

EARLY YEARS SCIENCE PROVISION MAP

Play, Observe & Ask

Construction

Learn: how to make observations and take measurements; some materials are stronger than others

You need: paper chains (strips of paper/tissue paper/card, tape or glue sticks), building blocks, small plastic bucket to suspend from paper chain

Play, observe & ask:

- Can you make a paper chain?
- Can you use other materials to make chains?
- How many blocks can you add to the bucket before the chain breaks?
- Which material makes the strongest chain?

Learn: to describe the properties of different materials

You need: construction card, glue, scissors, string, tape, glue, elastic, string, pipe cleaners, pompoms, sequins, tissue paper, etc.

Challenge children to design and create a party hat using a variety of different materials. The hat must stay on your head!

Play, observe & ask:

- Which materials will you use? Why?
- Can you describe your hat?
- How will the hat stay on your head?
- How can we test your hat? (Carry out a comparative test on all the hats, e.g. count to 5 while you walk/dance.)

Outdoors

Learn: how to make observations and take measurements

You need: balloons, string, measuring tape

Play, observe & ask:

- Where shall we play with our balloons? Why?
- How far does the wind blow the balloon?
- Are some areas of our school more sheltered than others?
- How can we test where the wind is strongest?
- Where is the strongest wind?

Learn: to name and describe the properties of natural objects in our outside space

You need: magnifying glasses, spades, buckets/trays

Play, observe & ask:

- What can you find in our place to represent birthday items? (e.g. pine cones as cupcakes, candles as sticks)
- Can you name the objects?
- What does this object remind you of?
- Can you make a celebration cake using these natural objects?
- Can you describe your cake?

Water/Sand Play

Learn: materials can change (sand mixtures/jelly).

You need: for cakes – dry sand, water, spades or spoons, buckets or mixing bowls, candles (or straws); for jelly - boiling water (and an adult), jelly crystals/powder, measuring jug, spoons

Play, observe & ask:

- Can you make a 'cake' in the sand?
- What happens to the sand when you add water?
- Which sand-water mixture makes the best 'cake'? How can we test this?
- Can you make a jelly?
- How did the jelly change?/What did you observe?/Can you describe what happened?

Malleable Play

Learn: the shapes of some objects can be changed by squashing, bending, twisting and stretching.

You need: modelling clay (e.g. Play-Doh*), tools for cutting and shaping, candles (or straws), construction materials (to decorate the cake)

Play observe & ask:

- Can you make a cake?
- How did you shape the playdough?
- How did you add the decorations?
- How can you cut pieces of cake?
- What body parts does it have?

BIRTHDAYS / CELEBRATIONS



Role Play

Learn: what balloons can do

You need: two or more inflated balloons, a light string attached to each balloon, wool fabric (socks or jumper), tissue paper pieces

Play, observe & ask:

- What happens when you hold the balloon by the string? (it hangs down)
- Keep holding the string - What happens when you bring the balloon close to another balloon? Tissue paper? Your hair? (nothing)
- Now rub the balloon on your hair or with the wool fabric - What happens when you bring the balloon close to another balloon? (it moves away) Tissue paper? Your hair? (it move towards the object)

Background science for teacher: Rubbing a balloon on your hair or woollen fabric creates a negative charge on the balloon and a positive charge on your hair or fabric (static electricity). Objects with the same charge move away from each other (repel). Objects with different charges move towards each other (attract).

Sensory Play

Learn: how to use different senses to make observations

You need: feely bags containing a range of items (one per bag) or shaking pots or smelly pots, music

Play observe & ask:

- Can you describe the texture of the object in the bag? The sound in the pot? The smell in the pot?
- What do you think the item is? Why do you think this?

Learn: to describe the properties of different materials

You need: tray/box containing birthday-related objects such as rainbow rice, pasta shapes, coloured confetti, ribbons, bows, waxy candles, foam shapes, vanilla essence, cut up balloons

Play observe & ask:

- What can you find in the tray?
- How does it feel?
- How does it look?
- How does it smell?

Key Science Vocabulary

test, observe, measure, distance

solid, liquid, mixture, runny, wobbly

material(s) - paper, card, tissue, natural, non-natural

properties of materials - strong, weak, heavy, light, bendy, rough, smooth, rough, smooth, soft, hard, prickly, fluffy, spiky, squishy, shiny, dull, smelly, noisy

senses - smell, noise, touch, texture

shape, squashing, twisting, bending, stretching, push, pull, forces

wind(y), shelter(ed)

move, towards, away, static electricity (a detailed explanation is not needed)

Further Science

Changes in materials – What happens to foods when they are cooked? Children could observe changes to ingredients when baking biscuits or cakes.

Prediction/observation/measurement – Which candle will burn for longest?

Children could observe over time and draw what they see.