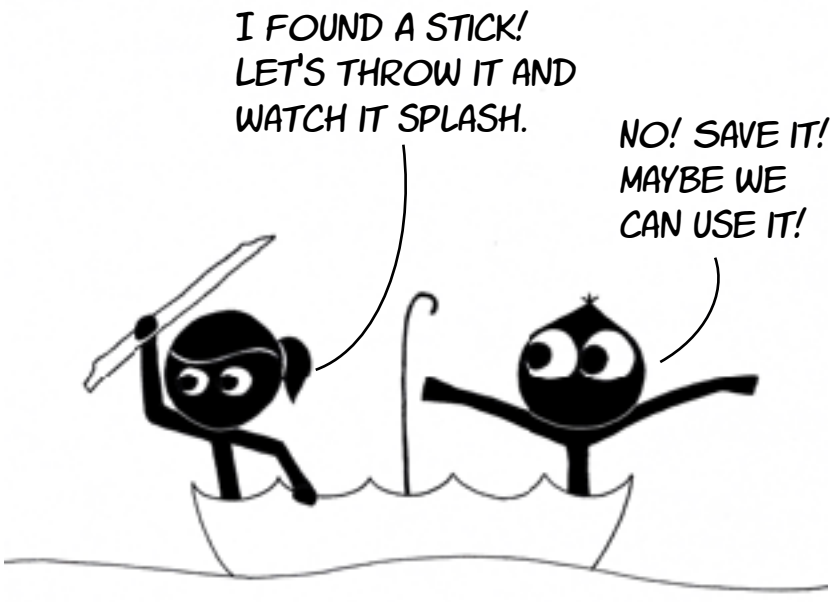
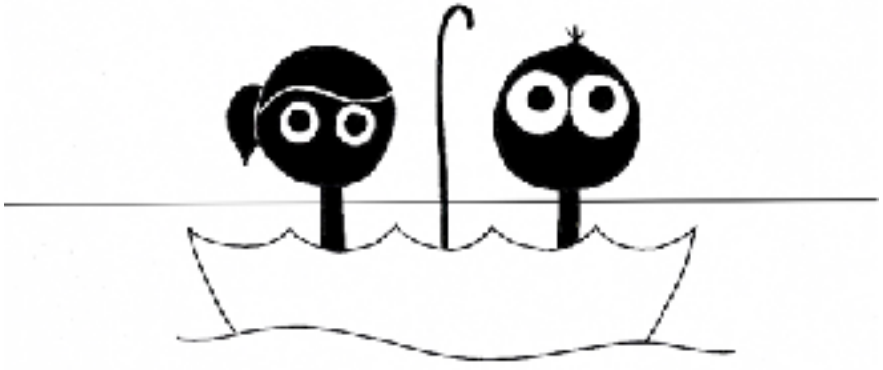
SMG #5



Check out my YouTube Channel!
www.youtube.com/ScienceMom

@JennyBallif
SCIENCE MOM

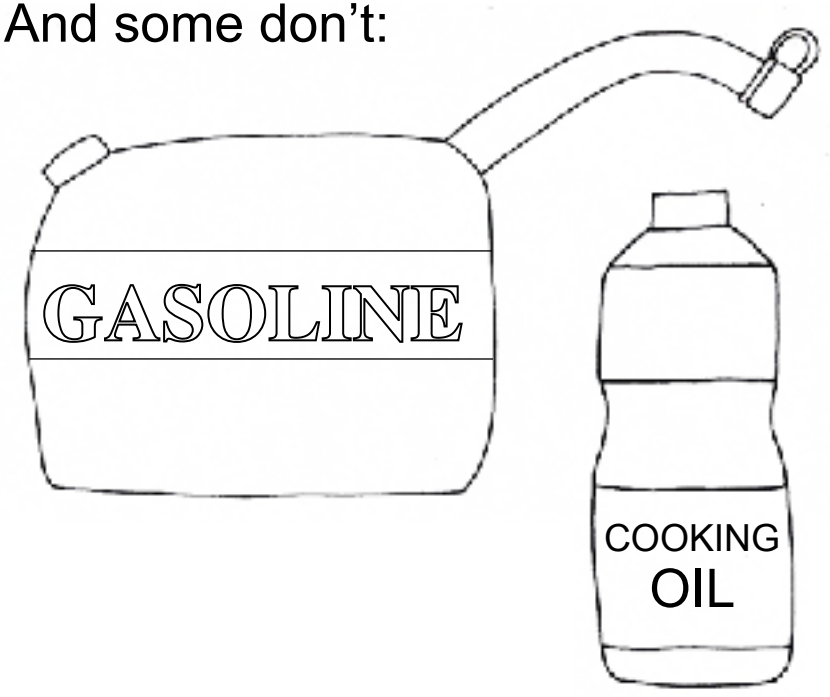
SCIENCE MOM'S
Guide to WATER, Part 5

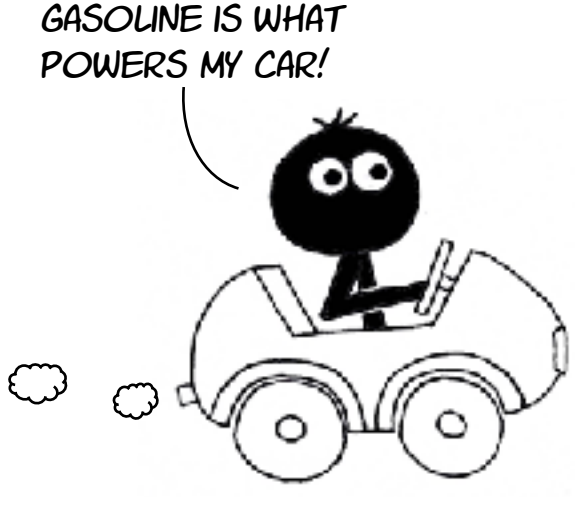


The water was salty.
They had reached the
OCEAN.

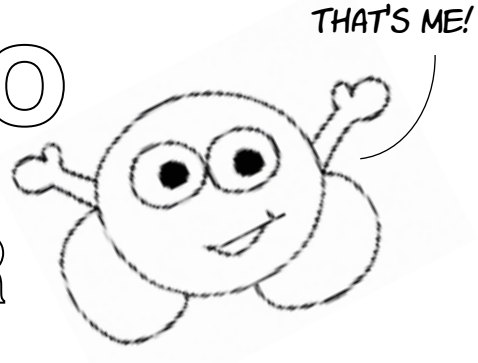
Some liquids have water in them:

And some don't:





Hydro = WATER



DE<u>HYDR</u>ATED : without water.

Philia = LOVE

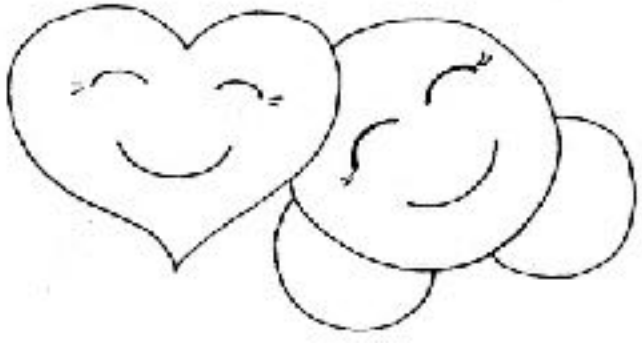
FRANCO<u>PHILE</u> : someone who loves France and French culture.

Phobia = FEAR

ARACHNO<u>PHOBIA</u> : fear of spiders.

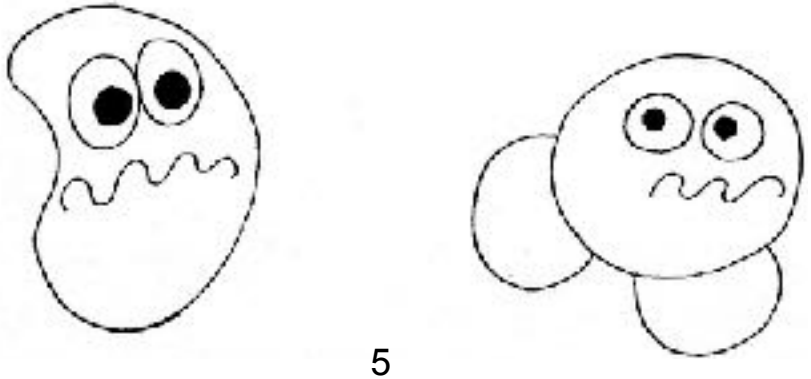
Hydrophilic

Love of water

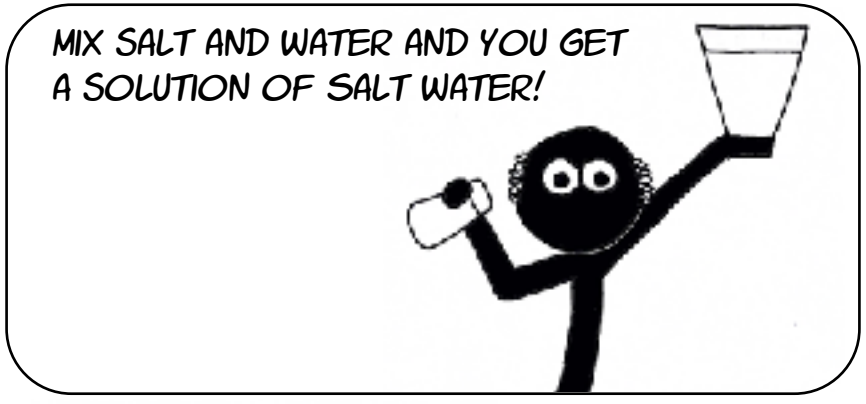


Hydrophobic

Fear of water



If you mix water with something hydro**phillic**, it makes a SOLUTION – it mixes so well that it won't come unmixed on its own.



If you mix water with something hydro**phobic**, they won't stay mixed. (Unless you make an emulsion, like with homogenized milk.)

1. Ocean in a bottle

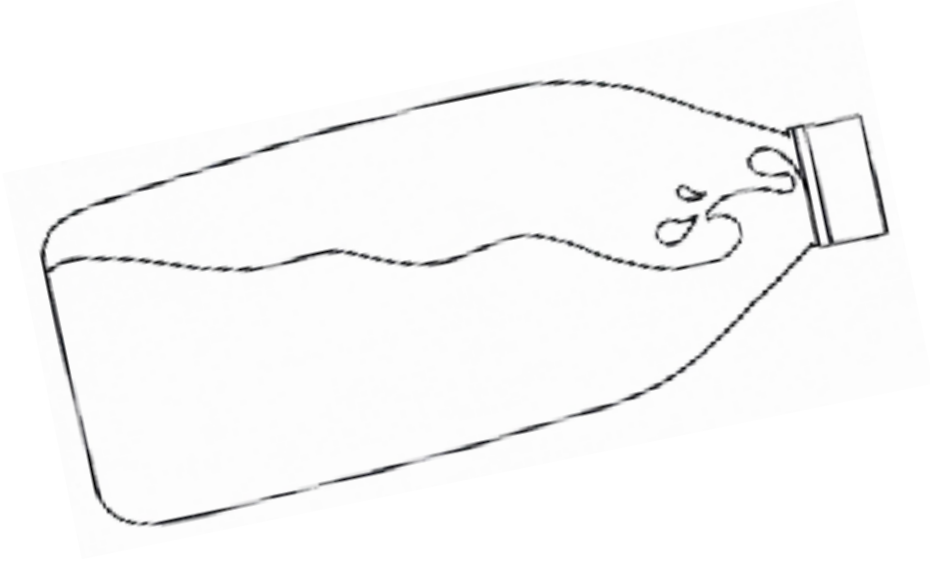
Materials:

- Water
- Oil
- Plastic or glass bottle with lid
- Food coloring

Method:

a) Pour water and oil into a bottle.
b) Add food coloring and shake the bottle gently to color the water.
c) Tip the bottle from side to side to observe waves and the beautiful movement of the liquids.

To make a small boat, use plastic pony beads as the body of the boat, a small piece of a toothpick as the mast, and thin plastic or tinfoil for the sail. Carefully assemble with hot glue.



It may take a bit of experimenting to build the right boat:

2. Lava Lamp

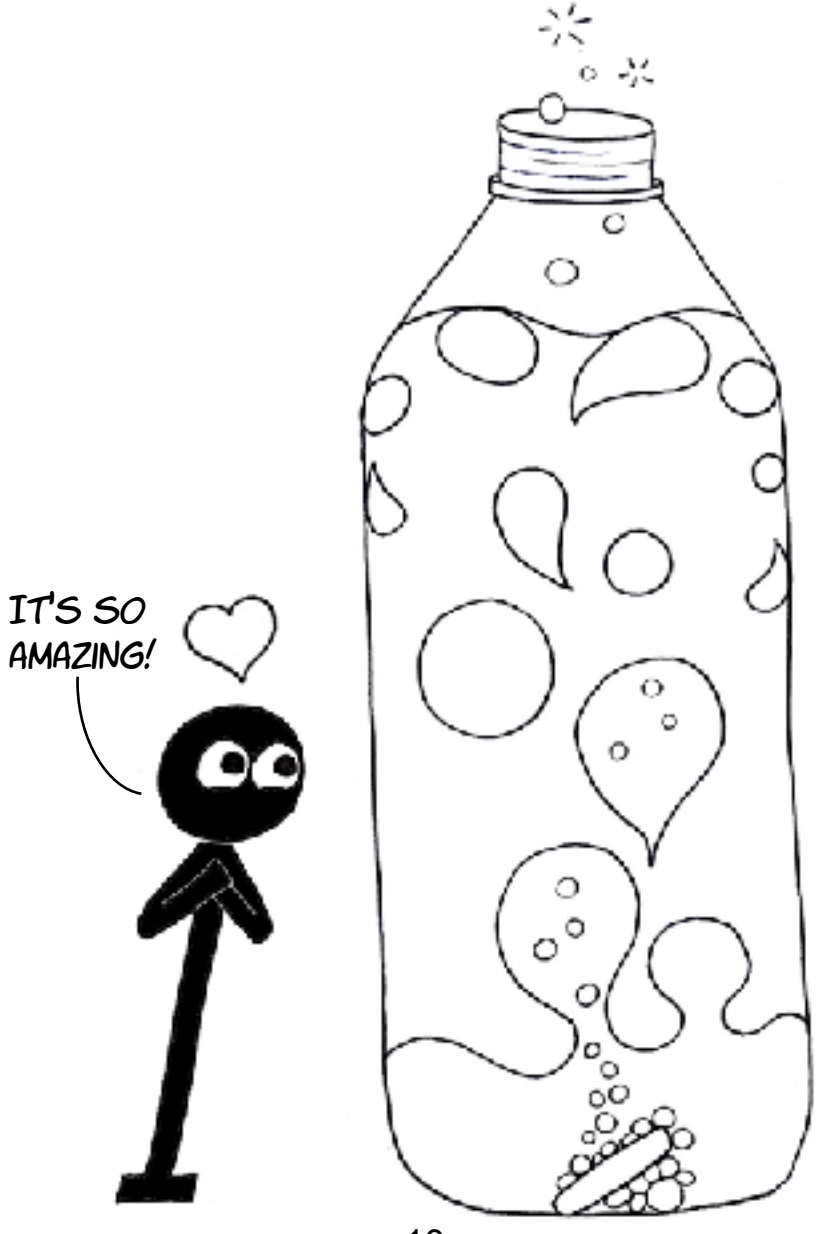
Materials:

- Water
- Plastic bottle
- Alka-Seltzer or other effervescent antacid tablet
- Oil
- Food coloring

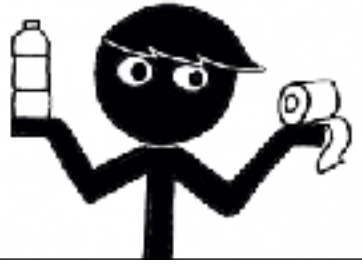
Method:

a) Place three times as much oil as water into a plastic bottle.
b) Color the water with food coloring.
c) Add the antacid tablet and watch the beautiful show of color and movement as the water is carried up.

<u>WARNING</u>:
*DO **NOT** PUT THE LID ON THE BOTTLE.*



THE HERO WAS TRAPPED IN A DARK CAVE WHEN THE BATTERIES IN THEIR FLASHLIGHT DIED…



MY ONLY SUPPLIES ARE A MATCH BOX, OIL, AND TOILET PAPER.

SOME WOULD HAVE CALLED THE SITUATION HOPELESS. BUT OUR HERO?

I JUST SCIENCED MY WAY TO FREEDOM.

3. Oil lamp

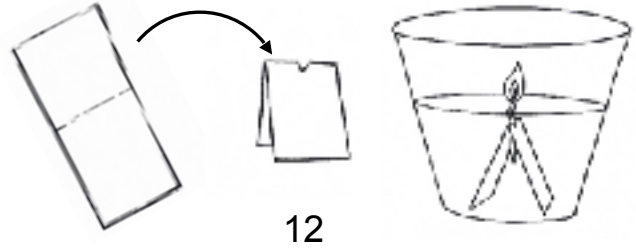
WARNING! ONLY DO THIS INVESTIGATION IF YOU HAVE ADULT PERMISSION **AND** SUPERVISION.

Materials:

- Oil
- Matches
- Cup
- Tissue paper
- Cardboard
- Water (optional)

Method:

a) Cut out a piece of cardboard or plastic to hold the wick.
b) Fold it in half and cut a small hole in the center.
c) Roll up a piece of tissue paper and thread it through the hole, then place the holder in the oil and light the paper wick.



4. Grease Fire Explosion

WARNING! DO NOT DO THIS EXPERIMENT INSIDE. ONLY DO THIS INVESTIGATION IF YOU HAVE ADULT PERMISSION **AND** ADULT SUPERVISION.

Materials:

- Oil
- Camp stove
- Cup of water attached to a long pole.
- Skillet
- Matches

Method:

a) Place the camp stove OUTSIDE and heat the oil in the skillet.
b) If the oil does not catch on fire spontaneously, drop a match in the skillet.
c) CAREFULLY use the long pole and cup to pour water onto the skillet.