TEKS - Math: Data Collection (1.8B) and Measurement (1.7A) & Data Collection (3.8A) and Measurement (2.9D)

# Catapults

WHAT: Catapults were devices created in Ancient Greece that used a wooden arm (lever mechanism) to hurl large objects through the air.



**YOUR CHALLENGE:** Using the materials provided, can you design a new and more efficient system to propel different objects?

#### CAN YOU:

- Test your catapult by seeing how far it can propel a ping pong ball?
- → Record the distance?



Post your best of three attempts?

Modify your design and see if you can beat your best attempt?



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https://upload.wikimedia.org/wikipedia/commons/2/25/Steinschleuder-catapult.jpg

TEKS - ELA: Writing/Literary Texts (4.16B) Science: Force, Motion & Energy (4.6 A, B, C)

# **Concrete Poems & Paper Circuits**

**WHAT:** Concrete Poems are written to take the shape of poem's topic. And paper circuits are self-designed simple or complex circuits



made of cardstock, copper tape, a 3V battery, and LEDs.

**YOUR CHALLENGE:** Create a simple circuit to enhance a concrete poem.

#### CAN YOU:

- → Write your own short poem on a piece of scratch paper using one or more examples of figurative language: alliteration, simile, personification, metaphor, hyperbole, onomatopoeia, idioms.
- → Consider which word or area of words you would like to light up.
   → Create an arrangement or design on fresh paper using the words of your poem (concrete poem).
   → Using copper tape (sticky on one side) and LEDs, design a simple circuit to bring your poem to life.





TEKS - Science: Force, Motion & Energy (3.6 A) and Music: - Create Rhythmic Phrases (3.4A)

# DIY Instrument with MaKey MaKey

**WHAT:** MaKey MaKey works by creating simple circuits connected to an input (space key, up arrow key). Control the computer by turning conductive objects like fruit, tin foil, and water into a touch pad, mouse or keyboard.

#### YOUR CHALLENGE: Use

conductive materials to design your own instruments and create an original piece of music. (http://makeymakey.com/piano/)

#### CAN YOU:

Make yourself into an instrument?



- Create a song?
- Make a friend part of your instrument?
- Make an instrument using all of your friends?



TEKS - Science: Force, Motion & Energy (1.6B)

## Magnetic Magic Puppet Show North

**WHAT:** Magnets have a north pole and a south pole. When the same poles are pointed towards each other, they repel (push away), what happens when opposite poles are pointed towards each other?

#### YOUR CHALLENGE:

Design your own set of puppet characters to tell a story. Attach one magnet to the back of each puppet and use another magnet to move the character around.





#### CAN YOU:

- Build a set for your puppets?
- Move your puppets using your magnet?
  Act out your story for the group?

ttp://premeditatedleftovers.com/naturally-frugal-mom/how-magnets-work-kids-ocean-experiment/

TEKS: Art 2(C)

# **Color Mixing Monster Mash-Up**

**WHAT:** Stop motion animation is where you take many photos of objects or characters and string them together into a movie. Each time you take a picture,

you'll move the character or object just a tiny amount. The voice recording feature even lets you narrate the story once you're done filming.

**YOUR CHALLENGE:** Explore primary and secondary colors through creating your own stop motion animation on an iPad.

#### CAN YOU:

Create two monsters out of primary colors? Make sure to add eyes!





- Take between 35-50 photos -moving the monsters just a little tiny bit each time.
- → Have your monsters move toward each other in a creative way and slowly mix into a secondary color?
   → Add a voice narration at the end?



Hint: when the monsters start mixing, take the eyes out and then put them back on once the new monster is formed.



# **Stop Motion Studio Pro Tips**

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AWB

AE

AF

Onion skin feature allows you to view hint of previous image (frame).

Go back to

export your

projects

video

Make your characters small. They will look big on screen!

Camera button

Playback



per second: the higher the number, the faster your movie will be.

#### Record audio/narration. Will give a 3 second countdown.

#### Timeline: shows all of your images (frames) taken.

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Holding your finger down on a frame reveals a variety of tools, including delete one frame.

# Selfie Gorner

## Take a minute to share what...







## Scared you!

## Perplexed you!



#### **Be sure to include**

### pired you!

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