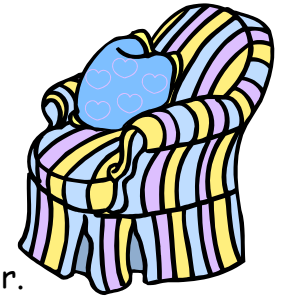


A Chair for Mom

Based on the book

A Chair for My Mother by Vera B. Williams



Background: We read the book A Chair for My Mother by Vera B. Williams. A fire destroys everything the family owns. Rosa, the little girl in the story, wants to save money to buy her mother a big, comfortable chair.

Design Challenge: Design and build an attractive and comfortable chair for the little girl's mother. Include some feature on the chair that will make it special for her mom, such as a footrest or drink holder. Create a neat and colorful newspaper advertisement that shows a picture of the chair and its cost. Tell your classmates about your chair.

Criteria:

Your chair must

- have a special feature for your mom
- be comfortable and attractive
- be no larger than 12" by 12" in size
- have a reasonable price based on actual furniture prices found in advertisements
- have its special feature shown and described in the advertisement.

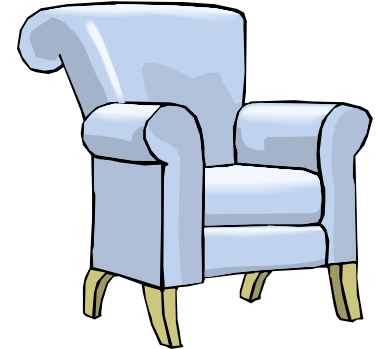
Materials: You may select from the items below.

- any recycled materials
- glue
- meat trays
- yarn or string
- tag/cardboard
- rulers
- masking tape (12 inches)
- craft sticks
- empty containers
- fabric/felt scraps
- general art supplies
- Lego, K'nex, or other commercial building sets

Targeted Standard of Learning: History and Social Science 2.9
Supporting Standards of Learning: Science 2.1, 2.8
English 2.3, 2.8, 2.9, 2.11
Mathematics 2.11

Targeted Standards for Technological Literacy: 6, 13
Supporting Standard for Technological Literacy: 8, 9, 11

A Chair for Mom



Targeted Standard of Learning: History and Social Science 2.9

- The student will explain that scarcity (limited resources) requires people to make choices about producing and consuming goods and services.

Targeted Standards for Technological Literacy: Standard 6

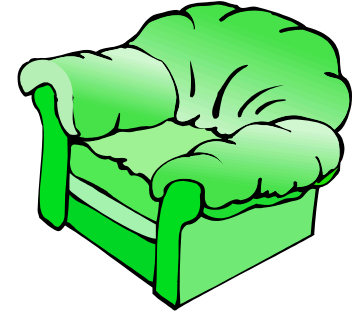
- Students will develop an understanding of the role of society in the development and use of technology.

| Prior Knowledge & Skill | Materials & Preparation | Safety Issues | Class Management | Materials Provided | Time Management |
|--|--|---|---|---|--|
| <ul style="list-style-type: none"> • Exposure to targeted History and Social Science Standard of Learning 2.9 • Some understanding of the design process | <ul style="list-style-type: none"> • <u>A Chair for my Mother</u> by Vera B. Williams • See Design Brief for recommended materials. Teacher may substitute materials. • Collect newspaper/ magazine ads for chairs. | <ul style="list-style-type: none"> • Insure cleanliness of recycled materials. | <ul style="list-style-type: none"> • Works best in groups of two students, but no more than four students. | <ul style="list-style-type: none"> • Design Brief • Guided Portfolio • Rubric Assessment | <ul style="list-style-type: none"> • Session 1: Introducing Design Brief and Portfolio (30 min.) • Sessions 2 & 3: Building (30 min. each) • Session 3: Sharing and evaluating (40 min.) |

Guided Portfolio—1

Name _____

A Chair for Mom



Group Members: _____

1. What is the problem? State the problem in *your own words*.

Targeted Standard of Learning: History and Social Science 2.9
Supporting Standards of Learning: Science 2.1, 2.8
English 2.3, 2.8, 2.9, 2.11
Mathematics 2.11

Targeted Standards for Technological Literacy: 6, 13
Supporting Standard for Technological Literacy: 8, 9, 11

Name _____

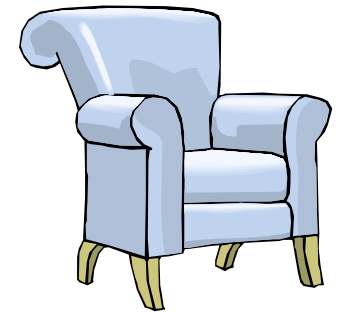


2. Brainstorm solutions.

Draw or describe some possible solutions.

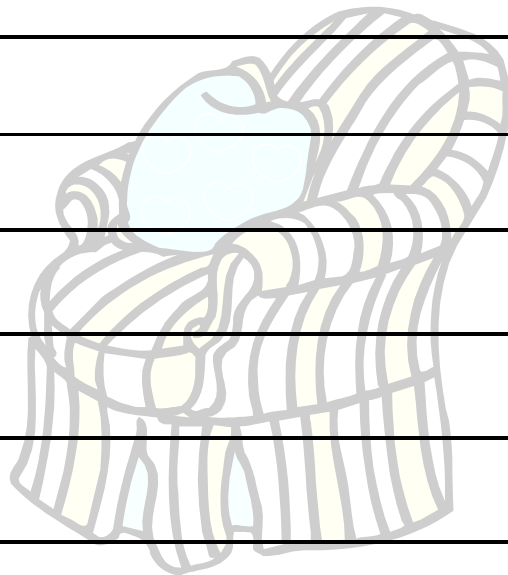
A large graphic organizer consisting of four rounded rectangular boxes arranged in a 2x2 grid. The boxes are connected by a central illustration of a lit lightbulb with radiating lines, symbolizing an idea or solution. The lightbulb is positioned in the center, with lines extending from its base to the four corners of the boxes.

Name _____



3. Create the solution you think is best.

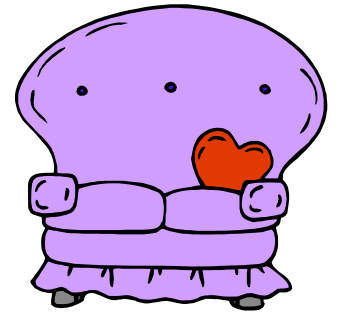
Keep notes below about the problems you have and how you solve them.



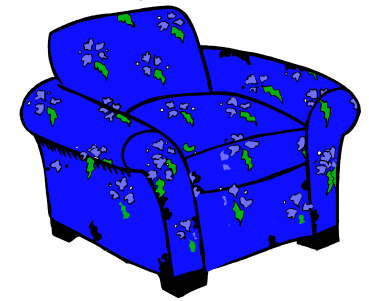
Name _____

4. Test your solution.

- Does your chair have a special feature? YES NO
- Is your chair comfortable and attractive? YES NO
- Is your chair no larger than 12" by 12"? YES NO
- Does your advertisement show and describe the special feature? YES NO
- Is your advertisement neat and colorful? YES NO
- Does your advertisement show the price of the chair? YES NO



Name _____



5. Evaluate your solution.

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

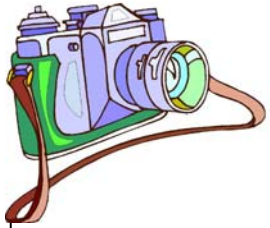
What would you have done differently?

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

Guided Portfolio—6

Name _____

Attach a photograph of your final project here. If you do not have a photograph, draw a picture of your final project.



How would you make your project better? Draw a picture showing how it would look after you have made changes to it.



Rubric for *A Chair For Mom*

Name _____

Date _____

| Design Brief Rubric | no evidence 0 | limited understanding 1 | some understanding with room for improvement 2 | good understanding with room for improvement 3 | substantial understanding 4 |
|---|------------------|----------------------------|---|---|--------------------------------|
| The student restated the problem in his/her own words. | | | | | |
| The student brainstormed more than one idea. | | | | | |
| The student created and labeled a sketch to use as a "blueprint." | | | | | |
| The student included notes about problems that occurred and their solutions. | | | | | |
| The student tested the chair to make sure <ul style="list-style-type: none"> • it was no larger than 12" by 12" • it had a special feature for mom • it was comfortable and attractive. | | | | | |
| The student created an advertisement that <ul style="list-style-type: none"> • showed and described the special feature • stated the cost of the chair • was colorful and neat. | | | | | |
| The student evaluated how he/she could make it better next time. | | | | | |



Rubric for *A Chair For Mom*

Name _____

Date _____



| <p style="text-align: center;">Oral Communication Rubric</p> | <p style="text-align: center;">no evidence 0</p> | <p style="text-align: center;">limited understanding 1</p> | <p style="text-align: center;">some understanding with room for improvement 2</p> | <p style="text-align: center;">good understanding with room for improvement 3</p> | <p style="text-align: center;">substantial understanding 4</p> |
|--|---|---|--|--|---|
| <p>2.1 The student will demonstrate an understanding of oral language structure.</p> <p>a) Create oral stories to share with others. b) Create and participate in oral dramatic activities. c) Use correct verb tenses in oral communication. d) Use increasingly complex sentence structures in oral communication.</p> | | | | | |
| <p>2.2 The student will continue to expand listening and speaking vocabularies.</p> <p>a) Use words that reflect a growing range of interests and knowledge. b) Clarify and explain words and ideas orally. c) Follow oral directions with three or four steps. d) Give three- and four-step directions. e) Identify and use synonyms and antonyms in oral communication.</p> | | | | | |
| <p>2.3 The student will use oral communication skills.</p> <p>a) Use oral language for different purposes: to inform, to persuade, and to entertain. b) Share stories or information orally with an audience. c) Participates as a contributor and leader in a group. d) Summarize information shared orally by others.</p> | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Standards of Learning

English (2002)

Oral Language

- 2.3 The student will use oral communication skills.
- a) Use oral language for different purposes: to inform, to persuade, and to entertain.
 - b) Share stories or information orally with an audience.
 - c) Participate as a contributor and leader in a group.
 - d) Summarize information shared orally by others.

Reading

- 2.8 The student will read and demonstrate comprehension of fiction and nonfiction.
- a) Make predictions about content.
 - b) Read to confirm predictions.
 - c) Relate previous experiences to the topic.
 - d) Ask and answer questions about what is read.
 - e) Locate information to answer questions.
 - f) Describe characters, setting, and important events in fiction and poetry.
 - g) Explain the problem, solution, and main idea.
- 2.9 The student will demonstrate comprehension of information in reference materials.
- a) Use a table of contents.
 - b) Use pictures and charts.
 - c) Use dictionaries and indices.

Writing

- 2.11 The student will write stories, letters, and simple explanations.
- a) Generate ideas before writing.
 - b) Organize writing to include a beginning, middle, and end.
 - c) Revise writing for clarity.
 - d) Use available technology.

History and Social Science (2001)

Economics

- 2.9 The student will explain that scarcity (limited resources) requires people to make choices about producing and consuming goods and services.

Science (2003)

Scientific Investigation, Reasoning, and Logic

- 2.1 The student will conduct investigations in which
- observation is differentiated from personal interpretation, and conclusions are drawn based on observations;
 - observations are repeated to ensure accuracy;
 - two or more attributes are used to classify items;
 - conditions that influence a change are defined;
 - length, volume, mass, and temperature measurements are made in metric (centimeters, meters, liters, degrees Celsius, grams, kilograms) and standard English units (inches, feet, yards, cups, pints, quarts, gallons, degrees Fahrenheit, ounces, pounds);
 - pictures and bar graphs are constructed using numbered axes;
 - unexpected or unusual quantitative data are recognized.
 - simple physical models are constructed;

Resources

- 2.8 The student will investigate and understand that plants produce oxygen and food, are a source of useful products, and provide benefits in nature. Key concepts include
- important plant products (fiber, cotton, oil, spices, lumber, rubber, medicines, and paper);
 - the availability of plant products affects the development of a geographic area; and
 - plants provide homes and food for many animals and prevent soil from washing away.

Mathematics (2001)

Measurement

- 2.11 The student will
- count and compare a collection of pennies, nickels, dimes, and quarters whose total value is \$2.00 or less; and
 - identify the correct usage of the cent symbol (¢), dollar symbol (\$), and decimal point (.

Standards for Technological Literacy

- Standard 6: Students will develop an understanding of the role of society in the development and use of technology.
- Standard 8: Students will develop an understanding of the attributes of design.
- Standard 9: Students will develop an understanding of engineering design.
- Standard 11: Students will develop the abilities to apply the design process.
- Standard 13: Students will develop the abilities to assess the impact of products and systems.