



Exciting Experiments

Two weeks of scientific fun to gain the activity badge

How to earn the badge:

1. We find out about the world around us using our senses. What can we see, hear, smell, taste, and feel?
2. Scientists think about how things might work and do experiments to find out if they're right.
3. Being a scientist is all about sharing what you've learned. Tell a friend about your experiments and what you found out.



Programme Planner – Week 1

Arrival	Science Colouring
Story	How to Catch a Star
Demo	Fizzy Fruits
Activity	Rainbow Spinners
Game	What is in the Box 1 (one by one)
Demo	Super Slime



Shopping List:

Knife, Chopping board
Baking tray, Large Bowl
Spoon, Jug, Newspaper
Goggles and Syringe
Washing up liquid
Bicarbonate of soda
White vinegar
Food colouring
Lemons and Oranges
Wool (for spinners)
Cornflour
Shaving Foam
Sugar
Card
PVA Glue
Natural Materials
Craft Materials
Dried Foods
Coffee Filters
Water Soluble Pens

Printing:

Science Colourings

Preparation:

Make the Box for the Game (plus five objects)
Cut the Spinners using the template

Programme Planner – Week 2

Arrival	Science Colouring 2
Activity	Tactile Art
Game	What is in the Box 2 (one by one)
Activity	Coffee Filter Pictures
Story	Polar Bear, Polar Bear, What do you hear?

Fizzy Fruits

See shopping list and remember to cover the table before the demonstration, this could get messy!

Prepare the fruit:

Slice off the top and carefully cut or scoop out the flesh with a spoon. You need to scoop out at least enough flesh to hold the fairy liquid, food colouring, and vinegar and place on a baking tray.

Make the volcano:

1. Squirt two teaspoons of washing up liquid into the fruit, then add a few drops of food colouring.
2. Add two or three teaspoons of bicarbonate of soda to the washing up liquid in their fruit.

The fruit volcano may start to fizz.

Create an eruption:

1. Everyone should stand back.
2. An adult should put on protective goggles. They should use a pipette or syringe to carefully add white vinegar into the fruit, one drop at a time, until it reacts.
3. Repeat the experiment with a different fruit. They could change the amount they add of the different ingredients to see how it affects the volcano.

Rainbow Spinner

Give everyone a spinner. It should be a cut-out circle of white card, and each side should be divided into six equal sections and have two pre-cut holes near the centre – see diagram.

Give everyone a 60cm pre-cut piece of string.

1. Everyone should colour both sides of their spinner. They should make sure each section is a different colour. People can choose which colours they'd like, but bright colours work best.
2. Encourage people to be creative and think about putting light colours next to dark colours.
3. Thread one end of the string through both of the holes, so one side of the spinner has a loop of string, and the other side has two loose ends. They should tie the two loose ends together, so the spinner is in the middle of a big loop of string.

Try the spinner

1. Everyone should wind the wheel on the spinner several times. The more they wind the wheel, the better it will spin.
2. Hold the ends of their string, then pull their arms apart to make the wheel spin around. They should look closely at the wheel – what colour do they see? When it's moving really fast, the circle will look white.
3. Everyone should think about why they only see the colour white. They may want to talk to a partner to share their ideas. Does the ink fall off the paper? Do the colours actually disappear? Is our mind just telling us it's white?
4. Now repeat steps one and two to spin the spinner again and try to figure out what's happening.
5. Explain that the spinners looked white because our eyes can't keep up with how fast the colours were spinning, so it combined them and blended them into one, and the spinner looked white. A scientist called Newton used a coloured circle like this to show that sunlight is made up of all of the colours of the rainbow added together to make white light.

What is in the Box?

Prepare and set up the mystery box before the session- medium sized cardboard box, with holes cut in the side (see picture). Make sure no one gets a peek at the mystery items!

Place the mystery items inside the box.

This activity will run for two weeks with five items in the box each week.



Running this activity:

1. The young people come to the box one by one to try to identify the items hidden in the box.
The activity takes place alongside another activity.
2. Tell everyone at the start that everything is safe to touch, and the boxes only contain things you'd find around a home. There is nothing spooky, scary, or anything that'll jump out.
3. Explain that people should put their hand inside each box to feel what is inside.
4. After around thirty seconds, they should guess what the items are inside the box is by quietly telling the adult running the game. Remind everyone not to share their answer with others.
5. At the end of the evening reveal the answers. Did anyone manage to guess them all correctly?

Ideas for mystery box items

You should try to choose items with a range of different interesting textures.

Washing up gloves	Toothbrush	Acorn	Fuzzy pipe cleaners	Feathers – week 1
Socks (rolled)	Rubber duck	Marbles	Cotton wool balls	Fork – week 2

Super Slime

Equipment: Mixing Bowl, Cornflour, Shaving Foam, Sugar and Food Colouring.

Make your foam dough:

Add equal amounts of cornflour and shaving foam to a bowl and mix until it becomes a soft ball.

If the mixture feels dry, add more shaving foam; if it feels too wet, add more cornflour.

Add sugar and food colouring to make the foam dough more interesting.

Let everyone feel the dough.

Tactile Art

Equipment: Big pieces of card, Pens or pencils, PVA Glue, Dried food (i.e. pasta, beans, rice), Natural materials (i.e. leaves, twigs, feathers) Craft materials (i.e. tissue paper, pipe cleaners, stickers).

What is tactile art?

1. Ask everyone if they know what tactile art is.
2. Explain that tactile art is supposed to be touched. It includes different layers and textures to represent different things and because you experience it by feeling it, it often doesn't matter what it looks like. Lots of people can experience tactile art – including people who are blind. These people are often excluded from other types of art that you can only experience by looking at.

Make the art

1. Give everyone a piece of card.
2. Everyone should sketch the landscape they're going to create with their tactile art. It doesn't need to be perfect, as they'll be sticking materials on top – this is just a rough outline. People could draw a landscape they remember, or an imaginary place.
3. Everyone should help lay the materials out onto a table, then close their eyes, and feel different materials. Which materials feel like the things in their landscape? Do some beans feel like the rocks, or cotton wool like clouds? How about plastic wrappers for a lake, or a straw for a lamppost?
4. Once everyone has gathered and laid out their materials, stick them down with glue.
5. All of the artwork should be left to dry before anyone tries to feel it

Coffee Filter Pictures

To make coffee filter colour pictures, use washable markers to draw designs on white coffee filters, primary colours are best, then spray or dip them in water to create a vibrant, blended tie-dye effect. The water causes the colours to blend and spread, creating new colours.

