

# LAVA LAMP

You'll need *SPOOKY*

A clear plastic or glass bottle or jar

A bottle of vegetable oil

Water

Alka seltzer

Food colouring



## Instructions

Fill the bottle about a quarter full with water. Top up to near the top with vegetable oil.

The oil and water should separate into two layers, water at the bottom and oil on the top.

Once the oil and water have separated, add enough food colouring to get the colour you want. The colour will mix with the water at the bottom.

Drop half an alka seltzer tablet into the container and watch the bubbles.

Add more alka seltzer little by little to keep the bubbles rising and falling.

## Why does it work?

Alka seltzer is made of citric acid and sodium bicarbonate. As the tablet dissolves they mix to form carbon dioxide gas and sodium citrate. It is the bubbles of carbon dioxide that carry the coloured water into the oil giving a lava lamp effect.



# BLOW UP A BALLOON PUMPKIN



## You'll need

Water  
Small bottle  
Orange balloon  
Black Sharpie  
Effervescent vitamin tablet



## Instructions

Blow up the balloon first and let the air out, draw a pumpkin face on the balloon.

Half fill your bottle with water.

Drop an effervescent vitamin tablet into the bottle and place the balloon on top.

Watch as the balloon blows up and the pumpkin grows.

## Why does it work?

Effervescent vitamin tablets contain sodium bicarbonate ( baking soda ) and citric acid. When the tablet is placed in water it forms sodium citrate, water and carbon dioxide which are the bubbles of gas you see.

The carbon dioxide fills up the space in the bottle and then the balloon forcing it to expand.

## Extension Task

Other things to try are popping candy or yeast and warm water.

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# OPTICAL ILLUSION



## PUMPKIN

### You'll need

White cardboard  
Pencils or colouring pens  
Straw or pencil  
Scissors  
Glue/tape



### Instructions

Cut out two squares from a sheet of white cardboard.

Draw a pumpkin on one piece of card and a face for a pumpkin on the second piece.

Glue or sellotape a pencil or straw in between the two pictures.

Hold the pencil between your palms and rub your hands to make the picture spin around.

### Why does it work?

This spooky optical illusion lets you turn two pictures into one! Did you know your brain uses short cuts in order to process all the millions of things you see at any one time. An optical illusion “tricks” your eyes and brain.

When you spin the pencil your brain sees one image first and then the second image before it finishes processing the first, so you see two images at the same time.

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# DENSITY COLUMN

## spooky



## You'll need

**Vegetable or sunflower oil**  
**Water**  
**Food colouring**  
**Treacle**  
**Golden syrup/corn syrup**  
**LEGO or other small objects.**



## Instructions

Carefully pour the liquids into the glass one by one.

Start with the most dense and end with the least dense.



The order in our density column is treacle, golden syrup, red water and oil.

Can you find a spooky object to float on each layer?

## Why does it work?

Each of the liquids have a different mass of molecules or different numbers of parts squashed into the same volume of liquid. This means they have different densities meaning one can sit on top of the other - the more dense a liquid is the heavier it is.

## Extension Task

Try other liquids, can you predict the order of density by pouring them into a container first?







**SPOOKY**

# POTION RECIPE



## INGREDIENTS

**1 TEASPOON BAKING SODA  
( BICARBONATE OF SODA )  
A DROP OF FOOD COLOURING  
WATER**

**1 TABLESPOON OF VINEGAR  
SMALL CONTAINERS  
STIRRING STICK**



## INSTRUCTIONS

**PLACE THE BAKING SODA AND FOOD COLOURING INTO A SMALL CONTAINER.**

**HALF FILL WITH WATER.**

**GIVE IT A GOOD STIR.**

**ADD A TABLESPOON OF VINEGAR AND WATCH THE POTION FIZZ!!**

**EXPERIMENT WITH DIFFERENT AMOUNTS OF BAKING SODA AND VINEGAR TO FIND THE PERFECT POTION!**

**TRY ADDING A LITTLE WASHING UP LIQUID ( DISH SOAP ) FOR EXTRA FIZZ!!**

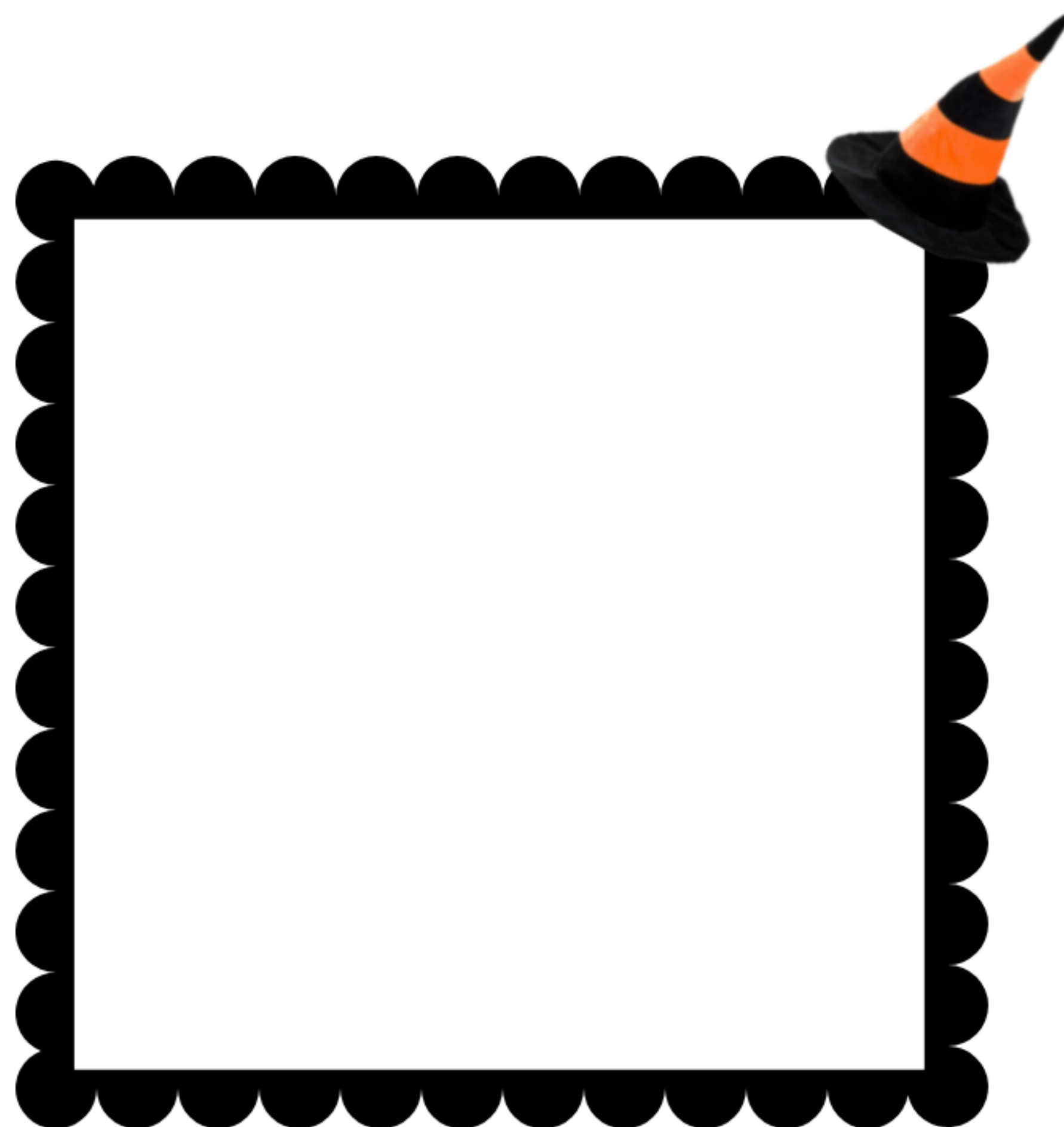




# POTION SPOOOKY RECIPE



## INGREDIENTS



## INSTRUCTIONS

