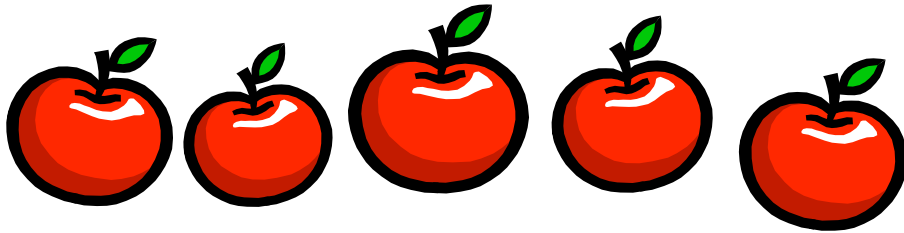
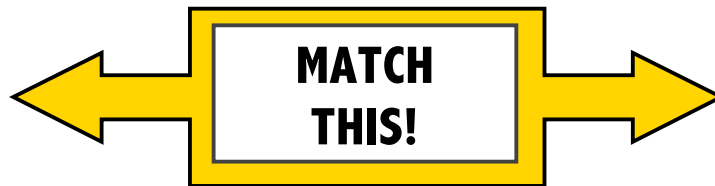
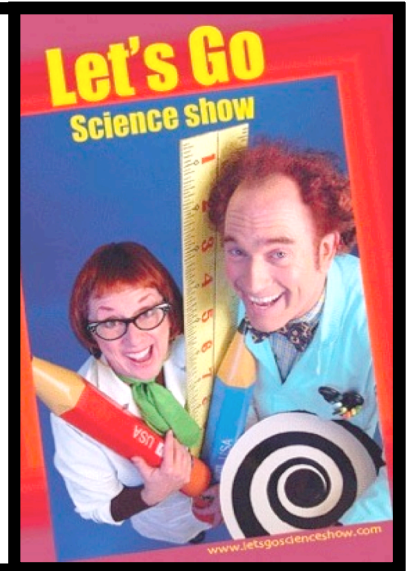


# Let's Go Science Show



## Take Home Materials

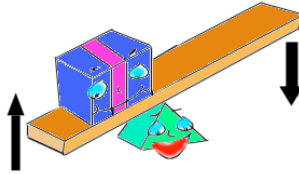
\*For Grades K-3\*



Draw a line from the word to the picture that matches best.

### Static Electricity

The electrical charge that collects on the surface of something.

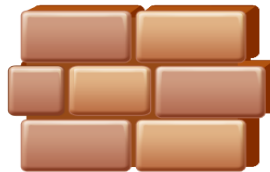


### Lever:

A machine made of a solid material that rocks on a fixed point, used to move things.

### Atmosphere:

The layer of gases that blanket the earth.

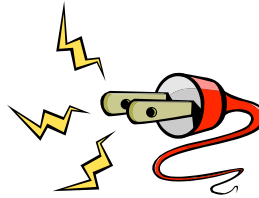
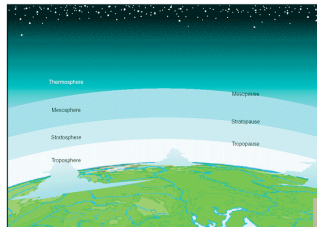


### Electricity:

The flow of electrical power.

### Solid:

Something that has a definite shape and volume.



### Liquid:

Something that has a definite volume but not a definite shape.

### Lens:

A piece of glass or something see-through with curved sides that can bend or focus



### Gas:

A thing that does not have a definite shape or size all on its own. Not gasoline (Hint: Air is a gas.)

# ~~DO DON'T~~ TRY THIS AT HOME



Show Off to Your Family, Your Friends, Your Dog...  
Be a Scientist in Your Own Home With These  
Simple Experiments



## Bending Light Experiments

Light can play tricks on your eyes! Try these easy experiments.

### The Rising Coin

Materials you will need:

- A Coin
- Water
- A Plastic or Glass Bowl  
(not see-through/not transparent)

Steps:

1. Put the coin in the bowl.
2. Walk backwards until you cannot see the coin in the bowl any more.
3. Have someone pour water slowly into the bowl.
4. Watch the bowl from where you are standing.
5. What do you see?

When the bowl is empty, the edge of the bowl stops you from seeing the coin. When the bowl is full, the light bends over the edge, so you can see the coin. Have you noticed that things at the bottom of a pool or river always look closer to the surface than they really are? This is because of the way light is bent (refracted) through water.

### The Bending Pencil

Materials you will need:

- A Pencil
- Water
- A Clear Glass or Jar

Steps:

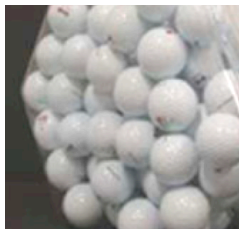
1. Fill the glass or jar half way with water.
2. Place the pencil in the water.
3. Look at the pencil from the top.
4. Look at the pencil from the bottom
5. Look at the pencil from the sides.
6. What do you see?

Straight or bent? What happens when you look at the pencil through the side of the glass? Light plays tricks on your eyes.

The pencil looks bent. This is because light travels slower through water than through air. As the light enters the glass of water it slows down and changes direction, and as it leaves the glass it speeds up again – making the pencil look bent.

From: <http://www.kids-science-experiments.com>

# Experiments with Matter



## Filling Space

### Materials you will need:

- A large empty jar
- Marbles, golf balls or small rubber balls
- Loads of little pebbles or rice
- A bucket of sand
- Two cups of water

### Steps:

1. Fill the large jar with the balls all the way to the top. Ask this question: Is the jar full?
2. Fill the jar up with the little pebbles or rice and shake the jar lightly so that the pebbles roll into the open spaces between the balls. Ask this question: Is the jar full?
3. Fill the jar up with the sand and shake the jar slightly so that the sand fills the empty spaces around the golf balls and pebbles/rice. Ask this question: Is the jar full? (The sand has filled up every bit of space left. You ask yourself: Has it?)
4. Now pour the water into the jar and watch as this liquid effectively fills the empty space between the sand. Ask this question: Is the jar full?
5. Finally the empty jar has been filled completely.



## Steaming Up

### Materials you will need:

- Your hot breath
- A mirror

### Steps:

1. Breath into your hand and feel how warm your breath is.
2. Feel the mirror. Is it cooler than your breath?
2. With your mouth near to the mirror take a deep breath and exhale onto the mirror.
4. What has happened to the mirror?

It has steamed up or you could call it condensation. Why do things steam up? Your breath contains water –although you can't see it. The water is a type of gas, called a vapor, which is mixed with the air. When the water vapor from your breath hits the cold mirror, some of it turns into a liquid. Thousands of tiny droplets of water form on the mirror or window, and this is called condensation or steam. You may have seen steam or condensation in the kitchen, the bathroom or in a car on a cold day. You can see this steam or condensation in mid-air when you watch water boil. Hot water vapor is given off by the boiling water. The vapor cools when it meets the cooler air above the boiling water. Then the vapor turns into tiny dew drops that form the steam or condensation.

From: <http://www.kids-science-experiments.com>

# Static Electricity



## Rising Tissue Paper

### Materials you will need:

- Scissors
- Tissue Paper
- A Clean Head of Hair
- A Plastic Comb or Pen

### Steps:

1. Cut up some small pieces of tissue paper.
2. Give your comb or pen a static charge by rubbing it against a sweater or combing it through your clean hair about ten times.
3. Hold the comb or pen over the small pieces of tissue paper.
4. Watch as the tissue paper is pulled up by the charged comb or pen.

When you rub the comb through your hair (or on wool) electrons on your hair move to the comb giving it a negative static charge. The comb is neutral and has no static charge, but is attracted to the negatively charged comb. When the comb touches the paper some of electrons will move onto the paper, reducing the static charge.

## COOL WEBSITES FOR KIDS

<http://www.hhmi.org/coolscience/>

<http://www.brainpop.com/science/seeall/>

<http://www.questacon.edu.au/kids.asp>

<http://www.kids-science-experiments.com/>

<http://www.nasa.gov/audience/forkids/home/index.html>

[http://www.exploratorium.edu/science\\_explorer//](http://www.exploratorium.edu/science_explorer//)



## Bending Water

### Materials:

- A plastic comb
- A Clean Head of Hair or a Wool Sweater
- Running Tap Water

### Steps:

1. Rub the plastic comb against your jumper or comb through your hair around ten times.
2. Turn the tap on so that it has a slow, steady stream of water.
3. Place the comb close to the water (don't let the comb touch the water).
4. What does the water do?

The water bends toward the comb. This is because the comb has been charged and pulls on the water; which is uncharged (or neutral). The water is attracted to the comb.

From: <http://www.kids-science-experiments.com>



<http://www.chem4kids.com/>

<http://www.strangescience.net/>

<http://www.sciencemonster.com/>