

KITCHEN SCIENTISTS

LITTLE LAB WEEK 2: BRIDGES

EVER WONDER . . . HOW TO MAKE YOUR OWN DRAWBRIDGE?



What we learned this week:

- Bridges are important because they get people from one place to another.
- Three kinds of bridges are beam, pontoon and drawbridge.
- Bridges all have a deck and supports.

Curiosity Circle

Captain Curiosity called us from his clubhouse kitchen this week to ask if we knew anything about bridges and why they look so different. He thought drawbridges were especially cool and wanted to know how they worked. We got busy answering these “Ever Wonder?” questions: **Ever wonder why bridges are important?** Bridges are important because they help people to cross water or busy roads without having to stop. **Ever wonder who designs bridges?** A person who designs bridges is called an engineer.

Engineers try to make life easier and better for lots of people. They see a problem and they try to fix it by coming up with a solution. For example, engineers build bridges so people won't have to swim or use a boat to get across water!

Ever wonder if there are different kinds of bridges? There are lots of different kinds of bridges.

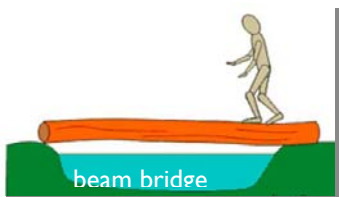
Today we learned about three: beam bridges, pontoon bridges and drawbridges. All bridges have two basic parts: a deck (the part that you stand or drive on) and supports (the parts that hold up the bridge).

The deck of a beam bridge rests on strong beams and vertical supports that are built into the ground, the deck of a pontoon bridge rests on floating supports called pontoons and the deck on a drawbridge moves up and down on its supports.

Ever wonder how you can make a bridge in your own kitchen? As we learned in class today, you can make all kinds of bridges in your kitchen! Make beam bridges with food boxes, cans, pots and pans, cookie sheets -- even food! Make a drawbridge using a cereal box and string. Make a pontoon bridge using twist ties and plastic lids or corks.



pontoon bridge



beam bridge

Curiosity Centers

- ♦ **Discovery Activity:** We tested a variety of objects as supports for deck to see which would make the most stable beam bridge. We learned that round things are much less stable than square things! We also used butter tub lids and twist ties to make a pontoon bridge in the water table.
- ♦ **Manipulative Activities:** We experimented with a cereal box drawbridge by lowering and raising the deck over a moat and walking a king and queen safely into the castle. We also built and tested new bridge designs using various kitchen items.
- ♦ **Cooking Activity:** We made our own s'more beam bridge snack using marshmallows as supports, graham crackers as the deck, and chocolate squares as people crossing the bridge.



drawbridge

The Big Deal

Lower the drawbridge! We learned that a dishwasher is very similar to a drawbridge and pretended to use one of our own to play the castle game! We each got a whisk, rolling pin, or spatula to use as kings, queens, and knights and approached the castle for permission to enter. When permission was granted, the drawbridge (dishwasher door) was lowered so that we could safely enter the kingdom of clean dishes!

Hey, Hey Word of the Day: DECK

Curiosity @ Home

Look for examples of real bridges as you drive around this week. When get home, find items in your kitchen that you can use to recreate the bridges you saw. How long can you make your bridge before it falls down? Also, experiment with making edible bridges out of food. Be sure to use your bridges plate!

Songs & Poems

C-Zone Song Welcome Song

(to the tune "I'm a Little Teapot")

Welcome to the C-Zone

It's time for us to start

Exploring and learning

We all do our part

(Spoken) So button up your lab

coats and let's get curious!

Sing the Song to the Captain

(to the tune "Wheels on the Bus")

Bridges have a deck and supports

(What?)

A deck and supports (What?)

A deck and supports (What?)

Bridges have a deck and supports

(What?)

That's how bridges work.

A drawbridge goes up and down

(What?)

Up and down (What?)

Up and down (What?)

A drawbridge goes up and down

(What?)

And a pontoon floats on water.

Bridges get us from here to

there (to the tune "London Bridge
is Falling Down")

Bridges get us from here to there

Here to there, here to there

Bridges get us from here to there

So we will not get wet!

Beam bridges rest, rest, rest
Rest, rest, rest
Rest, rest, rest
Beam bridges rest, rest, rest
And get us from here to there!

Drawbridges go up and down
Up and down
Up and down
Drawbridges go up and down
And get us from here to there!

Pontoon bridges float, float, float
Float, float, float
Float, float, float
Pontoon bridges float, float, float
And get us from here to there!

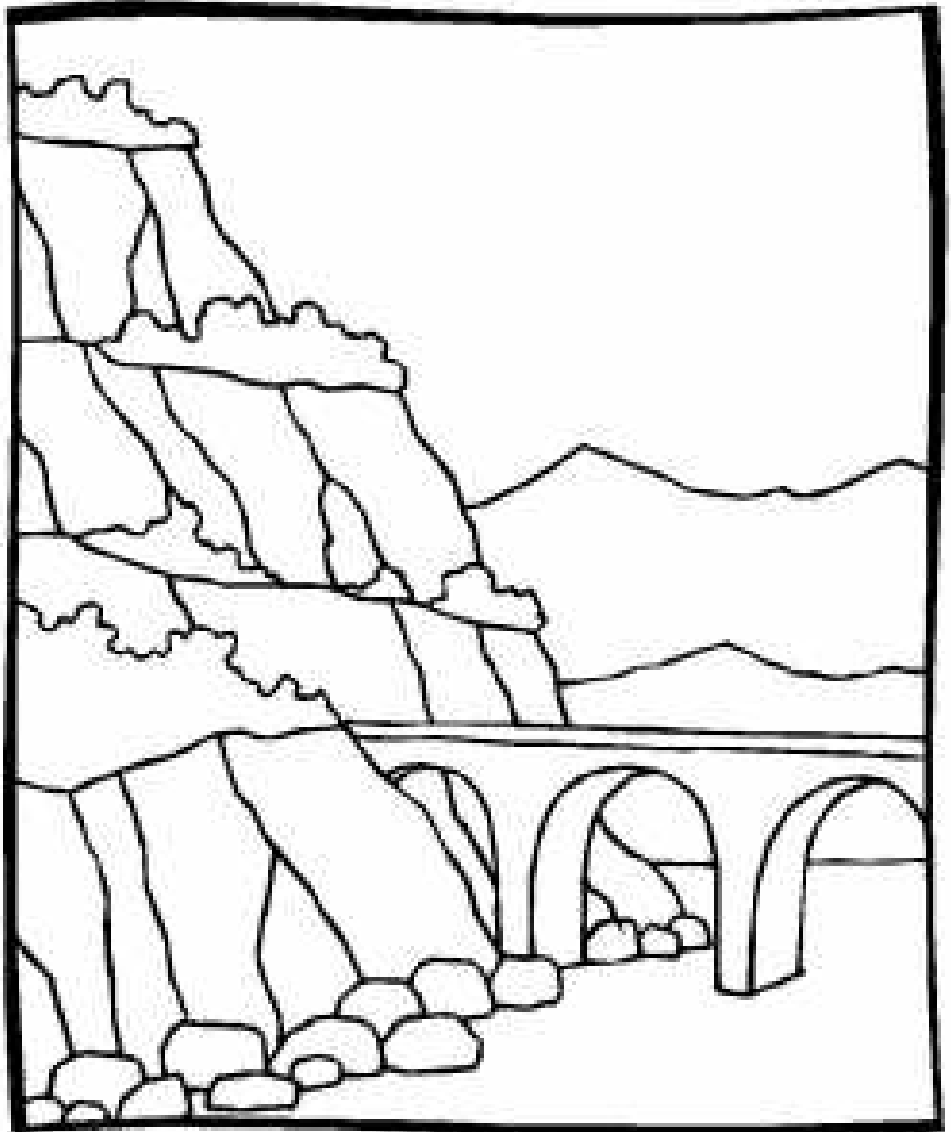
C-Zone Goodbye Song

Goodbye from the C-Zone

It's time for us to go

The learning never stops

Now tell me what you know!



D

is for deck