

11 Socks



1 Unit summary

Children explore socks and develop their understanding of materials, forces and simple ideas about keeping warm (insulation). Children compare materials and have fun using their senses to make feely and smelly socks.

Science learning

Children learn the names and properties of different materials. They develop the ability to classify according to their own and given criteria (e.g. warm, smooth, rough and stretchy). Understanding of cause and effect is developed through exploring forces, where children change the shape of the socks by stretching them. Throughout this unit, children carry out simple comparative tests.

Science for practitioners

Using the correct scientific language is important to avoid misconceptions. Sorting socks according to their own criteria are key activities in this unit, so use words such as 'sort' and 'set' (also used in mathematics). Children should also begin to develop their understanding of the words 'material' and

'fabric'. Material is the name given to wool, wood, metal, glass, concrete and plastic etc., whereas fabric refers specifically to cloth, which is woven using different materials (such as wool or cotton).

Science progression

Children progress sorting using one criterion (e.g. colour/size/pattern) to several (e.g. colour, stretchiness and size). Then, in Key Stage 1, children are able to group according to names of materials and their properties, e.g. opaque, transparent and flexible. In Key Stage 2 children classify according to specific properties, such as thermal or electrical conductivity.

Switched on Science links

- Key Stage 1, Year 1, Topic 6 – Holidays
- Key Stage 1, Year 2, Topic 2 – Materials Monster

Prime areas

Communication and Language

You could begin this unit with a book, such as *Socks* by Elizabeth Lindsay and Nick Sharratt. Children listen carefully to the story or poem, anticipate events, share ideas and respond by asking questions. They recall what they have been doing, using past forms confidently when telling adults and peers about activities.

Personal, Social and Emotional Development

Have some fun developing children's confidence with the introduction of the phrase: '*I am going*

to knock your socks off by ...'. This encourages children to think about, and tell others, what they are going to achieve in the activity. For example, children might say: '*I am going to knock your socks off by working in a team!*'.

Physical Development

Making sock puppets demands that children use and develop fine motor skills, as well as think about how they use equipment (scissors and needles) to ensure safety.

Specific areas

Literacy

Use key scientific vocabulary with children, such as 'stretch', 'pull' and 'material' in this unit, as well as the language of cause and effect: for example, 'changed', 'because', 'different'. Children love rhyming words, e.g. socks, box, locks, fox; develop children's ability to listen to sounds and engage children in alliteration. You could read *Fox in Socks* by Dr Seuss.

Mathematics

Socks provide a fun context for developing children's understanding of size, ordering and comparative language (e.g. bigger, smaller and heavier). An obvious area of maths is counting in twos. Create interest by using soft toy animals with different numbers of feet, e.g. sheep, spiders or centipedes;

children can count in twos to find out how many socks each animal needs.

Understanding the World

Children design and make their own sock puppet, e.g. a cat, a snowman or a snake puppet, and use different materials and techniques to create a character, e.g. by adding felt or googly stick-on eyes.

Expressive Arts and Design

Children can use their sock puppets to put on a performance play such as *The Three Little Pigs*. Some children will enjoy the freedom to be more expressive through their sock characters talking and moving; if you have a mirror in the area children could watch themselves perform.



2 Getting ready



Resources

Clothes line, Collection of socks (do ask parents to donate clean paired or odd socks of different colours, fabrics, sizes and patterns), Online resources via My Rising Stars, Pot pourri, Sand, Wrapping paper, Computer microscope.



Key Vocabulary

Cold, Compare, Cool, Different, Dries, Elastic, Fabric, Fastest, Feel, Feet, Material, Senses, Similar, Smell, Socks, Sort, Stretch, Toes, Toenails, Warm, Wet.



Home science links

Let parents and carers know that the children will be engaged in a topic on socks, so that they can donate socks and work at home with children to pair socks. They might also make their own feely socks and smelly socks (see 'Characteristics of effective learning') and bring them into school for other children to explore.



Health and safety

Be careful when using needles to make sock puppets or if adding weights to measure the stretchiness of socks.



Websites and books

Socks – Elizabeth Lindsay and Nick Sharratt

Wriggle and Roar! Rhymes to Join in With – Julia Donaldson and Nick Sharratt

Octopus, Socktopus – Nick Sharratt

Fox in Socks – Dr Seuss

A Fox Got My Socks – Hilda Offen



3 Explorations

Have a huge teddy so that children can explore which socks fit, socks to match the weather or put odd socks on Teddy with very subtle differences to challenge children to look closely to find the matching sock.

Introductory activity

You could begin this topic by taking a pile of socks into school and explaining that they are all mixed up and you need help sorting them into pairs. They could work in 'pairs' to do this, then once they have found a pair, they need to put

them in the correct place by matching the sock to the labels on boxes, e.g. according to colour, pattern, stretchy socks, warm socks, woolly socks, cotton socks, baby's socks, Mum's and Dad's socks.

Focussed exploration

Activity 1 – Thermal Socks

Storylines are a useful context for introducing a problem to children. In this case it could be that Teddy Explorer or Santa has sent an email or letter telling the children that they need a very warm pair of socks, as they are in a very cold part of the world (you could show the children pictures of Arctic regions).

Put out a range of pairs of socks, from very thin, to thick woolly hiking socks, for children to make

comparison by putting the socks on their hands to find out which sock keeps them warmest. Focus on key scientific language, such as compare, similar, different, warm, cold, cool and fabric. Ask children to think about which sock is best for Santa and why. They might suggest that it is because it is wool and they have a woollen coat that is warm, or because the sock is very thick.

Activity 2 – Smelly Socks

You could use lavender, dried orange or coffee to create a range of 'smelly socks' for children to explore. Let children identify the different smells. They could match the smell to an object or a picture. Children could sort the 'smelly socks' according to their own criteria, such as like and dislike, or extend the language and include sweet and sour.

Having explored the 'smelly socks', children can then create their own by choosing from substances such as lavender, rose petals, herbs, spices, pot pourri or soap. Let the children explore flowers in the school grounds and also herbs to put inside their sock. Tell children to keep it a secret from others and then ask their friends to smell the sock and say what they think it is. When talking with children, encourage them to justify their decisions.

Activity 3 – Feely Socks

Fill pairs of socks with the same filling, e.g. cotton wool, pasta, bubble wrap, oats, marbles or pebbles. Then mix them up on a table or in a box for children to sort the socks into pairs using their sense of touch. This is an activity where children will benefit from working in twos, talking to each other about what they can 'feel' in each

sock and helping to find the matching pair. Adults working with children should model language using words such as touch, feel, hard, soft, squashy, bendy, rigid and slippery.

Now give children a pair of socks so that they can create their own pair of 'feely socks'.

Free-flow exploration

Activity 1 – Sock Shop

In the role-play area, create a 'Sock Shop' with socks of all different sizes, fabrics, patterns etc. Children could sort socks in many different ways, including size, stretchiness, colour, fabric and pattern as well

as buying and selling socks. You could also place challenges in the shop, e.g. find the odd one out, or match the sock to the age of the person, e.g. baby, teenager and adult.

Activity 2 – Stretchy Socks

Create an area where children explore the idea of stretchy socks by filling different socks with a range of objects (parcels, irregular shapes, sand or satsumas!). Leave some socks in the area with objects already inside, to give children a clue of what they can do.

You could then build on this with a focussed exploration, offering children a problem to solve by carrying out comparative tests. For example, a giraffe wants a pair of socks. Which socks are the stretchiest and would fit the giraffe's long legs?

Taking it further

Children can use a sock to grow cress or grass seeds to make a 'Hairy Sock Head'. These are easily made by filling the end of the sock with grass seed or cress (this will be the top of the head – hair) and then

adding compost until the end of the sock is rounded. Tie the sock, then children draw or stick a face on the head, place it in a sunny spot and water the top regularly and observe the 'hair grow'.



4 Characteristics of effective learning

Playing and exploring

- Children can use their senses, particularly smell and touch in Smelly Socks and Feely Socks.
- Children can use a range of objects to role play sorting and selling socks.

Active learning

- Children can persist with an activity such as making feely or smelly socks. They enjoy meeting challenges and are proud of their accomplishments.

- Children can problem solve when creating hairy sock heads and bounce back after facing challenges.

Creating and thinking critically

- Children can choose ways to do things by planning how to find out which is the stretchiest sock and review how well their approach worked.

Early learning goals

ELG 1 Listening & Attention: All activities; **ELG 2 Understanding:** All activities; **ELG 3 Speaking:** All activities; **ELG 4 Moving & Handling:** Focussed exploration 1, Free-flow exploration 2, Taking it further; **ELG 5 Health & Self-care:** N/A; **ELG 6 Self-confidence & Self-awareness:** Personal, Social and Emotional Development section; **ELG 7 Managing Feelings & Behaviour:** Focussed exploration 2; **ELG 8 Making Relationships:** Free-flow exploration 1; **ELG 9 Reading:** Introductory activity; **ELG 10 Writing:** Taking it further; **ELG 11 Numbers:** Introductory activity, Free-flow exploration 2; **ELG 12 Shape, Space & Measure:** Focussed exploration 1, Free-flow exploration 2; **ELG 13 People & Communities:** N/A; **ELG 14 The World:** Focussed exploration 2; **ELG 15 Technology:** Taking it further; **ELG 16 Exploring & Using Media & Materials:** Expressive Arts and Design section; **ELG 17 Being Imaginative:** Free-flow exploration 1.