UWM Lesson Plan Template
(adapted from PSOA Art Education Area)

<table>
<thead>
<tr>
<th>Name:</th>
<th>Johanna Groene</th>
<th>Email:</th>
<th><a href="mailto:Jgroene@uwm.edu">Jgroene@uwm.edu</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson Title:</td>
<td>STEAM for the Family</td>
<td># of Sessions</td>
<td>7</td>
</tr>
<tr>
<td>Level/Grade/Age:</td>
<td>3rd-6th</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BIG IDEA
(Describe how the big idea is important to this age group in relation to student assets and the content area):

Because community involvement is so important for at-risk students, these lesson plans were created for Jefferson Elementary’s after-school program for the students and their families. The objective is to involve parents with their children’s education with very low cost “found” materials. Also, having the opportunity to create a “tinker” environment where STEAM (Science, Technology, Art, and Math) are integrated.


<table>
<thead>
<tr>
<th>Art</th>
<th>Other Subjects</th>
</tr>
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<tbody>
<tr>
<td><strong>Creating</strong></td>
<td>Math Common Core State Standards: CC.3.G.1 Reason with shapes and their attributes. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.</td>
</tr>
<tr>
<td>Anchor Standard #1. Generate and conceptualize artistic ideas and work.</td>
<td>CC.7.G.5 Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. Use facts about</td>
</tr>
<tr>
<td>Anchor Standard #2. Organize and develop artistic ideas and work.</td>
<td></td>
</tr>
<tr>
<td><strong>Producing</strong></td>
<td></td>
</tr>
<tr>
<td>Anchor Standard #4. Select, analyze and interpret artistic work for presentation.</td>
<td></td>
</tr>
<tr>
<td>Anchor Standard #5. Develop and refine artistic techniques and work for presentation.</td>
<td></td>
</tr>
<tr>
<td><strong>Responding</strong></td>
<td></td>
</tr>
<tr>
<td>Anchor Standard #9. Apply criteria to evaluate artistic work.</td>
<td></td>
</tr>
<tr>
<td><strong>Connecting</strong></td>
<td></td>
</tr>
<tr>
<td>Anchor Standard #10. Synthesize and relate knowledge and personal experiences to make art.</td>
<td></td>
</tr>
<tr>
<td>Anchor Standard #11. Relate artistic ideas and works with</td>
<td></td>
</tr>
</tbody>
</table>
supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.

CC.7.G.6 Solve real-life and mathematical problems involving angle measure area surface area and volume. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles quadrilaterals polygons cubes and right prisms.

Literacy Common Core Standards
CC.4.SL.5 Presentation of Knowledge and Ideas: Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.

CC.4.SL.6 Presentation of Knowledge and Ideas: Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See grade 4 Language standards 1 and 3 on page 28 for specific expectations.)

CC.5.SL.4 Presentation of Knowledge and Ideas: Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

CC.5.SL.5 Presentation of Knowledge and Ideas: Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

CC.5.SL.6 Presentation of Knowledge and Ideas: Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation. (See grade 5 Language standards 1 and 3 on page 28 for specific
UNIT or LESSON OVERVIEW:

STEAM stand for Science, Technology, Engineering, Art, and Mathematics. Projects vary to promote inductive thinking skills that will result in a wide variety of end-product designs, to deductive thinking skills that instructs students to create similar products using their choice of designs and materials. As students construct their creations, they are encouraged plan, test, and prove designs to the best of their ability.

UNIT or LESSON DETAIL (provide for each lesson session):

Motivation/introduction:
Introduce tinkering, and creating with problem solving. Show/model how fist task could be solved. Model four steps with questions:
- What could your project be used for?
- What problem could your project solve?
- How can you test your project to see how it works?
- How can you improve your project to make it better?

Art Making:
Supplies:
- Found items around the house.
- Makers cart with card board
- String/yarn
- Crayons/markers
- Tape, pipe cleaners
Tin foil straws
Plant leaves, natural elements (twigs, rocks, bark etc.)
Pans for water

**Teacher instruction:**

**Challenge:**
“Design something that floats.” Criteria for success will be based on functionality (floats) and design creativity (art).

Look at materials and voice the thinking process, have students give ideas and test object.
Show the planning handouts and model what might work.
Test the object. Did it work? Why or why not?
What could you improve?

**Objective:**
Introduce the inventor’s thinking process

**Students at work:**
Students and families will pick supplies and attempt first challenge.
(1 hour)

**Closure:**
Have students and family come back and show what they’ve done and what they learned, also how they would improve.

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**UWM Lesson Plan Template**
(adapted from PSOA Art Education Area)

| **ADAPTATIONS:** | Have pre-made tin foil floatation “boats” for families that have younger children or that are truly struggling. |
| **RELEVANT THEORIES:** | Seymour Papert’s Constructionism
John Dewey wrote of the importance of creating meaningful experiences for students from which knowledge emerges. [Democracy and Education](https://example.com) (1916),

Seymour Papert’s constructionism is also rooted in the social experience. “Important concepts are consciously engaged and public entity. Constructionism is not just learning-by-doing, but engaging reflexively and socially in the task. Both the creation process and the produced artifacts ought to be socially shared.” [A Journey into Constructivism](https://example.com) Dougiamas, M. (1998). |
| **ASSESSMENTS:** | Initial (formal/informal):
The students and families are talking between them and planning.  

Progressive/Formative (formal/informal):
They follow through with each step-in planning, designing, executing, and reflecting.  

Final/Summative (formal/informal):
End product will be reflective of planning and reflection. |
EVIDENCE
• If you have implemented this lesson, please include reflections on how it went and/or samples of student work (artifacts).

TEACHER REFLECTIONS ON IMPLEMENTATION
Include student reactions, what worked/what didn’t work, how you would revise the lesson, etc.

This process took a long time, some families took their time, some just glued a bunch of stuff together. Those families required teacher intervention and model the asking and the designing together them starting on their next model.

I was surprised by the thoughtfulness of the parent/student teams as most families truly enjoyed unbridled creativity.
I will give more work time.

STUDENT WORK SAMPLES (ARTIFACTS)

BIG IDEA
(Describe how the big idea is important to this age group in relation to student assets and the content area):
Because community involvement is so important for at-risk students, these lesson plans were created for Jefferson Elementary’s after-school program for the students and their families. The objective is to involve parents with their children’s education with very low cost “found” materials. Also, having the opportunity to create a “tinker” environment where STEAM (Science, Technology, Art, and Math) are integrated.
### Lesson 2

**OBJECTIVES AND NATIONAL STANDARDS:** [http://www.nationalartsstandards.org/](http://www.nationalartsstandards.org/)

<table>
<thead>
<tr>
<th>Art</th>
<th>Other Subjects</th>
</tr>
</thead>
</table>
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Anchor Standard #1. Generate and conceptualize artistic ideas and work.  
Anchor Standard #2. Organize and develop artistic ideas and work.  
**Producing**  
Anchor Standard #4. Select, analyze and interpret artistic work for presentation.  
Anchor Standard #5. Develop and refine artistic techniques and work for presentation.  
**Responding**  
Anchor Standard #9. Apply criteria to evaluate artistic work.  
**Connecting**  
Anchor Standard #10. Synthesize and relate knowledge and personal experiences to make art.  
Anchor Standard #11. Relate artistic ideas and works with societal, cultural and historical context to deepen understanding. | Math Common Core State Standards:  
CC.3.G.1 Reason with shapes and their attributes. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.  
CC.7.G.5 Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.  
CC.7.G.6 Solve real-life and mathematical problems involving angle measure area surface area and volume. Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms.  
Literacy Common Core Standards  
CC.4.SL.5 Presentation of Knowledge and Ideas: Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.  
CC.4.SL.6 Presentation of Knowledge and Ideas: Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See grade 4 Language standards 1 and 3 on page 28 for specific expectations.)  
CC.5.SL.4 Presentation of Knowledge and Ideas: Report on a topic or text or present an opinion, sequencing ideas |
logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
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ACADEMIC LANGUAGE TO BE INTRODUCED THROUGHOUT LESSON:

<table>
<thead>
<tr>
<th>Academic language to be used:</th>
<th>Mathematics, Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Imaginative, Inductive, Deductive</td>
</tr>
</tbody>
</table>

Where academic language will be practiced (i.e. through writing, speaking, art making):

| In the planning process with family, when presenting project. |

LANGUAGE FUNCTION USED THROUGHOUT LESSON:

<table>
<thead>
<tr>
<th>Type of language function:</th>
<th>Inform</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Analyze</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emphasis of language function (describe the main purpose of using this language function for your lesson):</th>
<th>Making claims • Making predictions • Asking Informational Questions • Asking Clarifying Questions</th>
</tr>
</thead>
</table>

| Where language function will be practiced (i.e., through writing, speaking, art making): | Orally, art making |

UNIT or LESSON DETAIL (provide for each lesson session):

| Motivation/introduction: | Introduce tinkering, and creating with problem solving. Show/model how fist task could be solved. Model four steps with questions: What could your project be used for? What problem could your project solve? How can you test your project to see how it works? How can you improve your project to make it better? |

Art Making:  
Supplies:  
- Found items around the house.  
- Makers cart with cardboard  
- String/yarn  
- Crayons/markers  
- Tape, pipe cleaners  
- Tin foil  
- Bags of candy pieces  
- straws  
- Plant leaves, natural elements (twigs, rocks, bark etc.)  
- Pans for water  
- Garbage bags  

**Teacher instruction:**  
**Challenge:**  
“Create something Useful that includes Candy”  
Remind students about the planning sheet (see below)  
Show the planning handouts and model what might work.  
Test the object. Did it work? Why or why not?  
What could you improve?  

Objective:  
Reinforce the inventor’s thinking process  

Students at work:  
Students and families will pick supplies and attempt first challenge.  
(1 hour)  

Closure:  
Have students and family come back and show what they’ve done and what they learned, also how they would improve.  

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**UWM Lesson Plan Template** *(adapted from PSOA Art Education Area)*  

<table>
<thead>
<tr>
<th>ADAPTATIONS:</th>
<th>Assist as needed for capacity or language issues.</th>
</tr>
</thead>
</table>
| **RELEVANT THEORIES:** | Seymour Papert’s Constructionism  
John Dewey wrote of the importance of creating meaningful experiences for students from which knowledge emerges. *Democracy and Education* (1916),  
Seymour Papert’s constructionism is also rooted in the social experience. “Important concepts are *consciously engaged* and *public entity*. Constructionism is not just learning-by-doing, but engaging reflexively and socially in the task. Both the creation process and the produced artifacts ought to be socially shared.” *A Journey into Constructivism* Dougiamas, M. (1998). |
| **ASSESSMENTS:** | Initial (formal/informal):  
The students and families are talking between them and planning.  
Progressive/Formative (formal/informal):  
They follow through with each step-in planning, designing, executing, and reflecting. |
Final/Summative (formal/informal):
End product will be reflective of planning and reflection.

EVIDENCE
- If you have implemented this lesson, please include reflections on how it went and/or samples of student work (artifacts).

TEACHER REFLECTIONS ON IMPLEMENTATION
Include student reactions, what worked/what didn’t work, how you would revise the lesson, etc.
I’m not sure if anything got built, most of it was eaten.

STUDENT WORK SAMPLES (ARTIFACTS)
“Apple holder”
UNIT or LESSON OVERVIEW:
STEAM stand for Science, Technology, Engineering, Art, and Mathematics. Projects vary to promote inductive thinking skills that will result in a wide variety of end-product designs, to deductive thinking skills that instructs students to create similar products using their choice of designs and materials. As students construct their creations, they are encouraged plan, test, and prove designs to the best of their ability.

UNIT or LESSON DETAIL (provide for each lesson session):

<table>
<thead>
<tr>
<th>Motivation/introduction:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduce tinkering, and creating with problem solving. Show/model how fist task could be solved. Model four steps with questions:</td>
</tr>
<tr>
<td>What could your project be used for?</td>
</tr>
<tr>
<td>What problem could your project solve?</td>
</tr>
<tr>
<td>How can you test your project to see how it works?</td>
</tr>
<tr>
<td>How can you improve your project to make it better?</td>
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</tbody>
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<table>
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<tr>
<th>Art Making:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplies:</td>
</tr>
<tr>
<td>Found items around the house.</td>
</tr>
<tr>
<td>Makers cart with card board</td>
</tr>
<tr>
<td>String/yarn</td>
</tr>
<tr>
<td>Crayons/markers</td>
</tr>
<tr>
<td>Tape, pipe cleaners</td>
</tr>
<tr>
<td>Tin foil</td>
</tr>
<tr>
<td>straws</td>
</tr>
<tr>
<td>Plant leaves, natural elements (twigs, rocks, bark etc.)</td>
</tr>
<tr>
<td>Pans for water</td>
</tr>
<tr>
<td>T-shirts(cut up)</td>
</tr>
<tr>
<td>Garbage bags</td>
</tr>
<tr>
<td>Teacher instruction:</td>
</tr>
<tr>
<td>Challenge-</td>
</tr>
<tr>
<td>“Create something useful that you can wear”</td>
</tr>
<tr>
<td>Remind students about the planning sheet (see below)</td>
</tr>
<tr>
<td>Show the planning handouts and model what might work.</td>
</tr>
<tr>
<td>Test the object. Did it work? Why or why not?</td>
</tr>
<tr>
<td>What could you improve?</td>
</tr>
<tr>
<td>Objective:</td>
</tr>
<tr>
<td>Reinforce the inventor’s thinking process</td>
</tr>
<tr>
<td>Students at work:</td>
</tr>
<tr>
<td>Students and families will pick supplies and attempt first challenge.</td>
</tr>
<tr>
<td>(1 hour)</td>
</tr>
<tr>
<td>Closure:</td>
</tr>
<tr>
<td>Have students and family come back and show what they’ve done and what they learned, also how they would improve.</td>
</tr>
</tbody>
</table>
ADAPTATIONS: Have pre-made t shirt cut up to make scarfs if needed.

RELEVANT THEORIES: Seymour Papert’s Constructionism
John Dewey wrote of the importance of creating meaningful experiences for students from which knowledge emerges. *Democracy and Education* (1916),

Seymour Papert’s constructionism is also rooted in the social experience. “Important concepts are consciously engaged and public entity. Constructionism is not just learning-by-doing, but engaging reflexively and socially in the task. Both the creation process and the produced artifacts ought to be socially shared.” *A Journey into Constructivism* Dougiamas, M. (1998).

ASSESSMENTS: Initial (formal/informal): The students and families are talking between them and planning.

Progressive/Formative (formal/informal): They follow through with each step-in planning, designing, executing, and reflecting.

Final/Summative (formal/informal): End product will be reflective of planning and reflection.

EVIDENCE
- If you have implemented this lesson, please include reflections on how it went and/or samples of student work (artifacts).

TEACHER REFLECTIONS ON IMPLEMENTATION
*Include student reactions, what worked/what didn’t work, how you would revise the lesson, etc.*

This time the families were more equipped and got into problem solving, more used the planning handout. This was a much easier task and families made several wearable items.

STUDENT WORK SAMPLES (ARTIFACTS)
Lesson 4

UNIT or LESSON OVERVIEW:

STEAM stand for Science, Technology, Engineering, Art, and Mathematics. Projects vary to promote inductive thinking skills that will result in a wide variety of end-product designs, to deductive thinking skills that instruct students to create similar products using their
choice of designs and materials. As students construct their creations, they are encouraged plan, test, and prove designs to the best of their ability.

UNIT or LESSON DETAIL (provide for each lesson session):

Motivation/introduction:

Introduce tinkering and creating with problem solving. Show/model how fist task could be solved. Model four steps with questions:
What could your project be used for?
What problem could your project solve?
How can you test your project to see how it works?
How can you improve your project to make it better?

Art Making:

Supplies:
Found items around the house.
Makers cart with cardboard
String/yarn
Crayons/markers
Tape, pipe cleaners
Tin foil
straws
Plant leaves, natural elements (twigs, rocks, bark etc.)
Pans
water

Teacher instruction:

Challenge-
“Create a musical instrument”
Look at materials and voice the thinking process, have students give ideas and test object.
Show the planning handouts and model what might work.
Test the object. Did it work? Why or why not?
What could you improve?

Objective:
Introduce the inventor’s thinking process

Students at work:
Students and families will pick supplies and attempt first challenge.
(1 hour)

Closure:
Have students and family come back and show what they’ve done and what they learned, also how they would improve.

UWM Lesson Plan Template (adapted from PSOA Art Education Area)

ADAPTATIONS:
Give students ideas for “easier” projects-tambourine, etc. For English Learners talk about maracas, and other instruments from their culture.

RELEVANT THEORIES:
Seymour Papert’s Constructionism
John Dewey wrote of the importance of creating meaningful experiences for students from which knowledge emerges. *Democracy and Education* (1916), 

Seymour Papert’s constructionism is also rooted in the social experience. “Important concepts are consciously engaged and public entity. Constructionism is not just learning-by-doing, but engaging reflexively and socially in the task. Both the creation process and the produced artifacts ought to be socially shared.” *A Journey into Constructivism, Dougias, M.* (1998).

ASSESSMENTS:
Initial (formal/informal):
The students and families are talking between them and planning.

Progressive/Formative (formal/informal):
They follow through with each step-in planning, designing, executing, and reflecting.

Final/Summative (formal/informal):
End product will be reflective of planning and reflection.

EVIDENCE
• If you have implemented this lesson, please include reflections on how it went and/or samples of student work (artifacts).

TEACHER REFLECTIONS ON IMPLEMENTATION
This was fun, kids were making music from pans of water, drum sticks and string bead music.
Lesson 5

UNIT or LESSON OVERVIEW:
STEAM stand for Science, Technology, Engineering, Art, and Mathematics. Projects vary to promote inductive thinking skills that will result in a wide variety of end-product designs, to deductive thinking skills that instructs students to create similar products using their choice of designs and materials. As students construct their creations, they are encouraged plan, test, and prove designs to the best of their ability.

UNIT or LESSON DETAIL (provide for each lesson session):

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</tr>
</thead>
<tbody>
<tr>
<td>Art Making:</td>
<td>Supplies: Found items around the house. Makers cart with card board String/yarn Crayons/markers</td>
</tr>
</tbody>
</table>
**Teacher instruction:**

**Challenge:**
“Create an Object that Can Move”

Remind students about the planning sheet (see below)
Show the planning handouts and model what might work.
Test the object. Did it work? Why or why not?
What could you improve?

**Objective:**
Reinforce the inventor’s thinking process

**Students at work:**
Students and families will pick supplies and attempt first challenge.
(1 hour)

**Closure:**
Have students and family come back and show what they’ve done and what they learned, also how they would improve.

---

**UWM Lesson Plan Template** *(adapted from PSOA Art Education Area)*

### ADAPTATIONS:

Have obvious “wheels” constructed ahead of time. Show picture instructions for EL families.

### RELEVANT THEORIES:

Seymour Papert’s Constructionism
John Dewey wrote of the importance of creating meaningful experiences for students from which knowledge emerges. *Democracy and Education* (1916),

Seymour Papert’s constructionism is also rooted in the social experience. “Important concepts are consciously engaged and public entity. Constructionism is not just learning-by-doing, but engaging reflexively and socially in the task. Both the creation process and the produced artifacts ought to be socially shared.” *A Journey into Constructivism* Dougiamas, M. (1998).

### ASSESSMENTS:

Initial (formal/informal):
The students and families are talking between them and planning.

Progressive/Formative (formal/informal):
They follow through with each step-in planning, designing, executing, and reflecting.

Final/Summative (formal/informal):
End product will be reflective of planning and reflection.
EVIDENCE
• If you have implemented this lesson, please include reflections on how it went and/or samples of student work (artifacts).

TEACHER REFLECTIONS ON IMPLEMENTATION
Include student reactions, what worked/what didn’t work, how you would revise the lesson, etc.

This time the families were more equipped and got into problem solving, more used the planning handout. This was a much easier task and families made several wearable items.

STUDENT WORK SAMPLES (ARTIFACTS)
Cardboard airplane

Lesson 6
UNIT or LESSON DETAIL (provide for each lesson session):
  Motivation/introduction:
Introduce tinkering, and creating with problem solving. Show/model how first task could be solved. Model four steps with questions:
What could your project be used for?
What problem could your project solve?
How can you test your project to see how it works?
How can you improve your project to make it better?

Art Making:
Supplies:
Found items around the house.
Makers cart with card board
String/yarn
Crayons/markers
Tape, pipe cleaners
Tin foil
straws
Plant leaves, natural elements (twigs, rocks, bark etc.)
Paper towel rolls
Toilet paper roles
Garbage bags
Marbles
beans

Teacher instruction:
Challenge—
“Create something useful out of paper goods”
Remind students about the planning sheet (see below)
Show the planning handouts and model what might work.
Test the object. Did it work? Why or why not?
What could you improve?

Objective:
Reinforce the inventor’s thinking process

Students at work:
Students and families will pick supplies and attempt first challenge.
(1 hour)

Closure:
Have students and family come back and show what they’ve done and what they learned, also how they would improve.

UWM Lesson Plan Template (adapted from PSOA Art Education Area)

ADAPTATIONS:
Assist with language or capacity issues as needed.

RELEVANT THEORIES:
Seymour Papert’s Constructionism
John Dewey wrote of the importance of creating meaningful experiences for students from which knowledge emerges. *Democracy and Education* (1916),

Seymour Papert’s constructionism is also rooted in the social experience. "Important concepts are consciously engaged and public entity."
Constructionism is not just learning-by-doing, but engaging reflexively and socially in the task. Both the creation process and the produced artifacts ought to be socially shared. “A Journey into Constructivism, Dougiamas, M. (1998).

ASSESSMENTS:

Initial (formal/informal):
The students and families are talking between them and planning.

Progressive/Formative (formal/informal):
They follow through with each step in planning, designing, executing, and reflecting.

Final/Summative (formal/informal):
End product will be reflective of planning and reflection.

EVIDENCE

• If you have implemented this lesson, please include reflections on how it went and/or samples of student work (artifacts).

TEACHER REFLECTIONS ON IMPLEMENTATION

Include student reactions, what worked/what didn’t work, how you would revise the lesson, etc.

This was a hard task- lots wanted to make a maze. I pushed them to see how it could be useful.

STUDENT WORK SAMPLES (ARTIFACTS)

Toilet paper phones
Lesson 7

UNIT or LESSON DETAIL (provide for each lesson session):

Motivation/introduction:
Introduce tinkering, and creating with problem solving. Show/model how first task could be solved. Model four steps with questions:
What could your project be used for?
What problem could your project solve?
How can you test your project to see how it works?
How can you improve your project to make it better?

Art Making:

Supplies:
- Found items around the house.
- Makers cart with cardboard
- String/yarn
- Crayons/markers
- Tape, pipe cleaners
- Tin foil
- Straws
- Plant leaves, natural elements (twigs, rocks, bark etc.)
- Pans for water
- T-shirts (cut up)
- Garbage bags

Teacher instruction:
Challenge-
“Create a gift for someone you love.”
Remind students about the planning sheet (see below)
Show the planning handouts and model what might work.
Test the object. Did it work? Why or why not?
What could you improve?

Objective:
Reinforce the inventor’s thinking process

Students at work:
Students and families will pick supplies and attempt first challenge.
(1 hour)

Closure:
Have students and family come back and show what they’ve done and what they learned, also how they would improve.

**UWM Lesson Plan Template (adapted from PSOA Art Education Area)**

**ADAPTATIONS:**
Have pre-made t shirt cut up to make scarfs if needed.

**RELEVANT THEORIES:**
Seymour Papert’s Constructionism
John Dewey wrote of the importance of creating meaningful experiences for students from which knowledge emerges. *Democracy and Education* (1916),

Seymour Papert’s constructionism is also rooted in the social experience. "Important concepts are consciously engaged and public entity. Constructionism is not just learning-by-doing, but engaging reflexively and socially in the task. Both the creation process and the produced artifacts ought to be socially shared." *A Journey into Constructivism* Dougiamas, M. (1998).

**ASSESSMENTS:**
Initial (formal/informal):
The students and families are talking between them and planning.

Progressive/Formative (formal/informal):
They follow through with each step-in planning, designing, executing, and reflecting.

Final/Summative (formal/informal):
End product will be reflective of planning and reflection.

**EVIDENCE**
- If you have implemented this lesson, please include reflections on how it went and/or samples of student work (artifacts).

**TEACHER REFLECTIONS ON IMPLEMENTATION**
Include student reactions, what worked/what didn’t work, how you would revise the lesson, etc.

This was the most fun lesson- the students got really creative.

**STUDENT WORK SAMPLES (ARTIFACTS)**
Keychains for mom and dad.