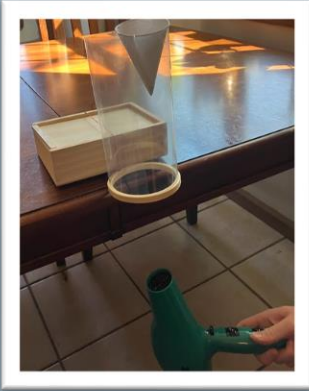




Makeshift *museum*

Empowering families to engineer mini-STEAM exhibits right in their homes. With these mini-exhibits, children are learning powerful skills they would experience at a children's museum.

WHAT ARE WE LEARNING?



Children investigate how materials interact with wind direction and speed using a makeshift wind tunnel.

MATERIALS PROVIDED

- Embroidery Ring
- 2 Transparency Film Sheets
- Paper Cones
- Coffee Filters
- Rubber Band

MATERIALS NEEDED

- Fan or Hair Dryer

STEP ONE

Twist the embroidery hoop so that the outer loop loosens

STEP TWO

Turn the transparency sheet horizontally and place it in between the hoop.

STEP THREE

Place the second transparency sheet in so there is no gap.

STEP FOUR

Attach the rubber band to the embroidery hoop hardware and wrap the rubber band around a heavy object. Set it on the edge of the table



WHAT ARE WE LEARNING?

Children investigate how materials interact with wind direction and speed with a parachute.

MATERIALS PROVIDED

- Army Guy
- 2 strands of string
- Coffee Filter
- Tape

MATERIALS NEEDED

- Scissors

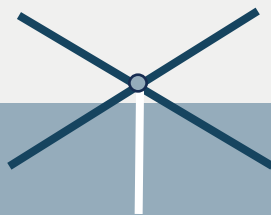
STEP ONE

Make 4 holes at the edge of the coffee filter.



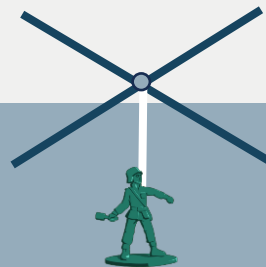
STEP TWO

Criss cross the two longer pieces of string and tie the shorter string onto the criss crossed section.



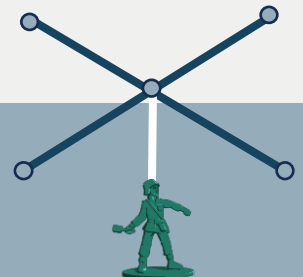
STEP THREE

Take the short string and tie end piece of string to the figurine.



STEP FOUR

Tie the four ends of the string to the coffee filter. Then throw the parachute up in the air.



Make-shift *museum*

MAKING A LIGHT TABLE

WHAT ARE WE LEARNING?

Children explore how light energy travels, and changes with a light table and translucent manipulatives. With the light table, children can investigate the fundamentals of light through construction, problem solving and dramatic play.

MATERIALS PROVIDED

- Cereal Box
- 6 Tape Dots
- Tissue Paper
- Translucent Sheet

MATERIALS NEEDED

- Christmas Lights or Phone Flashlight



STEP ONE

Cut out a large rectangle on the top surface of your cereal box.

STEP TWO

Tape 2 pieces of tissue paper and put it in the protective sleeve.

STEP THREE

Tape the protective sheet inside the box.

STEP FOUR

Put the Christmas lights or Phone into the cereal box and turn it on.

Make-shift *museum*

MAKING A LITE BRITE

WHAT ARE WE LEARNING?

Children create designs using different colored pegs on their cardboard lite brite as they explore light and color. Using hand-eye coordination, grip, color naming, and color matching, children use their creativity to make beautiful patterns glow.

MATERIALS PROVIDED

- Sticky Black Foam Sheet
- Box
- Pegs
- Poking Stick

MATERIALS NEEDED

- Phone Flashlight

STEP ONE

Peel the back off the sticky black foam sheet.

STEP TWO

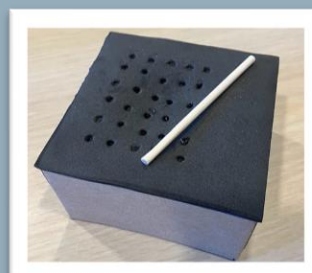
Place the black foam sheet on the top of the box. Stretch it tight as best you can.

STEP THREE

Use the poking stick and poke holes in a grid pattern.

STEP FOUR

Place the pegs into the black sheet foam holes and place a phone flashlight under.



WHAT ARE WE LEARNING?

Children investigate how to turn potential energy into kinetic energy when they add the force of air. With the rocket launcher, kids can discover what can cause their rocket to shoot up in the air and ways to adjust their rocket for longer launches.

MATERIALS PROVIDED

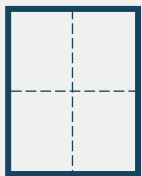
- 2 pieces of paper
- Straws
- 3 tape dots

MATERIALS NEEDED

- Scissors

STEP ONE

Cut the paper into quarter rectangles.



STEP TWO

Take one of the quarter sheets and roll it around the straw. Then tape it.

STEP THREE

Tape the top of the tube shut. Cut out the triangles and tape it to the bottom of the tube.

STEP FOUR

Place your rocket on the end of your straw. Blow on the straw and watch it launch.



Watch an example of how to launch a rocket.



WHAT ARE WE LEARNING?



Children engineer a popular toy found in children's museums and stores. Marble runners are a great way for kids to learn velocity, direction, and speed by manipulating the design of a marble runner.

MATERIALS PROVIDED

- Marbles
- Paper Plates with outlines
- Paper Towel Tubes
- Cardboard Base
- 5 Tape dots

MATERIALS NEEDED

- Scissors

STEP ONE

Use the paper towel tube to trace circles in all the plates and cardboard base. Then cut out the holes.

STEP TWO

Put the Paper Towel Tube through two plates. Then separate the ends of the plates together.

STEP THREE

Continue step two until all the plates are taped together.

STEP FOUR

Place the marble at the top of the marble runner and watch it roll down.



Watch an example of how to build a rocket launcher

