MAKER ED PRESENTS

LEARNING IN THE MAKING

HOW TO MAKE A LANTERN

INTRODUCTION

Jack-o-lanterns. Flying lanterns. Paper lanterns. There are so many different lanterns that can be found around the world. Not only do lanterns look beautiful, they are often times used to celebrate cultural traditions. If you live in the United States, you have probably made a jack-o-lantern for Halloween. In Hindu culture, a Kandeel lantern is used during Diwali, the Festival of Lights. In Chinese, Vietnamese, and Japanese cultures, lanterns are used in cultural celebrations such as the Mid-Autumn Festival. This festival is a celebration of the moon and the Autumn harvest.

What other types of lanterns can you think of?

YOUR CHALLENGE

Use the design process to create a lantern.

In this challenge you will:

- Test some construction strategies
- Design a lantern that will fit a light source

Tools & Materials of Making

Get creative and use whatever materials you have available.

Here are some suggestions to start with:

- **Translucent paper or film:** parchment, tissue paper, cellophane, plastic wrap
- **Structural support/frame:** straws, sticks, metal hangers, skewers, pipe cleaners
- **Connection materials:** tape, glue, putty, binder clips, paper clips, etc.
- **Optional Embellishing materials**: glitter, stickers, drawings
- **Optional Holding/Hanging:** strings, stick, pipe cleaners
- **Optional Light Source:** flashlight, candle, led circuit, cellphone, lamp

BRAINSTORM & PLAN

Your lantern will need a support structure or frame.

- Choose a shape: What 3D shapes can you think of?
- Sketch a simple design of your lantern's frame. Remember to include a space for your light source!

Try these from Around the World L or paper lanterns from Oh Happy Day

Subject

Design

Standards

CCSS
CONTENT.1.G.A.2

Grades

K-2nd
3-5th
6-8th
9-12th

Key Terms

Lantern
Geometric Shape
Prototype
Iterate
Circuit

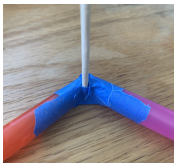
The Mid-Autumn festival is typically celebrated with mooncakes, songs, dances, lots of food and of course, lanterns!

Watch the video here: https://bit.ly/33Fk3dX

ACTIVITY INSTRUCTIONS

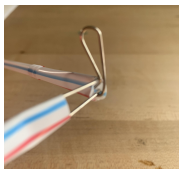
EXPLORE AND CONSTRUCT A FRAME

Try out these connection materials, which works best for your design?

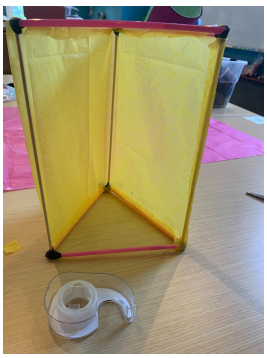

Tape

Putty

Glue


Paperclips

Using your connection strategy, construct your **prototype.** Test the strength or durability. Make sure your structure doesn't fall apart. Can it stand on its own?

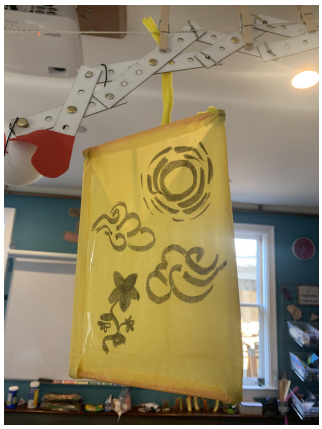


ITERATE AND COVER

How can you improve your design or make it stronger? Add your changes. Now that your frame is built, you need to give your lantern a cover. How much material will you need?

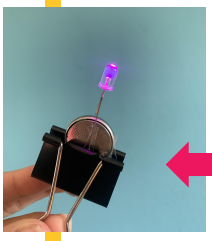
Option 1: Trace each side of your frame onto your cover material
Option 2: calculate the surface area

Lastly, add your cover material using a connection strategy.



EMBELLISH AND PUT IT INTO ACTION!

Give your lantern a unique look. Add drawings, stickers, stamps, beads, glitter, or any other decorating materials you have. Then hang it up, add your light source, or both!



REFLECT

What are some cultural traditions you celebrate by making?

How would using different materials change the look, feel, and strength of your lantern?

Helpful Tip: Some of the most common 3D **geometric shapes** used for structures are: pyramids, cubes, rectangular prisms, cylinders

A **prototype** is a model that engineers use to test how a design works.

To **iterate** is to try something, adjust, and repeat to improve.

Extra Credit! Build your own **circuit** for your light source.

A **circuit** is a path around which electricity flows.

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For more resources, visit us: makered.org