

Ancient Lantern

Overall aims:

- Explore the principle no 2 of a circular economy: keep materials in use
- Explore the concept of absorption
- Explore the concept of combustion
- Make predictions
- Enhance fine motor confidence
- Promote entrepreneurship
- Identify opportunities to repurpose materials
- Develop fire safety skills

2 Vocabulary - keywords

Combustion, absorption, ancestral

3 Sustainable abilities developed

- Systems thinking
- Anticipatory competency
- Normative competency:
- Strategic competency:
- Collaboration
- Critical thinking
- Self-awareness

4 Pillars of sustainability included

- Economic
- Ecological
- Social

5 STEAM domains

Science, Technology, Arts, Engineering, Math

6 Teaching methodologies/activity outline

The teacher designates a documentarian.



	<p>The teacher activates prior knowledge by asking the children about how they light up spaces during hours of darkness. The teacher guides a discussion around providing light before humans invented controlled electrical systems. What did we use? What are candles made of? What did we burn?</p> <p>Using stories/digital resources, the teacher explains to the children that 2000 years ago, humans burned olive oil to light up spaces during hours of darkness.</p> <p>The educator uses the NASA best engineering model as a framework for the project ASK - children identify the problem, requirements that must be met, and constraints that must be considered.</p> <p>IMAGINE - children brainstorm solutions and research ideas. They also identify what others have done.</p> <p>PLAN - children choose two to three of the best ideas from their brainstormed list and sketch possible designs, ultimately choosing a single design to prototype.</p> <p>CREATE - children build a working model, or prototype, that aligns with design requirements and that is within design constraints.</p> <p>TEST - children evaluate the solution through testing; they collect and analyse data; they summarize strengths and weaknesses of their design that were revealed during testing.</p> <p>IMPROVE- Based on the results of their tests, children make improvements on their design. They also identify changes they will make and justify their revisions.</p> <p>At the ASK stage, constraints include designing out waste and pollution and keeping materials in use, therefore all materials must come from the setting, children's homes, freecycle sites and/or charity shops.</p>
7	<h2>Expected learning outcomes</h2> <p>The child will be able to:</p> <ul style="list-style-type: none"> ● design and build the Lantern ● explain its purpose ● explain the design and build ● discuss the trouble shooting process ● learn from mistakes ● assess the lantern's effectiveness ● Explain absorption ● Explain combustion
8	<h2>Assessment</h2> <p>Find "teachable moments" to suggest delve deeper into the lives of the children's ancestors. How did they cook? what did they cook? Where did they get food from? Where did they get clothes from? What did they play with?</p>



9	Equipment and materials to be used in learning unit (tools, ingredients etc) jars, string, olive oil, clay, reeds from the garden, bamboo stick, a flint, matches
10	Kind of setting - lab, kitchen, outdoor etc. Indoors or outdoors,
11	References - source: https://joybileefarm.com/olive-oil-lamp/

