Building a Letter

Based on the book

Albert’s Alphabet by Leslie Tryon

Background: In the book Albert’s Alphabet, Albert designs and builds all the letters of the alphabet, using tools and scraps. A playground and path are then lined with the letters.

Design Challenge: Build a letter of the alphabet that will stand by itself. Be ready to present your work to the class.

Criteria:
■ The letter must be freestanding.
■ It must be made from materials found in the classroom.

Materials: You may select from the items below.
- cardboard
- straight edge
- scrap paper/cloth
- tape
- brads
- hole punch
- boxes
- stapler
- scissors/cutting tools
- wood and wooden dowels
- string
- writing and drawing tools
- glue

Targeted Standard of Learning: English K.7a
Science K.1, K.4, K.10
Mathematics K.10

Targeted Standard for Technological Literacy: 8
Supporting Standards for Technological Literacy: 5, 9, 10, 11, 12
Tips for Teachers

Building a Letter

Targeted Standard of Learning: English K.7a
• The student will identify and name both uppercase and lowercase letters of the alphabet.

Targeted Standard for Technological Literacy: Standard 8
• Students will develop an understanding of the attributes of design.

<table>
<thead>
<tr>
<th>Prior Knowledge &amp; Skill</th>
<th>Materials &amp; Preparation</th>
<th>Safety Issues</th>
<th>Class Management</th>
<th>Materials Provided</th>
<th>Time Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shapes of letters</td>
<td>Albert’s Alphabet by Leslie Tryon</td>
<td>Correct use of cutting tools</td>
<td>Small groups or individual</td>
<td>Design Brief</td>
<td>Session 1 Introducing Design Brief and Portfolio (30 min.)</td>
</tr>
<tr>
<td>Uppercase and lowercase letters</td>
<td>Check Design Brief for suggested materials.</td>
<td>Teacher may substitute materials.</td>
<td></td>
<td>Guided Portfolio (Optional)</td>
<td>Sessions 2 and 3: Building (30 min.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Rubric Assessment</td>
<td>Session 4: Sharing and evaluating</td>
</tr>
</tbody>
</table>
Building a Letter

Group Members: ______________________  ______________________

____________________________  ______________________  ______________________

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

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Targeted Standard of Learning:  English K.7a
Science K.1, K.4, K.10
Mathematics K.10

Targeted Standard for Technological Literacy:  8
Supporting Standards for Technological Literacy:  5, 9, 10, 11, 12
Name ____________________________

2. Brainstorm solutions.
Draw or describe some possible solutions.
3. Create the solution you think is best.
Keep notes below about the problems you have and how you solve them.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
4. Test your solution.

- Is your design based on an alphabet letter?  YES  NO

- Does your letter stand up by itself?  YES  NO

- What letter is your design based on?  

![N](image.png)  ![R](image.png)
Guided Portfolio—5
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 Building a Letter

<table>
<thead>
<tr>
<th>Student Evaluation</th>
<th>no evidence</th>
<th>limited understanding</th>
<th>some understanding with room for improvement</th>
<th>good understanding with room for improvement</th>
<th>substantial understanding</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

### Oral Presentation: The student
- [ ] used complete sentences
- [ ] used descriptive words.

### Guided Portfolio: The student
- [ ] restated the problem
- [ ] brainstormed solutions
- [ ] created a solution
- [ ] tested the solution
- [ ] evaluated the solution.

### Team Skills: The student
- [ ] used appropriate voice
- [ ] encouraged team members
- [ ] listened to team members
- [ ] was involved in all aspects of the project
- [ ] respected team members.

## Tested Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>The design represented a letter of the alphabet.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The letter was freestanding.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The student used materials from the classroom.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Standards of Learning

English (2002)

Oral Language

K.1 The student will demonstrate growth in the use of oral language.
   a) Listen to a variety of literary forms, including stories and poems.
   b) Participate in choral speaking and recite short poems, rhymes, songs, and stories with repeated patterns.
   c) Participate in creative dramatics.
   d) Begin to discriminate between spoken sentences, words, and syllables.
   e) Recognize rhyming words.
   f) Generate rhyming words in a rhyming pattern.

K.2 The student will use listening and speaking vocabularies.
   a) Use number words.
   b) Use words to describe/name people, places, and things.
   c) Use words to describe location, size, color, and shape.
   d) Use words to describe actions.
   e) Ask about words not understood.
   f) Follow one-step and two-step directions.
   g) Begin to ask how and why questions.

K.3 The student will build oral communication skills.
   a) Begin to follow implicit rules for conversation, including taking turns and staying on topic.
   b) Express ideas and needs in complete sentences.
   c) Begin to use voice level, phrasing, and intonation appropriate for language situation.
   d) Listen and speak in informal conversations with peers and adults.
   e) Begin to initiate conversations.
   f) Participate in discussions about books and specific topics.

Reading

K.5 The student will understand how print is organized and read.
   a) Hold print materials in the correct position.
   b) Identify the front cover, back cover, and title page of a book.
   c) Follow words from left to right and top to bottom on a printed page.
   d) Match voice with print: syllables, words, and phrases.

K.6 The student will demonstrate an understanding that print makes sense.
   a) Explain that printed materials provide information.
   b) Identify common signs and logos.
   c) Read ten high-frequency words.
   d) Read and explain own writing and drawings.
**English (2002), continued**

K.7 The student will develop an understanding of basic phonetic principles.
   a) Identify and name both uppercase and lowercase letters of the alphabet.
   b) Match consonant and short vowel sounds to appropriate letters.
   c) Identify beginning consonant sounds in single-syllable words.

K.8 The student will demonstrate comprehension of fiction and nonfiction.
   a) Use pictures to make predictions about content.
   b) Retell familiar stories using beginning, middle, and end.
   c) Discuss characters, setting, and events.
   d) Use story language in discussions and retellings.
   e) Identify what an author does and what an illustrator does.
   f) Identify the topics of nonfiction selections.

**Writing**

K.9 The student will print the uppercase and lowercase letters of the alphabet independently.

K.10 The student will print his/her first and last names.

**Science (2003)**

*Scientific Investigation, Reasoning, and Logic*

K.1 The student will conduct investigations in which
   a) basic properties of objects are identified by direct observation;
   b) observations are made from multiple positions to achieve different perspectives;
   c) objects are described both pictorially and verbally;
   d) a set of objects is sequenced according to size;
   e) a set of objects is separated into two groups based on a single physical attribute;
   f) nonstandard units are used to measure common objects;
   g) a question is developed from one or more observations;
   h) picture graphs are constructed using 10 or fewer units;
   i) an unseen member in a sequence of objects is predicted; and
   j) unusual or unexpected results in an activity are recognized.

*Matter*

K.4 The student will investigate and understand that the position, motion, and physical properties of an object can be described. Key concepts include
   a) colors (red, orange, yellow, green, blue, purple), white, and black;
   b) shapes (circle, triangle, square, and rectangle) and forms (flexible/stiff, straight/curved);
   c) textures (rough/smooth) and feel (hard/soft);
   d) relative size and weight (big/little, large/small, heavy/light, wide/thin, long/short); and
   e) position (over/under, in/out, above/below, left/right) and speed (fast/slow).
### Science (2003) continued

**Resources**

K.10 The student will investigate and understand that materials can be reused, recycled, and conserved. Key concepts include:

- a) materials and objects that can be used over and over again;
- b) everyday materials can be recycled; and
- c) water and energy conservation at home and in school helps preserve resources for future use.

### Mathematics (2001)

**Measurement**

K.10 The student will compare two objects or events, using direct comparisons or nonstandard units of measure, according to one or more of the following attributes: length (shorter, longer), height (taller, shorter), weight (heavier, lighter), temperature (hotter, colder). Examples of nonstandard units include foot length, hand span, new pencil, paper clip, block.

### Standards for Technological Literacy

**Standard 5:** Students will develop an understanding of the effects of technology on the environment.

**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.

**Standard 12:** Students will develop the abilities to use and maintain technological products and systems.