

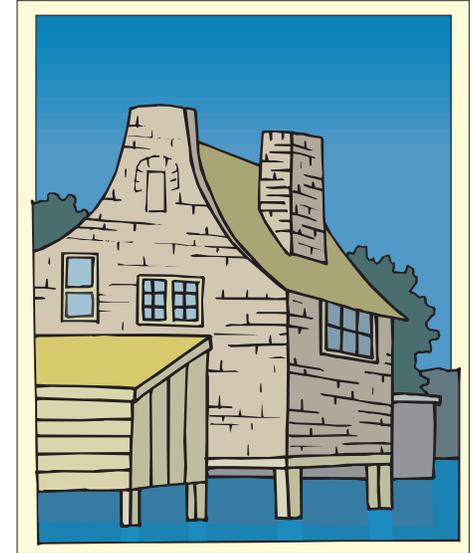
Exploring Historic Sites

Background: You have been studying a historic site and its place in the settlement of America. You will learn where and why the site was built as well as what materials and tools were used in its construction. You will take notes on the important things you learn. You will be able to compare the technology of the time to the technology of present-day Virginia. You will use a KWL format to help guide your research.

Design Challenge: Design and build a model of your historic site. Your model should accurately represent the design of the original site. In addition to the buildings and structures of the historic site, the tools and other belongings used by the inhabitants in their day-to-day life should be represented.

Criteria:

- Your 3-D model should represent a native village, fort, home, or farm.
- You must include various buildings, fences, and other structures.
- You must incorporate representations of common tools and other typical belongings of the inhabitants.



<p>Materials: Select from the list below.</p>	<p>Tools: Select from the list below.</p>
<ul style="list-style-type: none"> • cardboard • card stock • construction paper • craft sticks • glue • paper clips • paper fasteners • pipe cleaners • poster board • recycled and/or found materials • straws • string • tape in limited lengths 	<ul style="list-style-type: none"> • hole punch • markers, colored pencils, crayons, paint • ruler • scissors

Targeted Standard of Learning: History and Social Science VS.3
 Supporting SOL: History and Social Science VS.1; English 4.1, 4.2, 4.5, 4.6
 Mathematics 4.7; Science 4.1

Targeted Standard for Technological Literacy: 9
 Supporting STL: 8, 10, 11

Tips for Teachers

Targeted Standards of Learning:

- History and Social Science VS.3 The student will demonstrate knowledge of the first permanent English settlement in America by
- explaining the reasons for English colonization;
 - describing how geography influenced the decision to settle at Jamestown;
 - identifying the importance of the charters of the Virginia Company of London in establishing the Jamestown settlement;
 - identifying the importance of the General Assembly (1619) as the first representative legislative body in English America;
 - identifying the importance of the arrival of Africans and English women to the Jamestown settlement;
 - describing the hardships faced by settlers at Jamestown and the changes that took place to ensure survival;
 - describing the interactions between the English settlers and the native peoples, including the contributions of Powhatan to the survival of the settlers.

Supporting SOL: History and Social Science VS.1; English 4.1, 4.2, 4.5, 4.6; Mathematics 4.7; Science 4.1

Targeted Standards for Technological Literacy:

9 Students will develop an understanding of engineering design.

Supporting STL: 8, 10, 11

Tips for Teachers, continued

Prior Knowledge & Skill	Materials & Preparation	Safety Issues	Class Management	Materials Provided	Design Process
<ul style="list-style-type: none"> Targeted History and Social Science Standard of Learning VS.3 Simple machines 	<ul style="list-style-type: none"> Groups should create a plan as a team and then divide the construction work among group members. For example, two members of the group might work on the model's structures while the others work on the miniatures to go inside the model. As each student finishes up a job, he or she helps other group members. 	<ul style="list-style-type: none"> Cutting craft sticks and pipe cleaners 	<ul style="list-style-type: none"> Small groups of four or fewer Each student keeps own Guided Portfolio. 	<ul style="list-style-type: none"> Design Brief Guided Portfolio (adapt as appropriate/optional) Rubric Assessments 	<p>Follow the Design Process:</p> <ul style="list-style-type: none"> Restate the problem. Brainstorm solutions. Create the best solution. Test the solution. Evaluate the solution.

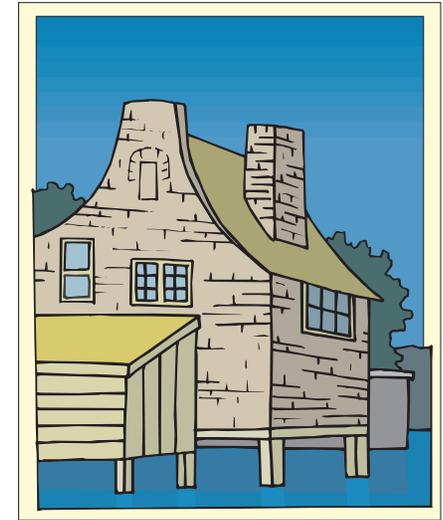
Differentiation Option: For students with more advanced reading skills, the following page is provided as an alternative to page 1.

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Your 3-D model should represent a native village, fort, home, or farm, and it must include various buildings, fences, and other structures. You must also incorporate representations of common tools and other typical belongings of the inhabitants.



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Targeted Standard of Learning: History and Social Science VS.3
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 Mathematics 4.7; Science 4.1

Targeted Standard for Technological Literacy: 9
 Supporting STL: 8, 10, 11

Guided Portfolio, p2

Name _____



2. Brainstorm solutions. Sketch and/or describe some possible solutions.

Guided Portfolio, p4

Name _____

4. Test your solution.

Does your model represent the design of the original historic site? YES NO

Does your model contain at least one building inside? YES NO

Does your model have examples of basic structures and tools appropriate to your site? YES NO

What structures and tools did you create?

What are some of the 3-D features?

Guided Portfolio, p5

Name _____

5. Evaluate your solution.

Was it the best solution? Would one of your other ideas have been better? Why, or why not?

What would you have done differently?

Could you add to it to make it better? What would you add to it?

Name _____

KWL: Exploring Historic Sites

What we <u>K</u> now	What we <u>W</u> ant to know	What we <u>L</u> earned

Rubric for Exploring Historic Sites

Name _____ Date _____

0—no evidence; 1—limited understanding; 2—some understanding with room for improvement; 3—good understanding with room for improvement; 4—substantial understanding

Design Brief Rubric	0	1	2	3	4
The student restated the problem in his/her own words.					
The student brainstormed more than one idea.					
The student kept notes and/or made sketches while creating a solution, to include problems and how they were solved.					
The student tested the model to make sure					
• it follows the design of the original site					
• it contains at least one building as well as other structures					
• it includes representations of common tools and other typical belongings.					
The student evaluated how he/she could make it better next time.					

Rubric for Exploring Historic Sites

Name _____ Date _____

0—no evidence; 1—limited understanding; 2—some understanding with room for improvement; 3—good understanding with room for improvement; 4—substantial understanding

Communication: Speaking, Listening, Media Literacy Rubric		0	1	2	3	4
4.1 The student will use effective communication skills in a variety of settings. a) Present accurate directions to individuals and small groups. b) Contribute to group discussions across content areas. c) Seek ideas and opinions of others. d) Use evidence to support opinions. e) Use grammatically correct language and specific vocabulary to communicate ideas. f) Communicate new ideas to others. g) Demonstrate the ability to collaborate with diverse teams. h) Demonstrate the ability to work independently.						
4.2 The student will make and listen to oral presentations and reports. a) Use subject-related information and vocabulary. b) Listen to and record information. c) Organize information for clarity. d) Use language and style appropriate to the audience, topic, and purpose.						

Standards of Learning

English (2010)

Communication: Speaking, Listening, Media Literacy

- 4.1 The student will use effective oral communication skills in a variety of settings.
- Present accurate directions to individuals and small groups.
 - Contribute to group discussions across content areas.
 - Seek ideas and opinions of others.
 - Use evidence to support opinions.
 - Use grammatically correct language and specific vocabulary to communicate ideas.
 - Communicate new ideas to others.
 - Demonstrate the ability to collaborate with diverse teams.
 - Demonstrate the ability to work independently.
- 4.2 The student will make and listen to oral presentations and reports.
- Use subject-related information and vocabulary.
 - Listen to and record information.
 - Organize information for clarity.
 - Use language and style appropriate to the audience, topic, and purpose.

Reading

- 4.5 The student will read and demonstrate comprehension of fictional texts, narrative nonfiction texts, and poetry.
- Explain the author's purpose.
 - Describe how the choice of language, setting, characters, and information contributes to the author's purpose.
 - Identify the main idea.
 - Summarize supporting details.
 - Identify the problem and solution.
 - Describe the relationship between text and previously read materials.
 - Identify sensory words.
 - Draw conclusions/make inferences about text.
 - Make, confirm, or revise predictions.
 - Identify cause-and-effect relationships.
 - Use reading strategies throughout the reading process to monitor comprehension.
 - Read with fluency and accuracy.

- 4.6 The student will read and demonstrate comprehension of nonfiction texts.
- a) Use text structures, such as type, headings, and graphics, to predict and categorize information in both print and digital texts.
 - b) Formulate questions that might be answered in the selection.
 - c) Explain the author’s purpose.
 - d) Identify the main idea.
 - e) Summarize supporting details.
 - f) Draw conclusions and make simple inferences using textual information as support.
 - g) Distinguish between cause and effect.
 - h) Distinguish between fact and opinion.
 - i) Use prior knowledge and build additional background knowledge as context for new learning.
 - j) Identify new information gained from reading.
 - k) Use reading strategies throughout the reading process to monitor comprehension.
 - l) Read with fluency and accuracy.

History and Social Science (2008)

Skills

- VS.1 The student will demonstrate skills for historical and geographical analysis and responsible citizenship, including the ability to
- a) identify and interpret artifacts and primary and secondary source documents to understand events in history;
 - b) determine cause-and-effect relationships;
 - c) compare and contrast historical events;
 - d) draw conclusions and make generalizations;
 - e) make connections between past and present;
 - f) sequence events in Virginia history;
 - g) interpret ideas and events from different historical perspectives;
 - h) evaluate and discuss issues orally and in writing;
 - i) analyze and interpret maps to explain relationships among landforms, water features, climatic characteristics, and historical events.

Colonization and Conflict: 1607 through the American Revolution

- VS.3 The student will demonstrate knowledge of the first permanent English settlement in America by
- a) explaining the reasons for English colonization;
 - b) describing how geography influenced the decision to settle at Jamestown;
 - c) identifying the importance of the charters of the Virginia Company of London in establishing the Jamestown settlement;
 - d) identifying the importance of the General Assembly (1619) as the first representative legislative body in English America;
 - e) identifying the importance of the arrival of Africans and English women to the Jamestown settlement;

- f) describing the hardships faced by settlers at Jamestown and the changes that took place to ensure survival;
- g) describing the interactions between the English settlers and the native peoples, including the contributions of Powhatan to the survival of the settlers.

Mathematics (2009)

Measurement

4.7 The student will

- a) estimate and measure length and describe the results in metric and U.S. Customary units; and
- b) identify equivalent measurements between units within the U.S. Customary system (inches and feet; feet and yards; inches and yards; yards and miles) and between units within the metric system (millimeters and centimeters; centimeters and meters; and millimeters and meters).

Science (2010)

Scientific Investigation, Reasoning, and Logic

4.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which

- a) distinctions are made among observations, conclusions, inferences, and predictions;
- b) objects or events are classified and arranged according to characteristics or properties;
- c) appropriate instruments are selected and used to measure length, mass, volume, and temperature in metric units;
- d) appropriate instruments are selected and used to measure elapsed time;
- e) predictions and inferences are made, and conclusions are drawn based on data from a variety of sources;
- f) independent and dependent variables are identified;
- g) constants in an experimental situation are identified;
- h) hypotheses are developed as cause-and-effect relationships;
- i) data are collected, recorded, analyzed, and displayed using bar and basic line graphs;
- j) numerical data that are contradictory or unusual in experimental results are recognized;
- k) data are communicated with simple graphs, pictures, written statements, and numbers;
- l) models are constructed to clarify explanations, demonstrate relationships, and solve needs; and
- m) current applications are used to reinforce science concepts.

Standards for Technological Literacy

Standard 8: Students will develop an understanding of the attributes of design.

Standard 9: Students will develop an understanding of engineering design.

Standard 10: Students will develop an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.

Standard 11: Students will develop the abilities to apply the design process.

Please give us some feedback.

Complete the form below to let us know how this design brief worked for you and your students. Please be specific so that we might use your suggestions to improve the activity. *You can fill this out on your computer, or you can print it, fill it out manually, and scan it.*

Teacher: _____

School: _____

School division: _____

Design brief title: _____

Background	<i>Put an X in the appropriate column:</i>	Needs to be rewritten	Needs minor adjustment	Is ready for classroom use
Does it set the context for the activity?				
Is it age-appropriate in language, length, and complexity?				
Does it reference prior learning and/or research that the students did that will facilitate designing a solution to a problem?				
Is it detailed enough that an adult will understand the purpose for the design brief?				
COMMENTS. <i>If any of the questions above are marked other than "ready for classroom use," please provide suggestions here.</i>				

Design Challenge	Needs to be rewritten	Needs minor adjustment	Is ready for classroom use
Does the challenge support your curriculum?			
Is it age-appropriate in language, length, and complexity?			
Is it detailed enough that an adult will understand the purpose for the design brief?			
COMMENTS. <i>If any of the questions above are marked other than "ready for classroom use," please provide suggestions here.</i>			

Criteria Criteria are part of the challenge. They set the limitations for the design. They are not directions.	Needs to be rewritten	Needs minor adjustment	Is ready for classroom use	N/A
Are the limitations age-appropriate?				
Do the limitations encourage critical thinking?				
Is the application of mathematic knowledge/skills integrated into the criteria? If not, should the skill area be addressed?				
Is the application of science knowledge/skills integrated into the criteria? If not, should the skill area be addressed?				
Is the application of social studies knowledge/skills integrated into the criteria? If not, should the skill area be addressed?				
Are language skills integrated into the criteria? If not, should the skill area be addressed?				
COMMENTS. <i>If any of the questions above are marked other than "ready for classroom use," please provide suggestions here.</i>				

Materials Materials help set the limitations for the design. The list should include materials that might work.	Needs to be rewritten	Needs minor adjustment	Is ready for classroom use	N/A
Does the materials list encourage a variety of design solutions?				
Does the materials list include a variety of choices for joining items?				
Does the materials list include materials that force students to make decisions?				
COMMENTS. <i>If any of the questions above are marked other than "ready for classroom use," please provide suggestions here.</i>				

Tools Tools can be used in the construction of the designed product. They are used to manipulate materials. They cannot become part of the product.	Needs to be rewritten	Needs minor adjustment	Is ready for classroom use
Are the tools listed age appropriate?			
Are all tools needed for the activity included?			
COMMENTS. <i>If any of the questions above are marked other than "ready for classroom use," please provide suggestions here.</i>			

Standards of Learning	Yes	No
Does the design brief reinforce the targeted Standard of Learning(s)?		
Are the supporting Standards of Learning appropriate?		
What Standards of Learning would you add or remove?		

Standards for Technological Literacy	Yes	No
Does the design brief reinforce the targeted Standard(s) for Technological Literacy?		
Are the supporting Standards for Technological Literacy appropriate?		
What Standards for Technological Literacy would you add or remove?		

Tips for Teachers	Yes	No
Are the tips listed in the chart helpful for a first-time teacher?		
What tips would you add?		

Guided Portfolio	Needs to be rewritten	Needs minor adjustment	Is ready for classroom use
Are the instructions and questions age appropriate and clear?			
In the "Test your solution" section, do the questions force students to thoroughly test their solutions?			
In the "Evaluate your solution" section, do the questions force students to honestly evaluate their solutions			
COMMENTS. <i>If any of the questions above are marked other than "ready for classroom use," please provide suggestions here.</i>			

<p>Additional Comments Please use this area to provide general suggestions for improving this design brief.</p>