (travel time: about 9 months)
Moon	May have frozen water at its poles; moon rocks could be used in the manufacture of metals such as aluminum; very close to Earth (travel time: about 3 days)

Inappropriate Places for Colonization	
Mercury	Even if it contains some water at its poles, it experiences harsh temperature changes, making it much more difficult to colonize than Mars; intense solar radiation
Venus	Highly acidic environment and extremely high temperatures; light levels like a cloudy day on Earth
Gas Giants (Jupiter, Saturn, Uranus and Neptune, )	Huge balls of gas; no solid surfaces on which to build a colony; these planets and their moons are also far from Earth, requiring about 6 years travel time
Pluto	Very low surface temperature; very far from Earth; receives very weak sunlight, making plant growth impossible

## CUSTOMIZE

### Facilitating Role Plays

Tell students that their family and friends are anxious to know their progress during the preparation stage of the journey. Use a telephone as a prop to have students call home and explain their progress.

### Reflect on the episode

Have students complete Portfolio page 22, “Travel Log Entry 3,” by responding to one or more of the following questions while in character. You can use the rubric on TH page 20 to assess students’ work.

- Now that you know more about the planets, what concerns do you have about creating a colony on another planet?
- What challenges will you face?
- What personal characteristics do you have that will help you meet these challenges?
- What work will you be doing on the planet?

Use questions like the ones that follow to help students reflect on the episode while out of character.

- What did you learn about gravity?
- What did you learn about the effects of insulation and color on temperature?
- Why is the planet you chose the best one to colonize?
- How did the experiments help you decide on a planet to colonize?
- How did the table that compared the planets make the decision process easier?

PORTFOLIO

18



## LITERACY

### Word Bank

Students can add to the word bank they started in Episode 1. Have them brainstorm terms, such as *insulation* and *surface temperature*, that are related to the planets.

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# 4

# EPISODE

## CREATING THE SETTING ESTABLISH THE COLONY

### INTRODUCING THE EPISODE

page 35

Students brainstorm a list of needs for their colony.

**Materials** Context Slide Sets 7 and 8

**Grouping** Whole class

**Schedule** Approximately 30 minutes

### PLANNING THE SETTLEMENT

page 36

Students create a frieze of the colony.

**Materials** Portfolio 10, *Gather Information*, p. 14

Portfolio 11, *Frieze Guide*, p. 15

Content Slide Sets and other reference materials

For the frieze:

- one bulletin board or wall space, approximately 6' by 4', covered with white butcher paper (If possible, use red or grey paper, depending on the surface color of the planet or moon.)
- various colors of construction and tissue paper
- colored markers, crayons, glue, scissors, masking tape
- craft materials such as aluminum foil, pipe cleaners, yarn, and straws

**Grouping** Students will organize the class into small groups.

**Schedule** 1–2 hours. Although the time can be divided over several days, students will probably want to create the setting in one session.

### CONCLUDING EPISODE 4

page 37

Students reflect on the colony.

**Materials** Portfolio 19, *Travel Log Entry 4*, p. 23

**Grouping** Individuals for writing in the travel logs, whole class for discussing questions

**Schedule** Approximately 30 minutes

#### EPISODE OBJECTIVES



- **Culture/Social Interaction** *Identify ways that different cultures address similar human needs and concerns in planning the colony.*
- **Science and Society** *Describe how the colonists might use science and technology to change the physical environment of a planet.*
- **Social Skills** *Organize, plan, and make decisions while creating a frieze with group members.*
- **Social Skills** *Determine an appropriate course of action to complete the frieze within a group.*
- **Critical Thinking** *Organize ideas from class discussion in new ways and apply those ideas to the frieze.*
- **Critical Thinking** *Define issues and consider alternatives in the design of the settlement; then make decisions for the layout of the setting.*
- **Literacy** *Organize information to create a frieze of the colony.*
- **Literacy** *Write an entry in a travel log.*

# INTRODUCING THE EPISODE

## CUSTOMIZE

### Space Travel

You can make the journey from Earth to the colony planet into another episode. Students can create a packing list of supplies for the spaceship and write travel log entries about what it was like to leave Earth.

## Introduce the settlement

At this point in the story, students will plan and build a model of their colony. Read the following passage to introduce Episode 4. If necessary, modify the passage to conform to your specific story.

*Our work is paying off and progress is being made toward establishing our colony on (insert name of planet chosen). We have been working very hard and learning a lot along the way. We know it will not be easy; many challenges are still ahead of us. Will we be successful? We must now plan the settlement.*

Have the governor call a meeting of the colonists and begin the planning process. Use the following questions to generate ideas. After the brainstorming session, students will work in groups to create a mural.

## Shelter

- 1 What kinds of shelters do we need? (*Students might suggest separate shelters for living and working spaces or they might propose building one large, enclosed area. Refer them to Content Slide Set 7 for ideas.*)
- 2 Will we all live in one building or do we need separate homes? (*Remind students that they come from all over the world. They should consider the effect of particular living arrangements on the whole group and on individual group members.*)
- 3 We will be able to transport only a limited amount of resources into space. How might this affect the shelters? (*Students should realize that there will be a limit on how big the shelters will be. They might consider using materials, such as soil for insulation, from the planet surface.*)

## Food

- 1 What kinds of food will we need to take? (*Students might suggest freeze-dried food. Encourage them to list particular food items, such as bread and juice.*)
- 2 Since we come from many different countries, how will we decide what to eat? (*Students will need to form a plan for accommodating the different needs of their international colonists. They might suggest taking a wide variety of food.*)
- 3 What kinds of seeds and plants should we take for growing food on our planet? (*Students might suggest wheat for bread and corn for tortillas. Encourage them to list plants that reflect their characters' backgrounds.*)
- 4 What kinds of animals should we take? Or should we take other foods that provide protein?

## Water

- 1 What will we need water for on the planet? (*growing food, drinking, bathing*)
- 2 Where will we get the water we need? (*Students have already considered the presence of water when choosing the planet. Refer them to Content Slide Set 8 for information about accessing water on another planet.*)

## CUSTOMIZE

**ELL** The use of role-play here and throughout is an excellent learning tool for students.

## CUSTOMIZE

### Level of Complexity

You decide how complex you want the planning process to be, based on your learning goals.



## CONNECT

### Health

Discuss a healthy diet and use it to decide on appropriate foods for the colony. Also consider the traditional diets of the various colonists.



- ❓ Are there ways to recycle the water we use? (Students might already be familiar with “gray water” recycling. For example, during droughts and in areas where water is in short supply, people place buckets in the showers to collect some runoff water. This water is then used to water plants or wash the car.)

### Electrical Power

- ❓ What kinds of things will require electricity in the colony? (Encourage students to brainstorm items, such as heating or cooling systems, food preparation, lightbulbs, and tools.)
- ❓ What will be the source of power for the colony? (Encourage students to list many options, such as oil, coal, solar energy, and nuclear power. The group in charge of electrical power can determine which power source to use.)
- ❓ How can the colony efficiently use power? (Students can suggest familiar strategies for saving power, such as turning off lights when they’re not being used and using energy-saving lightbulbs.)
- ❓ How will people be transported in the colony? Will power be needed for this, and if so, what kind? (The size of the colony will determine whether or not power is needed for transporting people. Students might also consider electrical machines for mining and other purposes, which will use additional power.)

## PLANNING THE SETTLEMENT

### Start the frieze

Explain to students that they will work together to create a frieze of their colony—the setting for the story. Tell them that the class will need to work in small groups. Each group will be responsible for planning one aspect of the colony and adding it to the frieze. Let students decide how to organize the groups. Remind them that characters should use their expertise in the planning process. If necessary suggest that groups be formed to study the topics below. Encourage students to add other topics to the list or to divide topics into two or more parts. For example, students might add a group to build leisure areas or have separate groups build work areas and living areas.

- Shelter (work and living areas)
- Food (storage, preparation, and farm areas)
- Water (storage tank, treatment facility)
- Power (electricity from solar panels, power-plant building, or some other source)

Portfolio page 15, “Frieze Guide,” gives students a good starting point for organizing their part of the frieze and for working together effectively.

### Organize the work

There are a number of ways students can accomplish their work on the frieze. Here’s one method for organizing students’ work:

**Step 1** Have each group meet to form an overall plan for its section of the frieze. Students can draw upon the class discussion, the Content Slide Sets, the Internet, and other resources as they work.

#### AUTHOR NOTE

##### Topic Options

Students in one pilot classroom organized their work into these categories: air, communication, transportation, waste management, water, medical, leisure, shelter, weather, and food.

#### PORTFOLIO

11



#### AUTHOR NOTE

##### Student Decision-Making

Allowing students to organize themselves may take time, but it will pay off as students gain ownership of their space colony.

#### CONNECT

##### Creative Arts

Before students start on the frieze, discuss

- how different objects will relate in size;
- how to use authentic colors based on their scientific investigations;
- how to add texture to the frieze.

## CUSTOMIZE

### Time Frame

Depending on your time frame and learning goals, you will need to decide how much detail you want to encourage in the creation of the colony.

## LITERACY

### Read for Information

Students practice finding main ideas, finding supporting details, and scanning.



ASSESSMENT

**Step 2** Have the governor and a few assistants create the basic layout of the settlement. Once areas have been assigned to the various features—shelters, planting areas, work areas, and so forth—groups can create their structures. Have students use Portfolio page 14, “Gather Information,” to find out more about life in space. Assemble reference material and refer students to appropriate Web sites. See TH page 72 for additional resources.

**Step 3** When the overall plan is done, groups can take turns working at the frieze while other groups work at their desks. Students may want to sketch objects first before actually making them for the frieze.

### Guide student work

Once students begin work on the frieze, try to restrict your role to asking questions about the various tasks they are engaged in. If necessary, you can also help students understand creative arts concepts such as proportion, scale, texture, color, and depth. Students need to make decisions themselves about the features so that they build ownership of the colony. Remind students to draw on their own characters’ expertise. For example, a medical doctor would want to plan the medical facility for the colony. To help students monitor their own work, have them discuss what went well and what they would do differently.

Students should reflect on their group work by completing section 4 on Portfolio page 15, “Frieze Guide.” Discuss as appropriate for your students.

## CONCLUDING EPISODE 4

### Reflect on the episode

Have students complete Portfolio page 23, “Travel Log Entry 4,” by responding to one or more of the following questions while in character. Suggest that they include sketches of the settlement in their logs. You can use the rubric on TH page 20 in Episode 1 to assess students’ work.

- What does the settlement look like?
- What will it be like to live in this settlement?
- What challenges will you face?
- How will life be different here from your life on Earth?

Use questions like the ones that follow to help students reflect on the episode while out of character.

- What did you learn about our colony’s planet by planning a settlement there?
- How did your characters’ jobs help determine their responsibilities in planning and building the colony?
- How does the colony provide for your characters’ basic needs?

This is also a good time to have students reflect on how well they’re contributing as members of the colony.

- What contributions have you made to the group?
- How can you work more effectively within the group?

PORTFOLIO

10



## CONNECT

### Geography

As an optional activity, students can make a map of the settlement. They can

- make a compass rose to show direction;
- create a legend for the map with symbols representing features.

## LITERACY

### Writing

In optional activities for writing about the settlement, students can

- describe the setting as though they were standing at a place in the settlement;
- write directions for walking around the settlement.



# 5

## BUILDING CONTEXT DAILY LIFE

# EPISODE

### INTRODUCING THE EPISODE

page 39

Students listen to a narration describing their journey to and their early days at the space colony.

**Materials** Teaching Master 4, *Life in the Colony*, TH p. 52

**Grouping** Whole class

**Schedule** Approximately 20 minutes

### UNDERSTANDING DAILY LIFE

page 39

Students write about daily life on the planet.

**Materials** Portfolio 12, *Prewriting Daily Life*, p. 16  
Portfolio 13, *Self-Assessment: Description of Daily Life*, p. 17

**Grouping** Individuals, pairs, or small groups

**Schedule** 1½ hours, not including presentation time.

### CONCLUDING EPISODE 5

page 40

Students reflect on the episode.

**Materials** None

**Grouping** Whole class

**Schedule** Approximately 30 minutes

#### EPISODE OBJECTIVES



- **Culture/Social Interaction** *Identify ways colonists from different cultures address similar needs and concerns.*
- **Culture/Social Interaction** *Explain how colonists interact with the physical environment and adjust to the social conditions of a planet.*
- **Science and Society** *Describe how the colonists might use science and technology to change the physical environment of a planet.*
- **Critical Thinking** *Organize ideas from class discussion in new ways to write about daily life in the colony.*
- **Literary** *Write a description of daily life on the planet.*

## INTRODUCING THE EPISODE

### Narrate the story

At this point in the story, students will write about life in the colony. Begin the episode by helping students imagine what their characters' lives would be like on the planet.

When the class has generated ideas about what life might be like in the colony, move the story along by reading Teaching Master 4, "Life in the Colony," to the class.

Brainstorm with students the various tasks that would be done each day—from meeting basic needs to work-related tasks. The list might look like the one that follows:

<i>eating</i>	<i>mining resources</i>
<i>drinking</i>	<i>planting crops</i>
<i>maintaining electrical- power system</i>	<i>preparing food</i>
<i>building more shelters</i>	<i>conducting scientific experiments</i>

TEACHING  
MASTER

T4

### CUSTOMIZE

**ELL** Sketch pictures to convey concepts about daily life in the space colony.

### CUSTOMIZE

#### Adapt the Narrative

You may want to adapt the narrative to more closely match the events of your Storypath.

## UNDERSTANDING DAILY LIFE

### AUTHOR NOTE

#### Learning Process

The writing activity will help students imagine life on the planet in more detail and develop a deeper connection to the place. When the critical incident is introduced in Episode 6, students will then better understand the incident in context.

### Write about daily life in the colony

Have students individually, in pairs, or in small groups write about "A Day in the Life of the Colonists." Students should write from the point of view of their characters. Give students some or all of the following writing ideas to choose from:

- Create a daily schedule from the time your colonist gets up until bedtime. Keep the length of the day in mind. Briefly describe the day's events.
- Write a narrative describing one day's activities.
- Write a letter to a family member on Earth describing daily life in the colony.
- Create a web outlining daily activities.
- Write a script for a conversation between two colonists about daily life.
- Write an article for the local newspaper back home describing life on the planet.

Refer students to Portfolio page 16, "Prewriting: Daily Life," to help them organize their ideas. After students draft their daily life descriptions, have them assess their writing and make improvements accordingly, using Portfolio page 17, "Self-Assessment: Description of Daily Life." Once the writing is completed, have students do a final assessment of their writing.

PORTFOLIO

12



### CUSTOMIZE

#### ELL Creative Arts

As an alternative to the writing activity, students can fold a large sheet of paper into six rectangles and create six drawings of daily events in the colony.

PORTFOLIO

13





## ASSESSMENT

### ASSESS: Descriptions of Daily Life

- Use the rubric on Portfolio page 17, “Self-Assessment: Description of Daily Life,” to assess students’ work.
- Once the writing activity is completed, students in small groups or as a class can read, discuss, and display their writing to help build meaning for and attachment to the place they have created.

#### Optional Activity: Establishing the community’s identity

Students can strengthen their new community’s identity when they create one or more of the following for their colony:

- a flag
- a song
- currency
- a landmark

Students can refer to their colonist’s country of origin or the United States for examples of these and other national characteristics to develop a unique version for the colony.

## CONCLUDING EPISODE 5

### Reflect on the episode

Use questions like the ones that follow to deepen students’ understanding of the challenges of living and working together in the colony.

- How are the basic needs of the colonists met on the planet?
- What concerns do people have about living in this new place?
- How does the physical environment of the planet affect the way of life?
- What might life on the colony be like a year from now?
- What problems might arise from people living together in close quarters?

# CRITICAL INCIDENT

## THE CONSTITUTION

# 6

# EPISODE

### INTRODUCING THE CONTROVERSY

page 42

Students discover a crisis unfolding within their colony.

- Materials** Teaching Master 5, *Missing Property*, TH p. 53  
Teaching Master 6, *Leadership Petition*, TH p. 54
- Grouping** Whole class
- Schedule** Approximately 20 minutes

### RESPONDING TO THE CONTROVERSY

page 43

Students respond to the problem by writing a constitution describing the colony's rules.

- Materials** Teaching Master 7, *Preamble Examples*, TH pp. 55–59  
Portfolio 14, *Reading a Preamble*, p. 18  
Content Slide Set 9
- Grouping** Small groups to write rules; whole class to adopt constitution
- Schedule** 2 1/2 hours

### CONCLUDING EPISODE 6

page 45

Students reflect on the episode and compare sections of the U.S. Constitution to the one they wrote.

- Materials** Teaching Master 8, *Selections from the U.S. Constitution*, TH p. 60  
Portfolio 20, *Travel Log Entry 5*, p. 24
- Grouping** Whole class
- Schedule** Approximately 30 minutes

#### EPISODE OBJECTIVES



- **Government** *Examine the rights and responsibilities of individuals in relation to the space colony community.*
- **Government** *Decide how the space colonists will establish order and manage conflict.*
- **Government** *Create a society in which fairness, equity, and justice are fundamental rights.*
- **Social Skills** *Make group decisions and take action to respond to a controversy.*
- **Civic Competence** *Identify the constitutional freedoms, rights, and responsibilities of citizens in a space colony.*
- **Civic Competence** *Practice civic discussion and participate in a meeting to deal with a controversy.*
- **Literacy** *Use specialized vocabulary to understand and communicate concepts about creating a constitution.*
- **Literacy** *Write rules for the colony based on specific values.*
- **Literacy** *Write an entry in a travel log.*

# INTRODUCING THE CONTROVERSY

## Set the stage

In this episode, students will be confronted with a crisis within their colony. By now, students have built an attachment to the colony, so the crisis should motivate them to take action. After resolving the crisis, they will write a constitution containing rules to help prevent future crises from occurring.

It is best if the controversy grows out of your actual Storypath. But if a controversy does not happen on its own, two possible scenarios for this critical incident are offered below. You can use one or both of these incidents during this episode.

### Scenario 1: Missing Computer

A character's laptop computer is missing and she or he blames another character for the theft. Before introducing this scenario, privately discuss it with the two students whose characters will be directly involved. Tell them that the computer was accidentally left under some equipment at a work site, but that the computer's owner is convinced it was stolen. Later on, the computer can be discovered, but not until after creating a controversy in the colony. Teaching Master 5, "Missing Property," contains a letter to the governor complaining about the theft.

### AUTHOR NOTE

#### Learning Process

Using the actual names of the Storypath characters and specifics related to their colony adds interest, drama, and motivation for resolving the critical incident.

TEACHING  
MASTER

T5

### Scenario 2: Change in Leadership

A petition has been circulated. It suggests that a new governor should be chosen now that the colony has been built. It acknowledges that the current governor has done a great job, but states that it's important for power to change hands and a more democratic process needs to be established. Have several students sign their characters' names to the bottom of Teaching Master 6, "Leadership Petition," and post it in the classroom. Students will need to create a system to choose leaders in the colony.

TEACHING  
MASTER

T6

### Optional Activity: Other ideas for controversies

- A character puts his or her living quarters up for sale. This event will raise the question of private ownership within the colony.
- Colonists are being discriminated against based on their national origin or gender. For example, several characters form an all-male basketball club, preventing women from using the leisure facilities during certain hours of the day.
- Some colonists say their religion forbids them from working during an upcoming two-day holiday. How will the work for those two days get done?

When selecting a topic for your controversy, keep the following considerations in mind:

- Will the controversy lead to the need for rules?
- Are students developmentally prepared to deal with the controversy?
- How will parents and other community members react to the focus of the controversy?

# RESPONDING TO THE CONTROVERSY

## Discuss the controversy

Suggest to the governor that a meeting be called to discuss the problem. Students should discuss the controversy while in the roles of their characters. The governor—or you as the Storypath narrator—could use the following questions to start the discussion and help the group decide how it will respond to the situation.

### CUSTOMIZE

**ELL** Encourage ELL students to share ideas first with partners.

- 1 What is the problem? (*As students define the problem, they will begin to express their feelings about it.*)
- 2 How will we respond? (*Encourage students to debate different solutions to the problem. In the case of the missing computer, students might suggest that the accuser needs to prove that the computer was stolen. In the case of the petition, students might decide to hold an election.*)
- 3 How will conflicts such as this one be handled? Does the governor make all the decisions? (*This question should lead students to consider writing rules to govern the colonists.*)

## Guide the discussion

One of the learning goals for this episode is for students to create a constitution. You may want to raise questions to lead them to the conclusion that a constitution needs to be written and adopted. For example, you might ask, “Once this problem is solved, what will we do about future problems? Do we need a set of written rules?” Remind students that their characters come from many different nations. They will need to create their own constitution for the colony—not borrow one from an existing country back on Earth. Your role in this discussion is that of facilitator, asking questions to raise issues, helping students think more deeply about rights and responsibilities, and providing the information necessary to move the discussion forward.

### AUTHOR NOTE

#### Student Input

Listen to students’ ideas about rules to live by. They will be considering the values that are fundamental to a democracy. At this point in the Storypath, the story is dependent on what students bring to the conversation.

## Establish criteria to evaluate rules

When students decide to make rules for their colony, ask them, “What makes a rule effective or ineffective?” Lead students to decide on some general criteria for effective rules. An effective rule is

- understandable and clearly written;
- possible to follow;
- does not discriminate against a particular group of people.

### AUTHOR NOTE

#### The Meeting

Teachers tell me that students often exceed their expectations by taking the problem seriously, listening carefully to one another, and clearly articulating ideas.

### CUSTOMIZE

#### Government

If students raise the issue of how the U.S. Constitution was created, pass out Teaching Master 8, TH page 55, which contains the preamble and a summary of the Bill of Rights. It is important that students search out this information only after they have a need for it.

### AUTHOR NOTE

#### Guiding the Process

Writing a constitution is a very complex process, so you will need to decide how complex you want your process to be and then guide students accordingly. If students simply want to adopt the U.S. Constitution, challenge their ideas to help them think more deeply about the importance of the Amendments and Bill of Rights.

## LITERACY

### Vocabulary

After students read their assigned preambles, have them identify unfamiliar words and add them to the class word bank and to their Portfolio word banks.

- constitution
- equality
- justice
- preamble
- union

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MASTER

T7

## AUTHOR NOTE

### Understanding Democracy

An important concept for students to understand is that a democracy is a form of government in which political control is exercised by all the people, either directly or indirectly.

## Organize the discussion

To help focus students as they brainstorm rules for their colony, ask them what the colonists value. Make a list of their responses. Students might suggest the following values:

freedom	diversity
the pursuit of happiness	fairness
equality	justice

## Read primary sources

Discuss with students the concept of *preamble*, a formal statement that introduces what follows, in this case the rules or laws that will follow in the constitution. Organize students into groups and have each group focus one of the preambles shown on Teaching Master 7, “Preamble Examples,” TH pages 55–59. Use the guiding questions in Portfolio page 18, “Reading a Preamble,” to decide what the writers of each preamble value. Have students share their ideas and then ask them if they want to revise their ideas about what is important for their colony.

Based on the values students have identified, organize students into groups to write their own preamble and the laws (or rules) for the space colony. You may want to let students adopt or edit one of the existing preambles. You might present the problem to students in this way: “How can we decide on the rules we need for our colony?”

Each group can write a rule to support a particular value or group of values. Using five to ten groups, resulting in five to ten basic rules, will make the process both manageable and meaningful. Remind students to use the criteria they have established for evaluating their rules. Students should write their rules so that they can be displayed and used as a basis for sharing and discussing.

If students decide they want to simply adopt the United States Constitution for the space colony, have them look at the various amendments and write a rationale about why that amendment is important for their colony. Remind them that people come from many different nations on Earth and may, in fact, have different views about the rules and laws of the space colony.

## Adopt the constitution

Students can learn about negotiation, compromise, and finding common ground by holding a meeting to create their constitution. Have them list the proposed rules on the board before they debate, clarify, refine, or reject them. At the end of the discussion, students can vote on whether to adopt or reject the new constitution. Have them neatly transcribe their constitution onto a single piece of paper and post it near the frieze.

## ASSESS: The constitution

- is based on the established criteria;
- has rules that protect their established values.

PORTFOLIO

14



## LITERACY

### Speaking and Listening

When students participate and listen in a meeting, they

- use details and facts to convey their message;
- provide reasons for their rule;
- deliver their opinions to persuade others;
- listen for information that leads to finding a common ground.



ASSESSMENT

## CONCLUDING EPISODE 6



CONTENT  
SLIDE SET  
10

### Reflect on the episode

Have students read Content Slide Set 10 and discuss limited and unlimited forms of government in relation to their own newly created Constitution. Then have students add to the travel logs they started in Episode 1 by responding to one or more of the following questions while in character. You can use the rubric on page 20 in Episode 1 to assess students' work.

- What will it be like to live in this settlement with the rules we have adopted?
- How will the rules help us live together as a community?
- What do you think lies ahead for our community?

### Examine the U.S. Constitution

Distribute Teaching Master 8, TH page 60, which contains the preamble to the United States Constitution and a summary of the Bill of Rights. The framers of the Constitution used the preamble to explain the purpose of the document. Have students compare this information with the rules they wrote for their own colony. Use questions such as the ones that follow to guide the discussion.

- Why is it important for people to have constitutions?
- How are our colony rules similar to the Bill of Rights?
- How are they different?
- What values does the U.S. Constitution reflect?
- Why do you think the U.S. Constitution has lasted for more than 200 years?

### CONNECT

#### History

Students can read about the U.S. Constitution and the struggle for a new nation. This topic will be more meaningful to students after they have created a constitution for their space colony. A Venn diagram will help students compare historical and Storypath events.



TEACHING  
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T8

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# 7

# EPISODE

## CONCLUDING EVENT NEW YEAR'S CELEBRATION

### PLANNING THE CELEBRATION

page 47

Students plan a celebration for the space colony.

**Materials** None

**Grouping** Whole class

**Schedule** Approximately 30 minutes

### HAVING THE CELEBRATION

page 47

Students have the celebration.

**Materials** Depending on the students' specific plans, the following materials may be needed:

- art supplies
- food
- music

**Grouping** Small groups or individuals for the preparations; whole class for the event

**Schedule** 1–2 hours

### CONCLUDING EPISODE 7

page 48

Students reflect on their celebration by writing final entries in their characters' travel logs.

**Materials** Portfolio 21, *Travel Log Entry 6*, p. 25

**Grouping** Individuals

**Schedule** Approximately 30 minutes

#### EPISODE OBJECTIVES



- **Culture/Social Interaction** *Cite ways in which celebrations express cultures.*
- **Social Skills** *Work with others to plan and organize the celebration.*
- **Critical Thinking** *Organize ideas from class discussion in new ways to plan the celebration.*
- **Literacy** *Write an entry in a travel log.*

## PLANNING THE CELEBRATION

### CONNECT

#### Science

Students can decide whether the new year is based on their planet's revolution or on the Earth's. For example, one year on Mars is about 687 Earth days long.

### AUTHOR NOTE

#### Understanding Celebrations

By creating their own celebration, students will examine our society's celebrations in a more meaningful way.

### Introduce the episode

Explain to students that the one-year anniversary of the colony's creation is approaching and that they should hold a celebration to mark the event. Ask them what traditions might be established to mark the end of a year in the colony. Use questions like the following to get students thinking about celebrations:

- ❓ How do we celebrate a new year here on Earth? (*with parties, with parades, with fireworks, and by counting down the last few seconds before the start of the new year*)
- ❓ Is the new year celebrated at the same time in all cultures? (*Students might know that many Asian cultures celebrate the new year based on the ancient Chinese calendar.*)
- ❓ What celebrations and traditions would be appropriate to our new colony? (*Encourage students to be creative. For example, they might call their celebration "Touch-Down Day."*)

Guide the discussion so that students make plans that are appropriate to the Storypath. Encourage students to consider several activities for the celebration. For example, they might

- have the space colony governor give a speech;
- provide food that is representative of the space colony inhabitants;
- create banners or other decorations that will become traditional for this event;
- make a commemorative sculpture, visual artwork, or other artistic creation for the colony to mark the event;
- arrange for the celebration to be televised back to Earth. (Students can videotape the celebration.)

To reinforce students' learning from the unit, have each group provide a brief update on its area of responsibility. (For example, different groups of students can report on plant production and on the status of the shelters.)

### Include family members

Suggest that students invite parents and other members of the community to attend the celebration and participate in "tours" of the space colony. Students can invent a scenario in which family members visit from Earth.

### AUTHOR NOTE

#### Using Classroom Experiences

In a pilot classroom, new students arrived near the end of the Storypath. They created characters and described how they came to the planet while the rest of the class planned a community welcome for them. The Storypath had a logical conclusion and students learned how to make newcomers feel welcome—a valuable and powerful learning experience in itself.

## HAVING THE CELEBRATION

### Assign tasks

If students plan special events, they should divide the work according to their job roles in the space colony. If a speech is planned, students should decide who will write and give the speech. Suggest that they assign the task to two or three students, including the student whose character will deliver the speech.

## CUSTOMIZE

**ELL** Because the space colony represents many different countries, it would be especially appropriate to conduct parts of the celebration in languages other than English.

Guide students to choose other tasks to prepare for the celebration. In addition to the activities they have planned during the discussion, students might

- make and send invitations to family and community members;
- make programs listing the celebration activities;
- prepare guided “tours” of the colony;
- practice giving presentations on their areas of expertise.

### Conduct the celebration

Before students begin the celebration, you may want to discuss appropriate behavior. Stress that this is a very important event. Students should play the roles of their characters during the celebration.

## CONCLUDING EPISODE 7

### PORTFOLIO

21



### Reach closure

Have students complete Portfolio 25, “Travel Log Entry 6,” by responding to one or more of the following questions while in character. You can use the rubric on TH page 20 in Episode 1 to assess students’ work.

- Why was the celebration important to the community?
- How did you feel about the celebration?
- Thinking back over the past year in the colony, what are your reflections?

### Prepare for the synthesis of students’ learning

Students have learned about our solar system in order to choose a planet to colonize. They have built an understanding of colonies and speculated on the future of space colonization. Through dealing with one or more controversies, students have learned why constitutions are important to democratic societies. Even though the colony students created was imaginary, they were genuinely invested in the colony’s success.

The next step in students’ learning is the synthesis of their experiences. Synthesis activities allow students the opportunity to demonstrate the levels of their understanding and help you assess what they have learned from the unit.

You will find a selection of synthesis activities on pages 63–64 of this Handbook.

## NEWSPAPER ARTICLE

**Space Colony Planned  
by a Group of Nations**

by Chase Milam  
*Worldwide Press*

NEW YORK—A group of nations, called the Global Group, has decided to colonize a planet in our solar system. Throughout history, nations have established colonies on other people's lands, often resulting in war, genocide, and friction among people that has lasted for centuries. This time, the Global Group wants to establish a colony in space where people from many different nations will come together to create an international community. The Global Group hopes that the colonists will create a peaceful community with clear laws governing the use of land or other resources. Colonists will also conduct various scientific experiments to help people on Earth learn more about space. The colonists will search for resources that can be used by the space colony and sent back to Earth.

Name \_\_\_\_\_ Date \_\_\_\_\_

## JOB APPLICATION

Character's name: \_\_\_\_\_

Country of origin: \_\_\_\_\_

Job: \_\_\_\_\_

Education: \_\_\_\_\_

\_\_\_\_\_

Previous work experiences: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Special skills useful for this project: \_\_\_\_\_

\_\_\_\_\_

What do you like to do in your leisure time? \_\_\_\_\_

\_\_\_\_\_

What music do you enjoy? \_\_\_\_\_

Do you celebrate any special holidays? If so, please name the most important

ones that you celebrate. \_\_\_\_\_

Describe the personality traits you have that are important for this space project.

\_\_\_\_\_

What are your reasons for wanting to join the space colony? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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## TRAVEL LOG MODEL

- I am looking forward to this adventure! Growing up in my small mining town in Rossland, British Columbia, Canada, I would often look at the stars in the evening sky and imagine life on another planet. I didn't think that I would one day have the opportunity to travel into space. I'm excited but also sad to leave my family and friends. As a geologist, I am interested in exploring the rocky surfaces of planets. I wonder if I will find new rocks that we don't have on Earth?
- There are lots of interesting people going into space—they come from all over the world. I wonder how I will interact with Shane and Drew? They are both from Ireland and love to sing Irish ballads. I have a love of Irish music so I think I will spend lots of time with them. The other geologists are from China and Kenya. I realize that we have very
- different life experiences and I am interested in getting to know them better.

## LIFE IN THE COLONY

The spaceship has landed! People are gazing at the barren landscape with both anticipation and fear. Our journey was long but uneventful. As the days passed in the spaceship, we were struck by the beauty of the universe and the strange sensation of seeing Earth become smaller and smaller as we sped away. Looking back on Earth—seeing the blue of the oceans, the green of the forests, and the limited amount of brown continents—reminded us of the work still to be done. It is important that our work here also serve the people back on Earth.

We now must begin setting up the colony according to our plans. The colonists are eager to get started. We are tired of living in the cramped quarters of the spaceship and eager to build our settlement.

A month later . . .

The settlement is off to a good start. Our shelters are up, and plants are starting to sprout on our small farm. We are all working very hard. There is still much work to do, but the settlement is beginning to feel like home. . . .

## MISSING PROPERTY

Dear Governor:

Law and order is breaking down in our colony! After eating lunch yesterday, I returned to my work site and found that my laptop computer was missing. The computer contained important data for the colony, as well as my personal travel log and letters that I have written to family members back on Earth.

I have no doubt that \_\_\_\_\_ stole my computer. This person was seen near the work site shortly before the computer disappeared. I suggest you find some way to punish this thief.

Sincerely,

\_\_\_\_\_  
Space Colonist



## LEADERSHIP PETITION

We believe that our colony needs a new governor. Even though our current governor has done an excellent job, we feel that a different person should have a chance to lead the colony. We also need to create a more democratic governing process. Therefore, we demand that a system be established to install a new governor as soon as possible.

Sign Here	Print Your Name

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## PREAMBLE EXAMPLES

### Part 1: The United States of America

The Constitution of the United States was completed on September 17, 1787. It created a union, or the joining together, of the original thirteen states. The U.S. Constitution is still used today to determine the powers of our government. It has also served as a model for the constitutions of many other nations.

### Preamble to the United States Constitution

*We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defense, promote general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.*

## PREAMBLE EXAMPLES (CONT.)

### Part 2: Russia

After the Communist government of the Soviet Union was dissolved in 1991, the Russian Federation wrote its own constitution.

#### Preamble to the Russian Constitution

We, the multinational people of the Russian Federation, united by a common destiny on our land, asserting human rights and liberties, civil peace and accord, preserving the historic unity of the state, proceeding from the commonly recognized principles of equality and self-determination of the peoples honoring the memory of our ancestors, who have passed on to us love of and respect for our homeland and faith in good and justice, reviving the sovereign statehood of Russia and asserting its immutable democratic foundations, striving to secure the wellbeing and prosperity of Russia and proceeding from a sense of responsibility for our homeland before the present and future generations, and being aware of ourselves as part of the world community, hereby approve the Constitution of the Russian Federation.

## PREAMBLE EXAMPLES (CONT.)

### Part 3: Ireland

The Constitution of Ireland was adopted in 1937, establishing the Republic of Ireland as an independent state. It replaces the Constitution of the Irish Free State that had been in effect since 1922.

#### Preamble to the Irish Constitution

*In the name of the Most Holy Trinity, from Whom is all authority and to Whom, as our final end, all actions both of men and States must be referred,  
We, the people of Ireland, humbly acknowledging all our obligations to our Divine Lord, Jesus Christ, Who sustained our fathers through centuries of trial,  
Gratefully remembering their heroic and unremitting struggle to regain the rightful independence of our Nation,  
And seeking to promote the common good, with due observance of Prudence, Justice and Charity, so that the dignity and freedom of the individual may be assured, true social order attained, the unity of our country restored, and concord established with other nations, Do hereby adopt, enact, and give to ourselves this Constitution.*

## PREAMBLE EXAMPLES (CONT.)

### Part 4: South Africa

The South African Constitution, adopted in 1996, describes the values of a country seeking to move beyond its painful history of a racist apartheid government.

#### Preamble to the South African Constitution

*We, the people of South Africa, Recognise the injustices of our past; Honour those who suffered for justice and freedom in our land; Respect those who have worked to build and develop our country; and Believe that South Africa belongs to all who live in it, united in our diversity. We therefore, through our freely elected representatives, adopt this Constitution as the supreme law of the Republic so as to—Heal the divisions of the past and establish a society based on democratic values, social justice and fundamental human rights;*

*Lay the foundations for a democratic and open society in which government is based on the will of the people and every citizen is equally protected by law;*

*Improve the quality of life of all citizens and free the potential of each person;*

*and Build a united and democratic South Africa able to take its rightful place as a sovereign state in the family of nations. May God protect our people.*

*Nkosi Sikelel' iAfrika. Morena boloka setjhaba sa heso. God seën Suid-Afrika. God bless South Africa.*

*Mudzimu fhatutshedza Afurika. Hosi katekisa Afrika.*

## PREAMBLE EXAMPLES (CONT.)

### Part 5: United Nations

The United Nations (UN) is a global organization established in 1945. With almost 200 nations as members, the UN works toward international peace and harmony.

#### Preamble to the Charter of the United Nations

WE THE PEOPLES OF THE UNITED NATIONS DETERMINED  
to save succeeding generations from the scourge of war, which twice in  
our lifetime has brought untold sorrow to mankind, and  
to reaffirm faith in fundamental human rights, in the dignity and worth  
of the human person, in the equal rights of men and women and of  
nations large and small, and  
to establish conditions under which justice and respect for the  
obligations arising from treaties and other sources of international  
law can be maintained, and

to promote social progress and better standards of life in larger freedom,  
AND FOR THESE ENDS

to practice tolerance and live together in peace with one another as good  
neighbours, and

to unite our strength to maintain international peace and security, and  
to ensure, by the acceptance of principles and the institution of methods,  
that armed force shall not be used, save in the common interest, and  
to employ international machinery for the promotion of the economic  
and social advancement of all peoples,

HAVE RESOLVED TO COMBINE OUR EFFORTS TO  
ACCOMPLISH THESE AIMS

Accordingly, our respective Governments, through representatives assembled  
in the city of San Francisco, who have exhibited their full powers found to  
be in good and due form, have agreed to the present Charter of the United  
Nations and do hereby establish an international organization to be known  
as the United Nations.

## SELECTIONS FROM THE U.S. CONSTITUTION

### Preamble to the Constitution of the United States

We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defense, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

### Summary of the Bill of Rights

(The First Ten Amendments to the Constitution)

#### Amendment I

No law can prevent freedom of religion, speech, the press, or the right of people to gather together peaceably.

#### Amendment II

For the protection of the state, people have the right to keep and bear arms.

#### Amendment III

In peacetime, lodging for soldiers cannot be forced on the people.

#### Amendment IV

Search and seizure of property cannot occur without a warrant.

#### Amendment V

People should be protected from abuses to the legal system, such as being tried twice for the same crime or being forced to say something that will help convict them.

#### Amendment VI

People accused of a crime also have rights, such as the right to know the charges against them, and the right to a speedy trial by an impartial jury.

#### Amendment VII

People have the right to a trial by jury in all civil cases.

#### Amendment VIII

People should be protected from unfair fines and cruel punishments.

#### Amendment IX

The Constitution is not meant to be a complete listing of rights. People continue to enjoy other rights not listed in the Constitution.

#### Amendment X

The United States government has powers given to it by the Constitution. Other powers not included in the Constitution are given to the States or to the people.

Name \_\_\_\_\_ Date \_\_\_\_\_

## SELF-ASSESSMENT: SOCIAL SKILLS

Social skills are an important part of working successfully in a space colony. Use this chart to keep track of how well you work with others during this unit.

**Episode:** \_\_\_\_\_

Describe the group situation or event: \_\_\_\_\_

Criteria	I need to work on this.	I did this some of the time.	I did this most or all of the time.
I respectfully listened to others.			
I contributed actively to the group.			
I encouraged others to participate.			
I suggested solutions to problems.			
I did my fair share of work.			

One thing our group did well together:

---



---

One thing our group needs to work on:

---



---

One thing I really did well:

---



---

One thing I could do better:

---



---





# UNIT QUESTIONS FOR REVIEW

## DISCUSSING THE SPACE COLONY

Lead a discussion that reinforces the concepts and generalizations taught throughout the unit. The following questions encourage a discussion of major concepts. Include questions about any problem-solving situations you've added to the unit.

- ❗ How might a future space colony benefit people back on Earth?
- ❗ What types of skills and knowledge will future space colonists need?
- ❗ How can people work together to tackle problems?
- ❗ What do scientists need to consider when choosing a planet to colonize?
- ❗ Which planet would be the best to colonize? Why?
- ❗ Why is it important for groups of people—in space or here on Earth—to have rules to live by?
- ❗ How does the U.S. Constitution protect our rights as individuals?
- ❗ How does the Preamble of the U.S. Constitution reflect the values of the nation?

## REFLECTING ON THE SPACE COLONY

Students need time to reflect on their experiences and on their progress through the unit. Have them write answers to questions like these:

- What have you learned about space colonization?
- What is the best work you did? Why was it good?
- What work could you have done better? How could you have done it better?
- What did you like best about working with others? What did you like least?



# SYNTHESIS ACTIVITIES

The following synthesis activities offer your students the opportunity to demonstrate what they've learned in this unit. These activities are also powerful assessment tools for you because they're multimodal. They allow for variances in students' abilities as learners. These activities allow you to assess students on a variety of subjects and at a number of different levels. Each synthesis activity is followed by criteria for assessment. Unit objectives addressed by each activity are on pages 68–70.

## 1. PORTFOLIO RESPONSE

### Activity

Have students review their Portfolios and identify at least four items that represent important ideas or skills learned. After students have selected the items, they should write at least one paragraph in response to the following questions:

- List four important ideas from your Portfolio. Why are these ideas important?
- What challenges did you face in establishing the space colony? How did you respond to these challenges?
- How did the colonists deal with people coming from many different nations on Earth? What special challenges did that situation cause?
- What did you learn about creating a constitution?
- What skills do you believe improved as a result of this unit? Explain why.

### Criteria for Assessment

Learning objectives were demonstrated if

- an explanation is provided stating why each item was selected and its importance to learning;
- the Portfolio demonstrates an understanding of a constitution;
- at least one challenge is identified in creating the space colony with a clear description of how the challenge was met;
- at least one challenge is identified based on colonists coming from many different nations;
- at least one skill is identified with a clear explanation of how that skill was improved;
- reflections are thoughtful, well organized, and clearly communicated and use appropriate writing conventions.

## 2. CREATE A COLONY ADVERTISEMENT

### Activity

You have been asked to write an advertisement to persuade people from Earth to come to the colony on your planet. In your advertisement, you should

- briefly describe the colony;
- explain the benefits of coming to the colony;
- describe the skills needed by potential colonists;
- explain how people should prepare for their trip to the colony;
- describe how the colony is governed.

Use words, phrases, and illustrations that will grab people's attention and be persuasive. Create and revise a rough draft first before making the final advertisement.

### Criteria for Assessment

Learning objectives are demonstrated if the advertisement

- demonstrates an understanding of life on the planet;
- explains the benefits of and needs in the colony;
- explains the basic issues involved in space travel;
- describes the form of government;
- is persuasive and attracts attention;
- demonstrates appropriate writing conventions.

## 3. WRITE A COLONY HANDBOOK

### Activity

Write and illustrate a handbook for new colonists. Your book should

- explain the educational background and skills important for the colony;
- help the new colonists decide what to take for the journey;
- describe the colony and how it is governed;
- explain how to prepare for the challenges the new colonists will face;
- provide helpful advice.

### Criteria for Assessment

Learning objectives are demonstrated if the handbook

- successfully fulfills the above criteria;
- anticipates the needs and concerns of potential colonists;
- demonstrates an understanding of life on the planet and how the colony is governed;
- demonstrates appropriate writing conventions.

# EXTENDING STUDENTS' EXPERIENCES

## TAKING A FIELD TRIP

Students can deepen their understanding of space exploration by visiting a flight museum or a space-related company in or near your community.

**Materials** Paper and pencil  
Permission slips

**Grouping** Whole class

**Schedule** Approximately 4 hours

Perhaps one day students will take field trips to the Moon and beyond. But until that day arrives, students can learn more about space exploration by visiting a flight museum or a space-related company in or near your community. When you call to arrange the trip, ask if students can meet with a curator or employee who is well versed in space-exploration technologies.

To prepare students for the field trip, have them write specific questions that they can ask the employee. Students should keep the field trip destination in mind when writing their questions. After the field trip, students can compare and contrast their experiences during the Storypath with what they saw and learned. Finally, students can write thank-you letters to their tour guide.

## INVITING A GUEST SPEAKER

An expert on space exploration visits the classroom to share knowledge with students.

**Materials** None

**Grouping** Whole class

**Schedule** 1–2 hours

Instead of having the class visit a museum or a space-related company, you can invite a museum curator or a company employee into the classroom. To locate a suitable guest speaker, a flight museum education department may be able to recommend someone. You might also try calling a space-related company and ask to speak with someone in public relations. Once you have found a guest speaker, suggest that he or she bring along visual aids, such as museum or company brochures.

First, you might want to have students give a short presentation about their space colony. Then, after the guest speaker talks about his or her job, students can ask questions. Have students prepare appropriate questions beforehand. Afterward, students can have a discussion comparing their Storypath experiences with what they have learned from the guest speaker.

# BACKGROUND INFORMATION

## CURRENT IDEAS FOR COLONIZATION

At the time of this book's publication, there are no official plans for building colonies beyond planet Earth. Mars, which is thought to be the most likely site for a colony, has been explored by a few robotic space crafts. Additional robotic missions are planned for the red planet, but when the first humans will blast off for Mars is a matter for guesswork. The Content Slides attempt to look into an uncertain future and provide students with one vision of space exploration and colonization. As the years go by, further exploration of Earth's Moon, Mars, and other planets should continue to add to our knowledge. The rapidly changing nature of space exploration makes it an exciting and challenging topic for classrooms. To make sure your students are using the most up-to-date information, suggest that they look for current websites and newspaper and magazine articles. Their efforts will keep them on the cutting edge of space technology and provide a vital link between the classroom and the world at large.

## AMERICAN DEMOCRACY

The fundamental principles of American democracy include the following:

- The people are the ultimate source of authority in the government.
- The power of government is limited by law.
- Voting for or against laws and candidates are ways people exercise their authority.
- People elect representatives to make laws and manage disputes.
- Decisions are based on majority rule, but minority rights are protected.

The fundamental values of American democracy include the following:

- individual rights to life, liberty, property, and the pursuit of happiness
- the public or common good
- justice
- equality of opportunity
- diversity
- truth
- patriotism

This information was adapted from *The National Standards for Civics and Government*, pp. 22–23. Calabasas, California: The Center for Civic Education, 1994.

## MILESTONES IN THE DEVELOPMENT OF CONSTITUTIONAL GOVERNMENTS

**Greece** The idea of democracy began in Greece in the sixth century B.C. The word democracy comes from two Greek words: *demos*, meaning “the people,” and *kratein*, meaning “to rule.” Plato (427–347 B.C.) and Aristotle (384–322 B.C.) introduced the idea that the people who rule do so for the public good. Greece was made up of city-states, or small nations, and men had the right to vote on any decision related to the government. Unfortunately, women and slaves did not have the right to vote in ancient Greece.

**Rome** The ancient Romans followed some of the same ideas as the ancient Greeks. The Roman Empire (509–527 B.C.) had a representative democracy. There was a senate which was made up of representatives of the nobility and an assembly which was made up of representatives of commoners. These two branches of government voted on various issues.

**England** Written in 1215, the Magna Carta was a document that created a more democratic government in England. The Magna Carta limited the power of English kings. Nobles forced King John to sign the Magna Carta and create a law-making body, or parliament, which the king and his subjects had to obey.

**The United States** The Declaration of Independence, written by Thomas Jefferson in 1776, drew from the English philosopher John Locke, and the French philosopher Jean Jacques Rousseau. Jefferson stated that all men are created equal and have the right to life, liberty and the pursuit of happiness. The Declaration also states that all men should have the right to take up arms against the government if it does not respect these rights. The Declaration of Independence set forth the ideals for American democracy.

**France** During the French Revolution, people were inspired by the American Revolution and overthrew the king of France. In 1789, the “Declaration of the Rights of Man” proclaimed that citizens have the right to “liberty, property, security, and resistance to oppression.”

## THE SOLAR SYSTEM

The table below is a completed version of Portfolio 6, Comparing Planets. Students can use the table to help them decide upon an appropriate planet to colonize. As they research the planets, they will find a wealth of information on topics such as diameter, density, and axial tilt. Although these topics are important to scientists, students should find the topics covered in the following table the most helpful when choosing a planet.

### Comparing Planets

	Breathable Air? (Y/N)	Accessible Water Supply? (Y/N/Maybe)	Average Surface Temperature	Gravitational Pull (Earth = 1)	Type of Surface	Daylight/ Darkness Cycle (Earth = 24 hours)
<b>Mercury</b>	N	Maybe	Day: 800°F (427°C) Night: -300°F (-183°C)	0.376	solid	176 Earth days
<b>Venus</b>	N	Maybe	900°F (482°C)	0.903	solid	116 Earth days 18 hours
<b>Earth</b>	Y	Y	59°F (15°C)	1.000	solid	24 hours
<b>Mars</b>	N	Maybe	-81°F (-63°C)	0.380	solid	24 Earth hours 39 minutes
<b>Jupiter</b>	N	N	-243°F (-153°C)	2.34	gas	9 Earth hours 55 minutes
<b>Saturn</b>	N	N	-301°F (-185°C)	1.16	gas	10 Earth hours 26 minutes
<b>Uranus</b>	N	N	-323°F (-197°C)	1.15	gas	17 Earth hours 14 minutes
<b>Neptune</b>	N	N	-373°F (-225°C)	1.19	gas	16 Earth hours 2 minutes
<b>Pluto</b>	N	Maybe on its moon	-419°F (-233°C)	0.08	solid	6 Earth days 9 hours
<b>Earth's Moon</b>	N	Maybe (ice on south pole?)	Day: 248°F (120°C) Night: -320°F (-160°C)	0.165	solid	29 Earth days 13 hours

Sources: *Smithsonian Guide* and from the U.S. Geological Survey Website



# OBJECTIVES OVERVIEW

Program Performance Standards	Unit Objectives	Episode 1	Episode 2	Episode 3	Episode 4	Episode 5	Episode 6	Episode 7	Synthesis 1	Synthesis 2	Synthesis 3
<b>Cultural/Social Interaction</b>											
Identify ways different groups, societies, and cultures address similar human needs and concerns.	Identify ways that different cultures address similar human needs and concerns in planning the colony.				•				•		
	Identify ways colonists from different cultures address similar human needs and concerns.					•					
Cite ways in which language, stories, music, and artistic creations express culture and influence behavior.	Cite ways in which celebrations express cultures.							•	•		
Demonstrate an understanding of how people interact with their physical environment and social conditions.	Explain how colonists interact with the physical environment and adjust to the social conditions on the new planet.					•			•	•	•
<b>Government</b>											
Examine the rights and responsibilities of individuals in relation to groups, communities, and society.	Examine the rights and responsibilities of individuals in relation to the space colony community.								•		
Examine government in terms of establishing order and security and managing conflict.	Decide how the space colonists will establish order and manage conflict.						•				
Recognize and give examples of tensions between the wants and needs of individuals and groups, and concepts such as fairness, equity, and justice.	Create a society in which fairness, equity, and justice are fundamental rights.						•				
<b>Science and Society</b>											
Identify and describe examples in which science and technology have led to changes in the physical environment.	Create characters who will use science and technology to change the physical environment of a planet in our solar system.	•							•		
	Describe how the colonists might use science and technology to change the physical environment of a planet.			•	•	•			•	•	•
<b>Civic Competence</b>											
Identify examples of freedoms, rights, and responsibilities of citizens.	Identify the constitutional freedoms, rights, and responsibilities of citizens in a space colony.						•		•		
Identify and practice selected forms of civic discussion and participation.	Participate in a meeting to choose a planet for colonization.			•							
	Practice civic discussion and participate in a meeting to deal with a controversy.						•				



# OBJECTIVES OVERVIEW

Program Performance Standards	Unit Objectives	Episode 1	Episode 2	Episode 3	Episode 4	Episode 5	Episode 6	Episode 7	Synthesis 1	Synthesis 2	Synthesis 3
<b>Social Skills</b>											
Participate in organizing, planning, making decisions, and taking action in group settings.	Organize, plan, and make decisions while creating characters.	●									
	Organize, plan, and make decisions while creating a poster.		●								
	Organize, plan, and make decisions while creating a frieze with group members.				●						
	Make group decisions and take action to respond to a controversy.						●				
Participate in persuading, compromising, debating, and negotiating in the resolution of conflicts and problems.	Practice compromising and negotiating to resolve any conflicts that might occur between or among group members.		●								
Work with others to decide on an appropriate course of action.	Work with a group to conduct scientific investigations and decide on a planet to colonize.			●							
	Determine an appropriate course of action to complete the frieze within a group.										
	Work with others to plan and organize the celebration.							●			
<b>Critical Thinking</b>											
Use criteria to make judgments through such processes as appraising ideas, considering points of view, and evaluating statements or positions on issues.	Identify criteria for successful posters.		●								
	Use preselected criteria to decide which planet to colonize.			●							
Organize ideas in new ways.	Organize ideas from class discussion and conduct research to create unique characters.	●							●		
	Organize ideas from class discussion and reference materials in new ways to create a poster.		●						●	●	
	Organize ideas from class discussion in new ways and apply those ideas to the frieze.				●				●		
	Organize ideas from class discussion in new ways to write about daily life in the colony.					●			●	●	●
	Organize ideas from class discussion in new ways to plan the celebration.							●	●		
Define issues or problems and consider alternatives; then make a decision based on evaluation of alternatives.	Define issues and consider alternatives in the design of the settlement; then make decisions for the layout of the setting.				●						

Program Performance Standards	Unit Objectives	Episode 1	Episode 2	Episode 3	Episode 4	Episode 5	Episode 6	Episode 7	Synthesis 1	Synthesis 2	Synthesis 3
<b>Literacy</b>											
Read a wide range of print and non-print texts to build an understanding of the solar system, space colonies, and constitutions.	Listen to and discuss a fictional newspaper article.	•									
	Use specialized vocabulary to understand and communicate concepts about the solar system.		•								
Use word identification strategies to comprehend, interpret, and evaluate concepts about the solar system, space colonies, and constitutions.	Use specialized vocabulary to understand and communicate concepts about creating a constitution.						•				
	Organize information to complete a job application.	•									
Organize information to communicate.	Organize information to create a frieze of the colony.				•						
	Write an entry in a travel log.	•	•	•	•		•	•			
Use spoken and written language for learning and to exchange information.	Write a description of daily life on the planet.					•					
	Write rules for the colony based on specific values.						•				
	Write at least one paragraph reflecting on the Portfolio.								•		
	Write a colony handbook.										•
Use visual language for learning and to exchange information.	Create an informative poster about a planet.		•								
	Organize information to create a chart comparing the planets.			•							
	Create a colony advertisement.									•	

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# HOW TO CONDUCT READING MINI-LESSONS

The Reading Tips chart on the CD provides a quick reminder for students to use as they work with the slides. These Reading Tips cover strategies that are especially effective for reading and understanding nonfiction text:

- Identifying main ideas and supporting details
- Comparing and contrasting
- Making connections
- Making inferences
- Scanning for specific information
- Understanding visuals

You can use the Reading Tips as the basis for mini-lessons.

The unit assumes that these strategies have been taught and practiced in other classroom contexts and that the purpose of the Storypath mini-lesson is to provide a quick review. You will decide which reading strategies are most applicable for each reading task within the unit. In addition, the discussion questions in the Content Slide Sets suggest applicable strategies that the students will need to use on their own.

## READING MINI-LESSON FRAMEWORK

**1. Describe the strategy, explaining when and why readers use it.** Your students may need some help in understanding the reading strategy and knowing when it might be useful. Use the Reading Tips chart for information on explaining the strategy and helping students understand when and why readers use it.

**2. Model the steps as you “think aloud” with a sample text.** Demonstrate how you would use each strategy, using text from or similar to text in the Storypath unit. First, read some of the text aloud and then talk about what happens in your head as you use the strategy. This modeling makes the hidden reading processes become more visible and concrete for developing readers. Language that will help you includes the following:

- “I think about what I already know...”
- “When I look for the main idea, I ...”
- “Here is a clue that will help me ...”
- “That makes me think ...”

**3. Guide students to apply these steps as they read during the unit.** Support students as they apply the various reading strategies in the Storypath unit and begin to use the strategies independently. For example, after you model your own thinking, ask students to try out the strategy with your guidance before asking them to apply it on their own. This will help you determine which students understand the strategy and which students need more help.

**4. Assess students’ progress.** Students’ independent use of the various reading strategies will give you valuable opportunities to assess their growing proficiency with the strategy, as well as their understanding of social studies content.

# ADDITIONAL RESOURCES

## LITERATURE

### Easy

Branley, Franklin M. *The Planets in Our Solar System*. New York: HarperTrophy, 1998.

Simple text introduces the planets in our solar system.

Leedy, Loreen. *Postcards from Pluto: A Tour of the Solar System*. New York: Holiday House, 1996.

A fun tour of our solar system, in which the characters write postcards back to Earth.

### Average

Catrow, David. *We the Kids*. New York: Dial, 2002.

A lighthearted but meaningful guide to the Preamble of the U.S. Constitution, accompanied by zany cartoons and an informal glossary.

*Children's Night Sky Atlas*. New York: DK Publishing, 2004.

Topics such as constellations, planets, and the evolution of stars and galaxies are described through polar and equatorial sky maps, state-of-the-art space photography, diagrams, and sidebars.

### Advanced

Moore, Patrick. *Space Travel for the Beginner*. New York: Cambridge University Press, 1992.

Explains how rockets and satellites work. Contains sections on the future of space exploration and colonization.

Sobel, Syl. *The U.S. Constitution and You*. Hauppauge, New York: Barron's, 2001.

An overview of the essential elements of the U.S. Constitution.

## MULTIMEDIA

### Video/DVD

*Creating the Federal Government*. 100% Educational Videos, 2001.

How the founders forged the framework of our government and why compromise played such an important role in the drafting of the U.S. Constitution.

## CD-ROM

*Explore the Planets*. Tasa Graphic Arts.

Investigate the planets and the processes that shape them.

*The Planets*. Simon and Schuster Interactive.

A fantastic educational disk that contains 3-D flybys of the planets.

*Welcome to the Planets*. Planetary Data System.

Includes 190 images acquired over 20 years of NASA exploration. Can also be viewed at <http://pds.jpl.nasa.gov/planets/>.

## INTERNET

**The Charters of Freedom: A New World Is at Hand**

<http://archives.gov/national-archives-experience/charters/declaration.html>

This site is part of the National Archives and provides high resolution scans of the original Declaration of Independence and other images.

**National Aeronautics and Space Administration**

<http://nasa.gov/>

The latest space exploration information. Includes a section on "Living in Space."

**National Constitution Center**

<http://constitutioncenter.org/>

Includes a range of activities and background information about the Constitution including "interactive" activities to better understand the basic facts and interpretations.

**Students for the Exploration and Development of Space** <http://seds.lpl.arizona.edu>.

Includes an excellent tour of the solar system.

## PROFESSIONAL READING

Sagan, Carl. *Pale Blue Dot: A Vision of a Human Future in Space*. New York: Ballantine, 1997.

Carl Sagan suggests that our very survival depends upon our exploration and settlement of other worlds.

Zubrin, Robert. *The Case for Mars: The Plan to Settle the Red Planet and Why We Must*. New York: Free Press, 1997.

Provides a compelling plan for visiting and colonizing Mars within our lifetime.

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Name:

# *Creating a Constitution* **The Space Colony**



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**Author:** Margit E. McGuire, Ph.D., Professor of Teacher Education, Seattle University

**Program Consultants:** Katherine L. Schlick Noe, Ph.D., Professor and Director of Literacy, Seattle University; H. "Sonny" Carreno, B.A. Education, Licensed Instructor, English as a Second/New Language (Texas, Wisconsin, Indiana)

**Program Management:** Morrison BookWorks LLC

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## MAKING A CHARACTER

Follow the steps below to make your character. Then you can decide what your character will look like, including hair, facial expression, and clothing suitable for the job role.

### 1. Make the head.

- Draw a circle about 2 inches in diameter.
- Cut out the circle.

### 2. Make the body.

- Draw a rectangle about  $2\frac{1}{2}$  inches wide by 4 inches long.
- Cut out the rectangle.

### 3. Make the arms and legs.

- For the arms, draw two rectangles about  $\frac{3}{4}$  inch wide by 4 inches long.
- Draw two more rectangles approximately 1 inch longer for the legs.
- Cut out the rectangles.

### 4. Put the body together.

- Position the head, arms, and legs on the body.
- Glue the body together.

### 5. Make clothing suitable for the job role.

- Place the body on fabric or paper.
- Trace around the shape to make clothing.

### 6. Mount your character on construction paper.

- Glue your character onto construction paper.
- Then glue clothing onto the figure.
- Add details such as hair, feet, hands, facial features, jewelry. Include drawings of two tools that your character uses in his or her job role.

**Assessment:** Directions are followed for making a realistic character. The size is appropriate, clothing is appropriate for the job role, and details are included. The character is carefully completed.



## PREPARE FOR INTRODUCTION

Review your job application and decide what information would be most interesting to share with the other space colonists. You should begin with stating your name and your job title. Then tell at least three more things about yourself and your country of origin. Your introduction should last about one minute. Practice your introduction using the checklist below.

Criteria	Needs Lots of Work	Needs Some Work	Great
1. I maintained eye contact with the audience.			
2. My pronunciation was clear and easy to understand.			
3. My volume was not too loud or too soft.			
4. I used notes sparingly; I did not read from them.			
5. I didn't use filler words ( <i>um, uh, like</i> ).			
6. I didn't fidget, rock back and forth, or pace.			
7. I maintained good posture.			
8. I shared relevant information about my job, life experience, and country of origin.			

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### ACTIVE LISTENING GUIDE

After each introduction write the name of the student, the name of the character, the character's job, and the character's country of origin.

_____ Student name _____ Character name _____ Job _____ Country	_____ Student name _____ Character name _____ Job _____ Country	_____ Student name _____ Character name _____ Job _____ Country	_____ Student name _____ Character name _____ Job _____ Country
--	--	--	--

_____ Student name _____ Character name _____ Job _____ Country	_____ Student name _____ Character name _____ Job _____ Country	_____ Student name _____ Character name _____ Job _____ Country	_____ Student name _____ Character name _____ Job _____ Country
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<p>_____ Student name</p> <p>_____ Character name</p> <p>_____ Job</p> <p>_____ Country</p>	<p>_____ Student name</p> <p>_____ Character name</p> <p>_____ Job</p> <p>_____ Country</p>	<p>_____ Student name</p> <p>_____ Character name</p> <p>_____ Job</p> <p>_____ Country</p>	<p>_____ Student name</p> <p>_____ Character name</p> <p>_____ Job</p> <p>_____ Country</p>
<p>_____ Student name</p> <p>_____ Character name</p> <p>_____ Job</p> <p>_____ Country</p>	<p>_____ Student name</p> <p>_____ Character name</p> <p>_____ Job</p> <p>_____ Country</p>	<p>_____ Student name</p> <p>_____ Character name</p> <p>_____ Job</p> <p>_____ Country</p>	<p>_____ Student name</p> <p>_____ Character name</p> <p>_____ Job</p> <p>_____ Country</p>
<p>_____ Student name</p> <p>_____ Character name</p> <p>_____ Job</p> <p>_____ Country</p>	<p>_____ Student name</p> <p>_____ Character name</p> <p>_____ Job</p> <p>_____ Country</p>	<p>_____ Student name</p> <p>_____ Character name</p> <p>_____ Job</p> <p>_____ Country</p>	<p>_____ Student name</p> <p>_____ Character name</p> <p>_____ Job</p> <p>_____ Country</p>
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## CREATING A PLANET POSTER

Name of planet: \_\_\_\_\_

### 1. Gather facts about the planet.

Diameter of planet: \_\_\_\_\_

Distance from the sun: \_\_\_\_\_

Atmosphere: \_\_\_\_\_

Surface temperatures: \_\_\_\_\_

Length of daylight/darkness cycle: \_\_\_\_\_

Length of year compared to Earth: \_\_\_\_\_

Natural resources: \_\_\_\_\_

Type of surface (rocky, gaseous): \_\_\_\_\_

Major landforms, if a rocky planet: \_\_\_\_\_

### 2. Organize the poster.

Decide what to include on the poster, such as a title and visual images. Decide the layout of the poster. Will you include other information not listed above?

### 3. Assess the poster.

Check the criteria for a quality poster. Make changes if necessary.

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### WORKING TOGETHER EFFECTIVELY

Meet with your team members to discuss how you will work together effectively to create a poster. Discuss the following questions and record your responses in the spaces provided.

1. How will we assign tasks to create the poster?

---

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2. What will we do if someone doesn't do his or her fair share of the work?

---

---

3. If we have a disagreement in the group, how will we solve the problem?

---

---

4. If someone needs extra help in the group, what should he or she do?

---

---

5. If someone finishes a task before the others, what should he or she do?

---

---

6. What are some things we can say to one another to provide support?

---

Planet Team: \_\_\_\_\_

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### COMPARING PLANETS

Planet	Breathable Air? (Y/N)	Accessible Water Supply? (Y/N/Maybe)	Average Surface Temperature	Gravitational Pull (Earth = 1)	Type of Surface	Daylight/ Darkness Cycle (Earth = 24 hours)
Mercury						
Venus						
Earth						
Mars						
Jupiter						
Saturn						
Uranus						
Neptune						
Pluto*						
Other: _____						

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\*Scientists are currently debating whether Pluto is, in fact, a planet.

## INVESTIGATING THE EFFECTS OF GRAVITY

Use this guide to learn about the effects of gravity on the human body. Gravity is the force of attraction between two objects. The Earth's gravitational pull keeps your feet on the ground by pulling you toward the planet. The more massive a planet is, the stronger its pull on objects.

### 1. Change the conditions.

Attach about 20 pounds of weight evenly around your body. Use a backpack and some books (or another method) to add the weight. Don't put all the weight in front of your body, as that can cause your back to hurt.

### 2. Observe and predict.

As you are wearing the weight, answer the following questions:  
How did you feel when you first added the weight?

---

Predict how you will feel after you have worn the extra weight for an hour.

---

### 3. Record your observations.

Wear the extra weight for an hour and then answer the following questions:

How do you feel after wearing the weight for an hour? How is your body responding?

---

How would you feel if you wore this extra weight for a year?

---

How do you think your body would change after wearing the weight for a year?

---

Look at the table on portfolio page 10. Which planet do you think should be colonized? Why?

---



---





## INVESTIGATING THE EFFECTS OF COLOR ON TEMPERATURE

Use this guide to find out how color affects temperature.

### 1. Prepare the cups.

Cut black paper and wrap it around one cup. Cut white paper and wrap it around a second cup. Leave a third cup as is. Fill the three cups with the same amount of water and set them in the sun. (You could use the light of a desk lamp if it's a cloudy day.)

### 2. Record your results.

Use the thermometer to measure the temperature in each of the three cups over time.

Time	Black Cup	White Cup	Clear Cup
At Start of Experiment			
After 10 Minutes			
After 20 Minutes			
After 30 Minutes			

### 3. Draw conclusions.

Use the data you've gathered to answer the following questions:

What if the colony is built on a planet with very cold temperatures? Which color would be the best to use for building materials? Explain.

---

What if the colony is built on a planet with very hot temperatures? Which color would be the best to use for building materials? Explain.

---

Look at the table on portfolio page 10. Which planet do you think should be colonized? Why?

---



## INVESTIGATING INSULATION

Use this guide to find out how insulation affects temperature.

### 1. Prepare the cups.

Fill two cups with hot water and two cups with ice water. Cover one hot cup and one cold cup with plastic wrap and secure the wrap with tape. Use scissors to cut a slit in the wrap big enough to insert a thermometer. Place the covered cups—one cold and one hot—into coffee cans and pack soil around the cups up to and over their tops. (Do not let soil fall into the water.) Leave the other two cups to sit on a table or counter.

### 2. Record your results.

Use the thermometer to measure the temperature in each of the four cups over time.

Time	Hot Cup in Soil	Hot Cup Not in Soil	Cold Cup in Soil	Cold Cup Not in Soil
At Start of Experiment				
After 10 Minutes				
After 20 Minutes				
After 30 Minutes				

### 3. Draw conclusions.

Use the data you've gathered to answer the following questions:

How does the soil affect the temperatures of the water in the cups?

---



---

How can we use insulation when planning our space colony?

---



---



DATE \_\_\_\_\_

### GATHER INFORMATION

What part of the frieze are you creating? \_\_\_\_\_

1. Where will you get ideas? Circle the sources you will use.

Content Cards

Reference books

Internet

2. Make a list of ideas. Include lots of details. Use your imagination.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. Make a sketch below before you begin work.

- Are the objects to scale and do they relate to each other?
- Are the objects authentic or believable?

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## FRIEZE GUIDE

Work with your group to plan and make your section of the space colony setting.

### 1. List ideas for your section.

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### 2. Share your ideas with the group.

Work together to select the best ideas. Circle the ideas on your list that you will use.

### 3. Assign jobs. List what you will do.

Make sure everyone has a job. Ask questions and help each other.

---



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### 4. Assess your group work.

Put a check next to the things you did.

- I offered ideas about the frieze.
- I listened to other people's ideas.
- I asked questions when I didn't understand something.
- I made positive comments to my group members.
- I was willing to change my ideas to help the group.
- I helped someone else if I had time.

If you were to do the task again, what changes would you make in how you worked with your group?

---



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### PREWRITING: DAILY LIFE

You've now settled into life on the planet. Imagine what your daily life is like. Use the guide below to help you organize your ideas.

**1. Compare and contrast with life on Earth.**

Think about what you know about the space colony already. What are the similarities to life on Earth? What are the differences to life on Earth?

Similarities to Earth	Differences from Earth

**2. List the tasks you do each day.**

Write the tasks you do from the time you get up until you go to bed.

---



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**3. Use all your senses.**

To enrich your writing, think about how you would use your senses.

	<b>Describing Words:</b> List some ideas below
See?	
Hear?	
Smell?	
Feel?	
Taste?	

**4. Draft your description of daily life on a separate sheet of paper.**

Use the ideas you have listed above.

### SELF-ASSESSMENT: DESCRIPTION OF DAILY LIFE

Use the rubric below to evaluate your writing. The first column describes expectations for the assignment.

Rate yourself by putting a number in the second column.

- 1 = needs lots of work
- 2 = met the basic requirements of the assignment
- 3 = went beyond expectations

In the last column explain why you assigned that number for that particular criteria.

#### Ideas and Content

Criteria for assessment	Rating	Explanation for rating
The content is accurate and realistic to the space colony.		
The description of daily life is focused and includes relevant details.		
Clear descriptions are included about tasks and tools/materials.		
The writing is insightful. The reader can picture daily life because of the vivid descriptions.		

#### Organization

Criteria for assessment	Rating	Explanation for rating
The introduction is inviting and a satisfying conclusion is provided.		
The sequence is logical and effective.		
The descriptions flow from one event to another.		
Format chosen for description is used effectively.		



### READING A PREAMBLE

Our preamble is from \_\_\_\_\_

**1. Find unfamiliar words.**

Use a dictionary to find out what the words mean. Divide the work so that everyone looks up a word or works with a partner to look up a word. List the words below and write the meaning of the words.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2. What values are expressed in the preamble?**

List at least three values.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**3. Are there statements in the preamble that you like?**

Would you want to use those statements for the space colony? Discuss in your group. Write at least one idea below. If you don't find anything you like, explain why below.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Assessment:** Unfamiliar words are identified and accurate definitions are included for the words. At least three values are identified in the preamble. At least one idea for the preamble is explained as to why it would or wouldn't be suitable for a space colony preamble.

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## TRAVEL LOG RUBRIC

Use this rubric to assess each of your travel log entries. After assessing each entry, you may decide to revise it to make it better.

	<b>Developing</b>	<b>Acceptable</b>	<b>Strong</b>
<b>Ideas and Content</b>	The event is briefly stated. There is no main idea. The information is general and not focused. The ideas seem disconnected.	The event is described with at least two details. The information is reasonably clear with general observations.	The event is described with many relevant details. The information is fresh and insightful.
<b>Makes Connections</b>	Rarely or incompletely explains how the events impact his or her character and the overall story.	Explains how the events affect his or her character and the overall story.	Explains why events are important to his or her character and how the events connect to the overall story.
<b>Personalizes Learning</b>	Not written from the character's point of view. Rarely connects information to other characters.	Written from the character's point of view and includes other characters. Doesn't elaborate on specific information.	Written convincingly from the character's point of view. Includes other characters, based on job roles, personal characteristics, and country of origin.

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### TRAVEL LOG ENTRY 2

Think about the various planets that might be your destination on your colonization mission. What planet is most suitable for the colony? Describe at least three issues the colonists would have to consider when colonizing the planet. Remember to write in character.

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### TRAVEL LOG ENTRY 3

What concerns do you have about creating a colony on another planet? What challenges will you face? What personal characteristics do you have that will help you meet those challenges? What work will you do on the planet?

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### TRAVEL LOG ENTRY 4

Imagine you are standing in the settlement. What do you see? What is it like to live in this place? What challenges are there in living here? How is life here different from Earth?

Handwriting practice area with three sets of lines and circles:

- Circle 1: 5 horizontal lines
- Circle 2: 5 horizontal lines
- Circle 3: 3 horizontal lines

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### TRAVEL LOG ENTRY 5

Describe the resolution of the controversy from your character's point of view. What do you think will happen in the future for life in the colony?

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### TRAVEL LOG ENTRY 6

From your character’s point of view, describe the celebration and why it was important to the space colony. Be sure to describe your feelings about the event. Reflect on the past year living in the colony. What were the highlights?

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## GLOSSARY

**aerobrake** *noun* a device that protects a spaceship by slowing it down as it travels through a planet's atmosphere

**colony** *noun* a settlement that retains close ties to its homeland

**comet** *noun* a ball of frozen gases, dust, ice, and rock that orbits the sun; Comets evaporate as they near the sun, forming long tails of gas and dust.

**constitution** *noun* the basic principles and laws of a nation, state, or social group that determine the powers of the government and guarantee certain rights to people in it

**equality** *noun* the state or situation in which all people have the same freedoms and opportunities

**gravity** *noun* a force that pulls any two objects in the universe toward one another; The more mass an object has, the stronger it pulls on other objects.

**inner planets** *plural noun* the four planets in our solar system closest to the sun: Mercury, Venus, Earth, and Mars

**justice** *noun* the establishment of rights according to the rule of law

**mass** *noun* the amount of matter in an object; Whether an object is a solid, a liquid, or a gas, the object always has mass.

**NASA** *noun* National Aeronautics and Space Administration, a government agency of the United States responsible for developing advanced airplane and space exploration technology.

**orbit** *verb* to move around a center point; *noun* the path followed by a planet or other body as it travels through space

**outer planets** *plural noun* the five planets in our solar system farthest from the sun: Jupiter, Saturn, Uranus, Neptune, and Pluto

**preamble** *noun* the introduction to a constitution that states the reasons for the laws that follow

**probe** *noun* a robot that explores a region and uses sensors to gather information; Astronomers have learned a great deal about our solar system from probes.

**rover** *noun* a vehicle used to explore the surface of a planet or moon

**satellite** *noun* a moon or other object that orbits a body in space

**solar system** *noun* a family of planets and other objects that orbit a star

**Space Shuttle** *noun* a reusable orbiter that takes off like a rocket and lands like an airplane

**space station** *noun* a base built in outer space where astronauts can live and work for extended periods of time

**terraform** *verb* to change a planet, making it more like Earth

**union** *noun* the joining together of independent units into a single government

**universe** *noun* everything in existence; The observable universe contains everything we can see out into space.

**year** *noun* the time it takes Earth to travel once around the sun

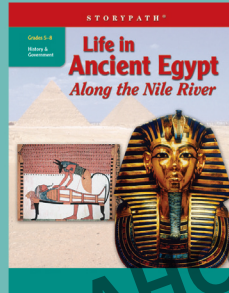


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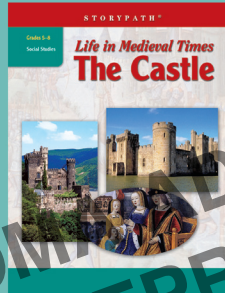
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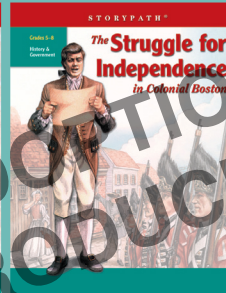
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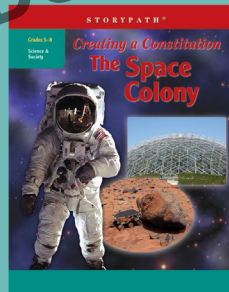
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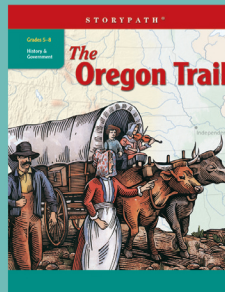
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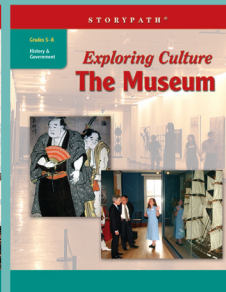
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10200 Jefferson Boulevard, P.O. Box 802, Culver City, CA 90232-0802  
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access@teachstorypath.com