

# SOURCES

## TIGER CRAFTS

My Tiger Jungle - [One-Board Birdhouse](#)

Good Knights - [Foam Shields](#), [Foam Sheets](#), [Foam Shapes](#)

Tiger Theater - [Paper Hand Puppets](#)

## WOLF CRAFTS

Code of the Wolf - [Mancala Video](#)

Grow Something - [Terrarium Craft](#)

## BEAR CRAFTS

Bear Claws - [Soap Carving](#)

Bear Picnic Basket - [Reindeer Snacks](#)

## WEBELOS CRAFTS

Adventures in Science - [Model Solar System](#), [Circuit Crafts](#)

Castaway - [Survival Bracelets](#), [Bracelet Buckles](#), [Paracord Assortment](#)

# Station B

## Balloon Powered Boat

How does air affect water? Can air push a boat?

1) Gather the following:

- A piece of foam
- A balloon
- A plastic tube
- A rubber band
- A bendy straw

2) Cut the top of your foam into a boat shape.

3) Blow up the balloon to stretch it out.

4) Snip the end off your balloon, leaving just a small neck.

5) Insert the plastic tube into the balloon, leaving about  $\frac{1}{4}$ " sticking out.

6) Secure the balloon to the plastic tube with the rubber band

7) Snip the bendy straw down to about 1" from the bend on one side and 2" from the bend on the other.

8) Have an adult help glue the short end of the straw into the plastic tube.

9) Insert the straw through the hole near the bottom of the boat and point the straw to the back of the boat.

10) Blow up your balloon through the straw and hold your finger on the end to keep it from escaping.

11) Put your boat in the water, take your finger off the straw and watch it go!



What's happening? Escaping air from the balloon rushes out of the straw pushing water out of the way. Newton's Third Law of Motion states that for every action, there is an equal and opposite reaction, so when the water gets pushed back, the boat gets pushed forward with the same force!

## Station C

# Make Your Own Kazoo



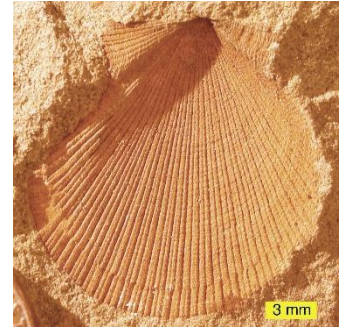
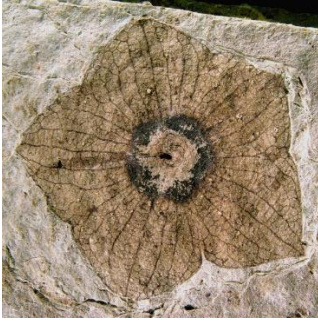
What sort of sounds does air make? If you have ever listened to a storm or heard someone whistle, you have heard air make sounds. Even the words you speak are made by air pushing through your vocal cords and mouth in different ways. Woodwind and brass instruments such as flutes, saxophones, trumpets, and tubas are played by blowing air through the instrument and the notes are changed by changing the shape of the channel the air goes through. Today we're going to make a simple wind instrument – a kazoo!

- 1) **Grab one of each length of pipe and a tee fitting.**
- 2) **Cut a circle of plastic from a plastic bag about 3" big.**
- 3) **Place the plastic over the top hole of the tee fitting and then put the teeny piece of pipe in to secure it.**
- 4) **Put the other two pieces of pipe into the other two holes in the tee fitting.**
- 5) **Hum or say "doo doo" into the short end to make some music!**

What's happening? When you hum or speak, your vocal cords cause the air coming out of your mouth to vibrate (shake a little). That vibrating air makes the plastic sheet in your kazoo vibrate too, so the sound of your voice is amplified (made louder). Try just blowing into the kazoo without making a noise. What happens?

# Station A

## Make a Fossil Cast



Fossils are the remains or impressions of a prehistoric organism, or living thing, preserved in earth or rock. Examples of fossils include skeletons, leaf prints, or footprints embedded in the earth's crust.

Some fossils, like the Tyrannosaurus Rex footprints at Philmont Scout Ranch, formed when a dinosaur stepped onto soft ground and left a footprint. When the ground hardened, a fossil formed. Today, you will have the chance to make your own fossil!

- 1) Write your name on your paper plate.
- 2) Roll your chunk of clay into a ball in your hand.
- 3) Flatten it on your paper plate so it's about  $\frac{1}{2}$  inch thick.
- 4) Pick an item from the table and press it into your clay.
- 5) Carefully remove the object.

The impression left behind is just like the impressions dinosaurs and other objects left in the soft ground long ago! After a few days, your clay will dry and harden and you can paint it

# Station B

## Edible Fossil Layers



Different types of soil, rock, and weather affected the way fossils formed. Sometimes an object was encased, or completely covered; sometimes it became soft and dissolved; and sometimes rock formed around it. To show fossil layers, we're going to make a display you can eat!

- 1) Grab a cup with gelatin. You'll notice a couple marine animals already stuck in this layer
- 2) Scoop some cookie crumbs or cereal onto the gelatin layer
- 3) Place an animal cracker on that layer
- 4) Scoop some pudding on top of that layer and put another animal cracker on top of the pudding
- 5) Continue layering cereal, crumbs, and pudding with animal crackers on each layer until you get to the line near the top
- 6) Grab a spoon and enjoy!

While you're eating, notice that some of the animal crackers stay crunchy and others are soft. Some may have completely turned to mush. This is because some of them will absorb moisture from the surrounding layers and some will not. Each of the materials affects the crackers in a different way.

Now you can see how layers of the Earth's crust covered over, surrounded, or even absorbed fossils. The reason scientists rarely find a complete skeleton of a dinosaur is because some of the bones dissolved over time in the wet conditions of the soil they were in.

# Station C

## Make Your Own Dig Site



Paleontologists dig through layers of the ground to carefully uncover bones, rocks, leaf fossils, and other objects that were left behind when the dinosaurs died. Today you are going to make your own dig site to take home!

- 1) Pick one or two of each item to put in your dig
- 2) Grab a plastic tub, two cups of water, and two cups of sand mix
- 3) Pour one cup of water into your tub
- 4) Gradually stir one cup of sand mix into the water
- 5) Place your items in the sand, making sure they are not touching each other – work quickly as this might set up fast!
- 6) Pour your other cup of water into the other cup of sand and stir to mix well
- 7) Pour the sand and water mix over the top of your treasures, making sure they are all covered
- 8) Put the lid on your container and write your name on top

In a few days, your dig will be ready. Get some small tools and a soft brush and unearth your treasures!

