

Noodle and Marshmallow Construction

The possibilities of this station are truly endless. Your challenge is to build using only noodles and marshmallows as your materials.

You can structure this as open exploration or give a challenge or give a challenge with a time limit.

Examples:

Build a 2 foot tall tower.

Build a 2 foot tall structure that can bear the weight of an egg for 10 seconds.

Build a bridge to span a one foot gap.

Build a pyramid.

Build each of the following shapes: cube, rectangular prism, triangular prism, cylinder, cone, and pyramid.

As a more structured activity, invite students to sketch models first. Attempt a build. Share lessons learned. Attempt a second build.

Students will learn much about engineering and physics from this experiment.

We recently had a class of 5th graders highly engaged over ten days in developing strong, weight bearing towers with these supplies.

This activity works well for people 6 and up. If you substitute straws and clay as building supplies, it works well with 4 and up.

So...what are you going to build?

Ink and Alcohol Art Tile

This is one of our most popular activities because the end result is so beautiful and the process so engaging. We recently led over 100 people in a workshop and the one year olds were having as much fun as the grandparents. This is also as close as we get to a make-and-take since the families take home a beautiful art piece.

Ready to Start?

1. Grab a tile and write your name on the back with a sharpie.
2. Coat your tile with a light layer of rubbing alcohol.
3. Select a bottle of ink and squeeze a drop or two of ink onto your tile.
4. You can manipulate your ink with brushes or blow on it with a straw or you can just let it flow as it wishes.
5. Continue to add drops of ink. You'll notice that the colors don't bleed into each other too much but you will see some blending at the edges.

If you are unhappy with your creation, you can wipe the tile clean with alcohol.

When we do this workshop, after the tiles dry (typically 20 minutes), we spray them with a water-based polyurethane from Home Depot. This will make sure they do not scrape or wash off in water.

You can also glue felt to the bottom to use as a coaster.

Side note: This is also a very affordable craft. The tiles are 16 cents each at Home Depot. The ink is about \$4 a bottle and goes far.

Alcohol Ink: Ranger Adirondack Inks

http://smile.amazon.com/Ranger-Adirondack-Brights-Alcohol-Dockside/dp/B0027XXAAA/ref=sr_1_3?ie=UTF8&qid=1415662265&sr=8-3&keywords=alcohol+ink

Have fun exploring this medium!

Water Beads

Children LOVE this station and will have no trouble figuring out how to engage with the water beads. We always set these out at big festivals and we will have children there for hours exploring these strange globs.

Water beads are used by the floral industry in vases. They are non-toxic for handling. If you are working with children that may eat them, we recommend switching to tapioca pearls or basil seeds. They accept dye well and have a very similar effect.

They are a great example of a polymer. Polymer molecules are net-like and expand easily. These water beads started out the size of a mustard seed. They will dry back down to that size if you set them in the sun for a day.

Among the things children will explore:

How do they feel?

Do they float?

Can you see the clear ones in water?

What happens when you look through them?

Do they bounce?

What happens when you crush them?

What do they look like with light shining through them?

How quickly do they expand?

We always set them out with lots of funnels, tubes, pipes, gutters, bowls, and strainers and children of all ages are transfixed. Kids love to sort them by color to create jars with bands of color or temporary mosaics. They love to spin them in bowls. Add shaving cream and it's a textural wonderland.

Water Beads: You can buy a pound of dry water beads for about \$10 online. Amazon is a good source. It will make a big aquarium full of water beads.
http://smile.amazon.com/PURPLE-Pearls-Centerpiece-Wedding-Filler/dp/B007A5SI8O/ref=sr_1_14?ie=UTF8&qid=1415662332&sr=8-14&keywords=water+beads

Have fun exploring this polymer molecule!

Instrument Making Buffet

This station is an invitation to create your own instrument. It may shake, whistle, jingle, or vibrate, but it will surely make music when you are done.

The supply buffet is our favorite way to encourage inventiveness. The possibilities are endless and there's absolutely no instruction.

We have done buffets for toy boat making, paint labs, doll making, fairy houses, car building, hat making, puppet making, and ornament creation.

We always remind the children that creating often involves mistakes along the way that we learn from. It's OK to make an instrument that won't make a sound in the process of learning how to make one that will!

Buffets are also great in that they can sit out for long periods so families can engage at any point. This means families don't need to arrive during a narrow window of time AND crowding is thinned by having a bigger window of time.

We always try to balance whimsy and traditional items in our offerings. Also, keeping the station neat and well-stocked ensures it has that irresistible invitation to create.

Enjoy!

Metal Stamping

Metal stamping (like the Alcohol Ink Tiles) is a great example of an activity that stays in the process art zone while offering a nifty end product.

This activity can be set out at events with a simple tip sheet and you find people of all ages loving their time at the station.

Of course, it also blends in some literacy skills for younger kids as they find their initials and names among the letters.

Tips:

Place the bottle cap on the metal square block.

Hold the image on the cap and give one firm hit with a hammer.

You may want to practice first on the practice washers on the table.

For a straighter line up of letters, use a piece of masking tape to define a line.

Once you are done stamping, go over the image with a black sharpie.

This makes the image stand out and shines the metal.

Wipe away the black sharpie ink with a rag.

Things You Can Stamp

Washers

Bottle Caps

Dog Tags

Round Discs (called blanks)

Sheets of thin tin or metal

Balloon Powered Lego Cars

This activity can be framed as a challenge or an exploration. Either way, the goal is to create a lego car that is powered by a balloon.

The best part of this activity is that it demands inventiveness and tinkering but never feels defeating. Most people will create at least one car that does not work. By studying that failure, they will learn the tricks to get their cars to roll.

There is plenty of good science you can also tie into the lesson when you are working with older elementary children. Possible lessons include rolling versus sliding friction, Newton's Laws of Motion, and air pressure.

Children are often surprised by the direction the car moves once they get it rolling. Have them predict its direction before they let go of the balloon - and have them reflect on WHY it traveled the direction it did.

If you do decide to add a challenge element, you might challenge them to:

Create a car that travels at least 5 feet

Create a car that spins

Create a car that can knock down a tower of boxes

Create a car with wheels of two different sizes

Create a car that uses at least 15 blocks

Note that our challenges do not encourage them to compete with one another but with themselves to face a challenge.

As with many of these stations, you will encounter participants who cope with the challenges in a range of ways. This is a huge opportunity to teach life skills about resilience. Rather than praise the look of the car or how far it travels, we work to acknowledge the way children overcame obstacles and frustrations.

For example:

"I admire how Sue never gave up even though the car would not go straight."

"Lupe tried 4 different strategies to attach her balloon!"

Reflection Questions

1. What about this station was alluring or inviting? Why would this experience engage children?
2. What questions were raised as you began to explore?
3. Does this station offer possibilities for children and their caregivers to collaborate?
4. What might a child learn from engaging in this experience?
5. What should be the role of the facilitator in setting up and leading the station?
6. How does this station greet the developmental stage of the various children it engages?
7. How might the facilitator respond to the children's work as they engage with the experience?

Station Set Up

Noodle and Marshmallow Construction: 2 stations

Supplies: Noodles and Marshmallows

Set up: Set out 3 boxes of noodles and 1 bag of marshmallows at each station along with an instruction sheet.

Clean Up: Toss everything. You have new supplies for each event.

Alcohol Ink Tiles: 2 stations

Supplies: Rubbing alcohol, paintbrushes, qtips, ink, few straws, tiles, spray, marker, sponge squares, 2 bowls

Set up: At each station, set out 20 tiles, 4-5 bottles of ink, 5 brushes, some qtips, some sponge squares, a small bowl of alcohol, and a small bowl of water for rinsing.

Set out the sharpie for writing names on the back before they start.

Set out instruction sheet.

The spray is used once the tiles dry so do not set it out. Take dried tiles outside once dry in 20 minutes or so. Shake can well and spray tiles from about 5 inches back. If you don't spray them, they will not be waterproof. I highly recommend doing two coats with 10 minutes dry time in between.

Clean Up: Rinse out the brushes and sponges. Toss qtips and straws. Empty bowls. Pack up all for reuse and next event.

Balloon Powered Lego Cars

Supplies: Legos and balloons

Set up: Set out legos and balloons and instruction sheet!

Clean up: Toss the balloons. Pack up legos for next event.

Instrument Making Buffet

Supplies: Straws, tape, craft sticks, bottle caps, jingle bells, glue, paper clips, wax paper, bobby pins, wire, string, ribbon, rice, beans, plastic eggs, plates, bowls, cups, spoons, rubber bands

Set up: Display the items in a buffet using baskets. I recommend doing one long buffet for two tables.

Clean Up: Toss ruined supplies and forward all extras to next kits. You have new kits for each session, but you'll want to fortify the supplies with any extras.

Metal Stamping

Supplies: 4 hammers, 2 metal block, 2 letter sets, 2 sharpies, masking tape, bottle caps, round blanks

Set up: Set out supplies and instruction sheet

Clean Up: Repack all for use and next events.

Water Beads

Supplies: Water beads, milk jugs to hydrate and transport, bowls, tin trays, pvc pipe and connectors, gutter piece, funnels, muffin tin, strainer

Prep: **THE NIGHT BEFORE OR AS EARLY AS POSSIBLE THAT MORNING:** Pour the water beads into the milk jugs and fill jug with water. Cap it. Keep the colors separate.

Set Up: Set out trays, jugs full of water beads, and all the supplies to engage with them.

Set out instruction sheet.

Clean Up: Dump all the hydrated water beads. They will actually shrink back down if dried, but we usually toss them. Pack up all the other supplies for use at next events.