

SSFE SCIENCE CAMPS

Summer Science Family Activity Book

2020, Edition 3

Families with Kids in Grades **K-3**



























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Backyard Bingo

Explore your own yard to win Backyard Bingo. Find all of the items on your card and cross them out when you do!

B	I	N	G	O
Flower 	Water 	Bird 	Big Rock 	Bug 
Small rock 	Leaf 	Garbage 	Stick 	Cloud 
Tree 	Dandelion 	FREE!	Grass 	Stop Sign 
Dirt 	Butterfly 	Pinecone 	Wind 	Animal 
Bike 	Bush 	Sun 	Weeds 	Streetlight 

Operation Tree Build

Today you are on a mission to build the **tallest tower** you can! You can use sticks from your backyard and tape from inside.

The goal: Build the tallest tower you can!

Extra Goal: See what your tower can hold while trying to knock it over

My tower looks like this:



Draw the tower you made in the space below!

The Pepper and Soap Experiment

This experiment is to show how soap works when used to wash our hands.

What you will need:

- A bowl of water or plates
- Pepper
- Any kind of handwashing soap (liquid soap works best)



Step 1: Start by placing two dishes on the table and pour water in them.

Step 2: Add pepper to one of the bowls - lots of pepper!!

Step 3: Pick one of your fingers and cover it in the soap. Leave the other fingers plain.

Step 4: Stick a finger that has no soap into the pepper water.



What happened to the pepper?

Step 5: Place your soapy finger in the pepper water.

What happened to the pepper?

The pepper goes to the side when the soap is put in the pepper water. This is what germs that can make us sick do when we wash our hands with soap. This is why we wash our hands!

NEWSPAPER FORT CHALLENGE!

Did you know that a **TRIANGLE** is the strongest shape? Its shape makes it super strong for support. Engineers like to use many triangles together to make a strong and light structure called a **TRUSS**. For this activity, I want you to be an engineer for a day! I challenge you to build a fort out of **NEWSPAPERS** using triangles.



What you need:

- Lots of newspapers (ask around your community for old newspapers!)
- Tape or a stapler

What you do:

1. Take two sheets of newspaper and lay them out flat, one on top of the other.
2. Start rolling the two newspapers from one corner. The tighter the roll, the stronger the fort will be! Hold the ends with a small piece of tape.



3. Make as many newspaper rolls as you want! A really good amount is 48.
4. Make triangles with your newspaper rolls by taping the ends together into points. Create as many triangles as you can with your newspaper rolls.



5. Hold the triangles together to build whatever size structure you'd like! The more triangles, the bigger the fort. Be sure that you have enough for the roof, which will make your fort sturdy!
6. Let your imaginations run wild! The structure should even be strong enough to put a blanket on top.

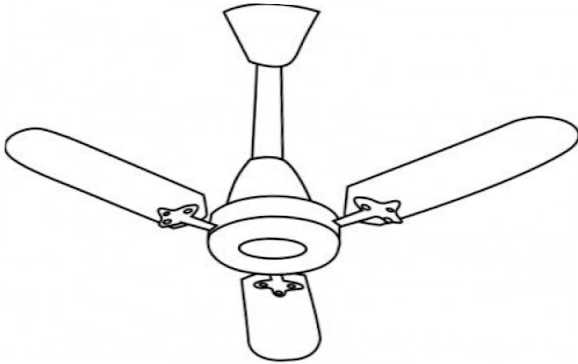


What Uses Electricity?

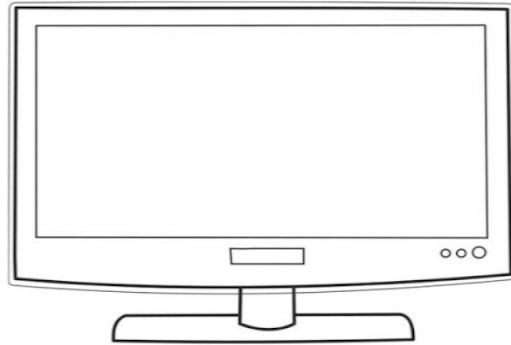
Activity Number 1:

Colour the pictures of things you might find in your home. Do they use electricity? Check yes or no!

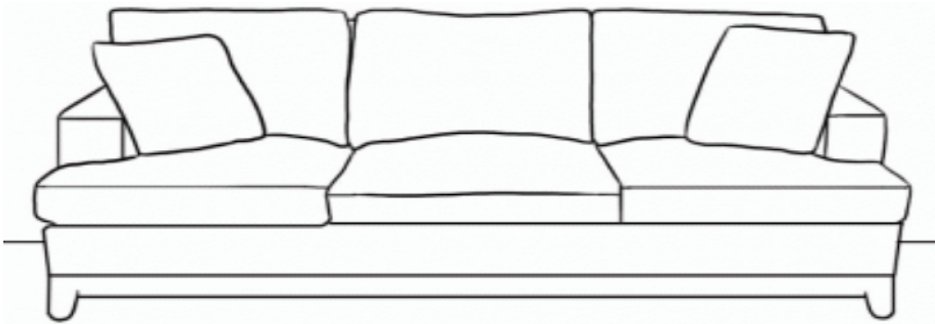
Yes No



Yes No



Yes No



Yes
No



Yes No



Yes No



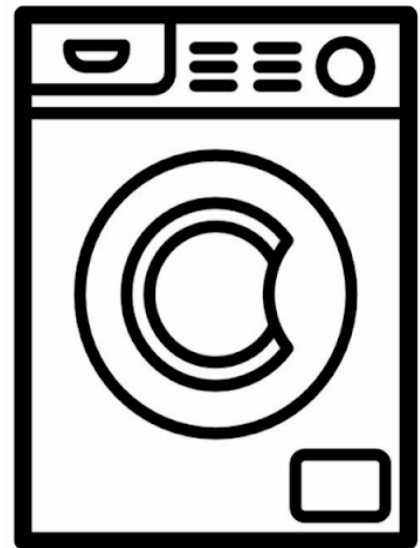
Yes No



Yes No



Yes No



Activity Number 2

Cut out the pictures. Put them into groups like "Makes Heat", "Makes Light", and "Makes Sound." Draw more things you find in your house and add them to the game!

Further Learning

Want to learn more about electricity? Go to "Introduction to Electricity – Video For Kids" at www.youtube.com/watch?v=Uf76pThNXZc

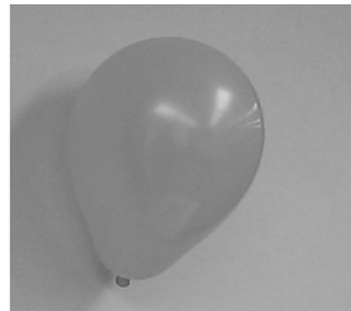
Make Your Own Static Electricity

When two things rub together, they create static electricity. Here are some fun experiments you can do by creating your own static electricity!

Have a balloon? Rub it on your hair to create static electricity and watch it stand up! →



Put a pencil on a water bottle and use the balloon you've rubbed on your head to move the pencil without touching it!
←



Or stick that balloon to a wall using static →
electricity!



Put some salt and pepper in a bowl. Run a plastic comb through your hair and make static. Put the comb on the bowl and the static will make the
← pepper jump out of the bowl!

Create more static with a comb and use it to bend water. Don't touch it but use the comb to bend it in a direction! →

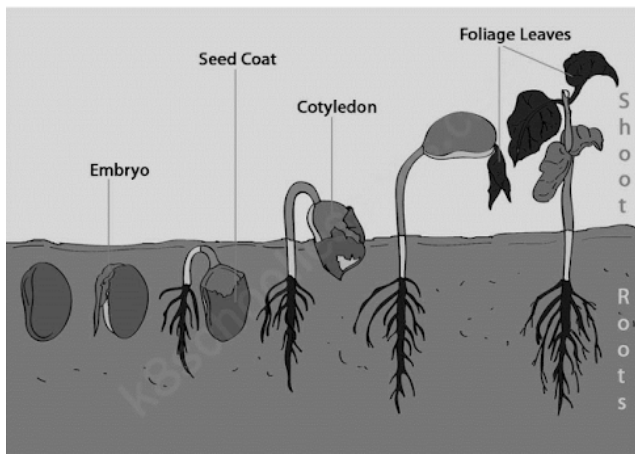


Sprout House!

What is Germination?

Germination is when a seed sprouts into a plant. When a seed is given a good home, food, and water, it can germinate and grow into a full plant.

Stages of Germination



How to Germinate a Seed

You need to give your seed 3 things:

1. Warmth (aka sun light)
2. Water
3. Air

If all 3 things are given, the seed should sprout and grow into a healthy plant!

Making a Sprout House!

Supplies:

- ✓ A plastic sandwich bag
- ✓ A seed (can be found anywhere)
- ✓ A single sheet of paper towel or a couple of toilet paper squares
- ✓ A pair of scissors or craft knife
- ✓ Tape

Procedure:

Step 1: Cut out the house on the page below. Cut out the window along the dotted line as well. Decorate the front of the house only!

Step 2: Moisten your paper towel/toilet paper with water. You want the paper to be damp, not soaking!

Step 3: Place the moist papers into the bottom of the plastic bag.

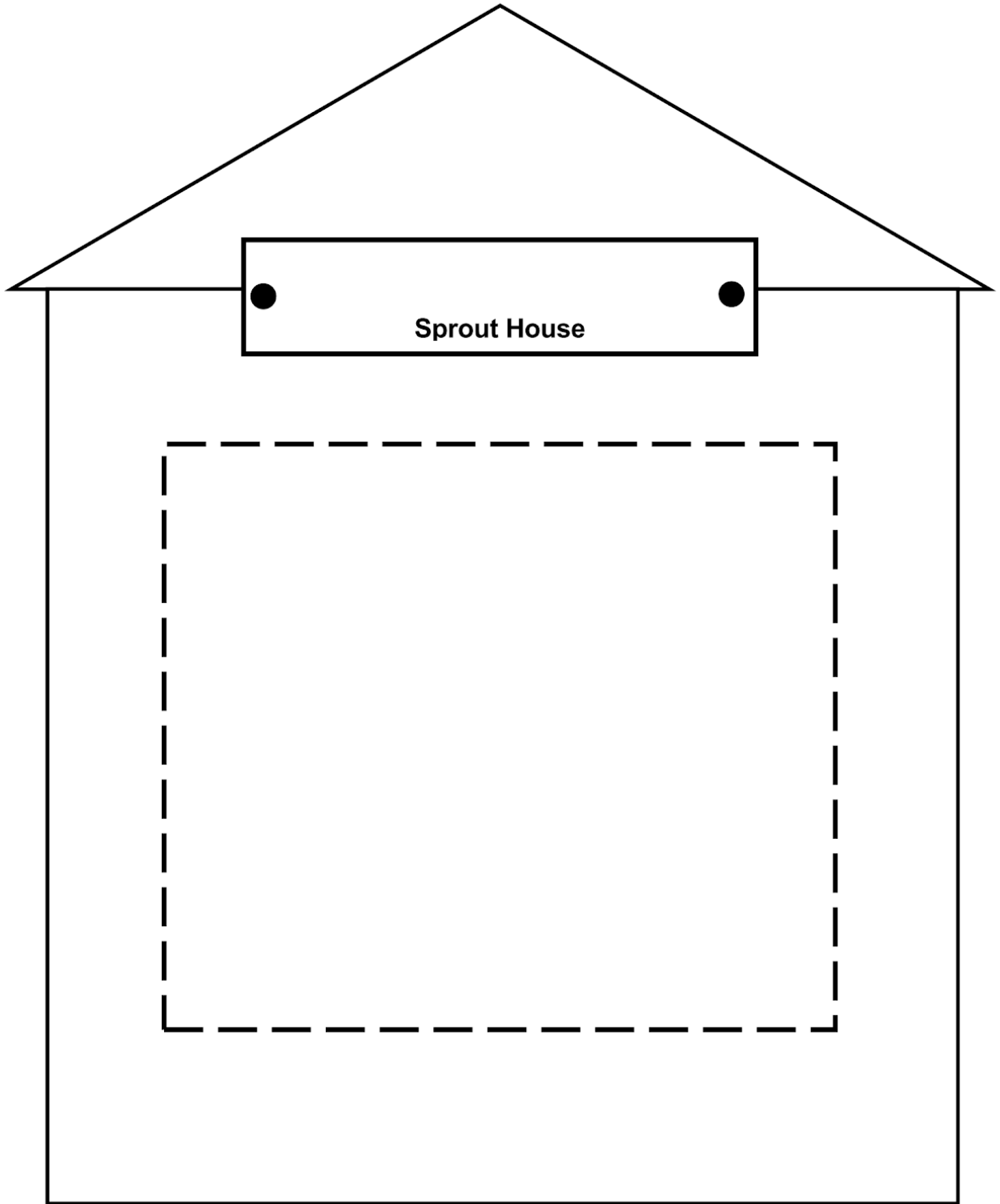
Step 4: Put your seed of choice into the bag. Make sure it is touching the wet paper.

Step 5: Close up your bag part way with tape.

Step 6: Tape the bag to the backside of your house. The bag should be lined up with the window so you can see your seed!

Step 7: Tape the backside of the house to your actual window. The sun that comes in your room will act as a source of warmth for your seed!

Step 8: Watch as your seed grows into a sprout, grow leaves, and develop roots!



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