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Introduction



Hello! We hope you enjoy using this book and CD and that the ideas in it help add to your toolbox of resources for teaching science.

About the book

The main idea behind *Using Stories to teach Science Ages 5-6* is to use stories as a different way of initiating a science lesson. A science concept is presented in a format that shows how science can relate to normal (or imagined!) life and that helps the children learn about science concepts in a fun way. The more ways, especially fun ways, we look at a subject we're learning, the more likely we are to understand it and to remember it!

The stories and poems in the book have been written and road-tested over a number of years in schools across the UK. Inevitably, over the years the science curriculum has changed and been modified, however as the core skills and concepts children need to learn at any age are essentially the same, we have been able to link the stories to the new curriculum.

We hope that the stories and poems can provide a resource for initiating or supporting work to cover the Programmes of Study for each year group. Therefore in the teachers' notes accompanying each piece we quote the Programmes of Study and supporting Notes and Guidance specified within the new curriculum. In the teachers' notes we also suggest follow-up work, often incorporating worksheets or the illustrations that accompany the pieces, which you can use to create a whole lesson, or several lessons, around each piece.

In each case, the story and its associated lesson could be used to introduce each topic or could be incorporated into the series of lessons you are planning for that area of science. Of course, suggested lesson plans are only a guide and so you can pick and choose the suggestions and ideas that will work best in your school, with your class etc.

Reading the story

We recommend that you read the children the story twice. The first time as a story in its truest sense – a story they can listen to and enjoy as a piece of narrative, without it being broken up and dissected as it's told. Hopefully the enjoyment they get from the story will enhance their enjoyment of the science they

are learning. However, on the first reading of the story, they may have been so involved in the plot etc. that they miss some of the science ideas that are used in the story.

On the second reading, you can get the children to focus on the science ideas by stopping at the points where a new science concept enters into the narrative and discussing its role in the story, using an enlarged copy. This also means that the children will be able to enjoy seeing – and learning from – the illustrations as well and many of the children will enjoy reading the story with you.

Using the lesson plans

For each story we have highlighted the sections that the stories/lessons cover most fully along with the National Curriculum areas that are covered.

Within the planning we have added reference statements headed **WALT**, **WILF** and **TIB** as these or similar systems are often used to ensure lessons are focused, objective led and in context for the learner. They help summarise purpose of the lesson, what is required of the children in order for them to successfully learn that lesson and why what they are learning is important.



WALT stands for "We Are Learning Today."



WILF stands for "What I'm Looking For."



TIB stands for "This Is Because."

The worksheets/record sheets are designed to support the learning the children are making in science. We recognise that completing them will often require literacy skills, which in a few cases the children will not have at the required level. In order that the work remains focused on science, we suggest that you or your classroom assistants etc. scribes for such children so that their capability in science is not held back by specific difficulties with literacy. The investigative lessons support assessment for learning by enabling time for teachers and/or classroom assistants to record comments made by the children as they plan experiments/discuss predictions etc.

Links to curriculum

Story	Science topic(s) covered	Curriculum links Year One	Curriculum links Year Two
		Programme of Study (PS)	Programme of Study (PS)
		Notes & Guidance (NG)	Notes & Guidance (NG)
		Follow-up material from each section supports "Working scientifically" requirements.	Follow-up material from each section supports "Working scientifically" requirements.
The Robo-octopus-dog-rat-bat-eagle-ot	The senses	Animals, including humans (PS & NG)	
Be proud of body parts poem	Parts of the body, including those associated with the senses.	Animals, including humans (PS & NG)	
The three little pigs go camping	Using different materials (for waterproofing)	Everyday materials (PS & NG)	Uses of everyday materials (PS & NG)
The boy who wanted to be a torch	Light sources Reflective/non-reflective materials	Everyday materials (PS & NG)	Uses of everyday materials (PS & NG) Also helpful for Y3 Light (PS & NG)
Hare and Tortoise II	Moving on different surfaces/Forces	Everyday materials (PS & NG)	Uses of everyday materials (PS & NG) Helpful for Y3 Forces and magnets (PS & NG)
Man-made materials	Man-made and natural materials	Everyday materials (PS & NG)	Uses of everyday materials (PS & NG)
Where's the wildlife?	Animals and plants in local habitats	Plants (PS & NG) Animals, including humans (PS & NG)	All living things and their environment (PS & NG)
Problems for Princess Puzzle	Story about fair testing	Working scientifically	Working scientifically
CD Supplement			
Animal pyramid	Sun moving through the sky Mammals and other animals	Animals, including humans (PS & NG) Seasonal changes (PS & NG)	Living things and their habitats (PS & NG)

The Robo-octopus-dog-rat-bat-eagle-ot

Links to curriculum

Year One

Animals, including humans

Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (PS)

Pupils might work scientifically by... using their senses to compare different textures, sounds and smells. (NG)

Background

This lesson allows the children to explore for themselves and think about the five senses that we possess and also the senses possessed by some animals, along with providing opportunities for class discussion of the five senses.

The story and the follow-up work the children do will provide them with tools, such as images they can recall, to learn and remember the five senses of touch, smell, taste, hearing and sight. They provide a stimulus to encourage the children to appreciate their senses and think about how we benefit from having them. It also reminds us to think about the importance of maintaining good health, so that we can maintain our senses and to think about people who have one or two senses that are less acute or missing and how to appreciate and help them.

Resources

- Activity sheets 1–3 (pages 12–14).

Lesson plan

Explain to the children that the lesson will involve them thinking about the five senses that we and some animals possess that enable us to be aware of the world around us. To demonstrate the senses you could get the children to use each one and then list them.

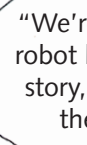
For example:

- **For touch** – ask one or more of the children to close their eyes and then give them a furry toy to hold. Ask them to describe it; then ask them how they were able to describe it.
- **For taste** – as above but this time give each child a piece of biscuit to eat. Ask them to tell you how they knew it was a biscuit.

- **For hearing** – give the children instructions such as 'Stand up' and 'Sit down.' Ask them how they knew what you wanted them to do.
- **For sight** – say, 'Look at that,' and point to something interesting in the classroom, possibly something unusual you've placed in an unexpected location (such as on the ceiling!) that they wouldn't have noticed otherwise. Ask the children how they managed to notice the object.
- **For smell** – ask the children to close their eyes. Spray a small amount of perfume into the air. Ask them to tell you what you did and how they were able to tell.



"We are learning about the five senses."



"We're going to draw a robot like the one in the story, showing each of the five senses."



"We need to understand how incredible we are."

Tell the children that the story is about a funny professor who seems to have forgotten that people have different senses that help them know about what's going on in the world around us. He's trying to make a machine that will help us know about the world around us, using senses we already have! Tell them to listen to the story carefully because they will be making drawings of the machine the professor is trying to make or machines similar to it.

Read the story (pages 10-11).

Ask the children if they can remember which senses the professor's machine was supposed to have and which animal he was using as the inspiration for each part of his machine. List them as you go, asking the children

why the professor used each animal as the inspiration for that part. Ask them why that particular sense is so useful to that animal and also why that sense is so useful to us.

You could also ask the children to think about all the ways the senses help us today to find out about what's going on in the environment around us – which often involves avoiding danger. For example, seeing and hearing that a car is coming! You could make a class list of the ways in which each sense is useful.

Further suggestions

The children could be asked to draw a mind map of the five senses particularly thinking about what we use our senses for; for example, ears to hear the alarm clock in the morning so we can get to school on time (hooray!).

Individual, paired or group work

Explain to the children that you now want them to make their own drawing of the Robo-octopus-dog-rat-bat-eagle-ot or a robot inspired by other animals likely to have, or well known for having, each of the five senses. Hand out Activity sheet 1, 2 or 3. Ask them to label their drawing, showing which part of their drawing represents each sense.

Activity sheet 1 is for lower achievers. It requires the children to draw a Robo-octopus-dog-rat-bat-eagle-ot and gives illustrated and verbal reminders of the five senses they have to include and label. The average achiever sheet (2) only gives illustrated reminders while the higher achiever sheet (3) asks the children to make up their own robot, using different animals as their inspiration without any reminders about the senses that need to be labelled.

You could cut out the pictures they have drawn and use them for a classroom display.

Plenary

Ask the children to list the five senses. Discuss the ways in which each sense is particularly useful to us and why we should appreciate having it; for example, how it can make life more rewarding and protect us from danger. Refer back to the class list if you made one.

You could ask the children to think about how we should help and appreciate those people who have sensory impairments of some kind and think about how we can help them to be safe and to enjoy the senses that they have.

You could also discuss how important it is to protect our sense organs such as the eyes and ears and how they can be protected when we do certain jobs.

The Robo-octopus-dog-rat-bat-eagle-ot

'WHIZZ!!! Ka-ching! Zipp! BONG!'

'OH BOTHER, BOTHER BOTHER!!!'

'What's he up to this time?' thought Stir-Fry as he was taking the professor's dinner to him in his laboratory.

When he opened the door he was none the wiser. The professor was dwarfed by his attempt at a latest invention. All Stir-Fry could see were mechanical models of tentacles, noses, tongues, wings, legs, eyes, ears and so on, all sticking out in all directions. It looked like a nightmare made up of a mad mix of lots of animals.

'Ah, Stir-Fry,' said Professor Darius Mc Von Wibble Wibble. 'This is my latest invention... well, latest invention to be... it's a "Robo-octopus-dog-rat-bat-eagle-ot" !'



'Um.. what does it do... or rather what is it supposed to do?' asked Stir-Fry, pretty sure that the answer was going to be fairly nutty.

'I'm making a device that can see, hear, feel, taste and smell!' The professor explained. 'The octopus is famous for its sense of touch – after all, it's got eight tentacles to feel with! Dogs are often used to help us because of their strong sense of smell. Rats have a brilliant sense of taste so they can tell if something is good to eat or not, bats have a terrific sense of hearing as it helps them fly in the dark and eagles are... well... eagle-eyed, ha ha, because their sharp sense of sight helps them find their food!

My machine will have all these five incredible senses! It'll know all sorts of amazing things about what's going on around it! I'll just have to feed it healthy fuel – known as food – and give it plenty of chance to keep all its parts working – known as "exercise" !'

'Um... ' began Stir-Fry, nervously. He knew the professor hated anyone not liking his

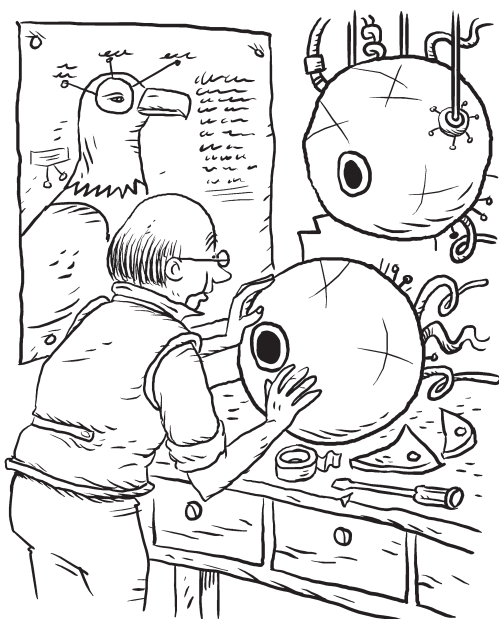
inventions – no matter how crazy they were. 'Aren't you just trying to invent a machine that does what most people can do anyway?' he asked.

'What do you mean?' demanded the professor.

'Well, most people already have all of those five incredible senses of sight, hearing, touch, smell and taste. Also, most people lacking one or two senses can use the ones they have even more strongly anyway. For people to keep healthy they have to eat healthy food and have exercise, just like your robo-thingy-ot,' explained Stir-Fry.

When Stir-Fry had finished there was silence for a while. The only sound was made by a bit of the professor's invention as it fell off and hit the ground.

'Hmm,' said the professor eventually. 'It does seem that people can do all the things that my "Robo-octopus-dog-rat-bat-eagle-ot" can do.'



'Er. Yes...,' agreed Stir-Fry as another part of the invention fell off. 'I'm sure it'll come in useful for something though!' he added.

'Yes... yes...,' agreed the professor. 'Maybe I'll have a go at inventing something else. No use inventing something people can do by themselves already.'

'Good idea,' agreed Stir-Fry.

A few days later, the professor was starting to invent a machine that helps you put your socks on. Meanwhile, Stir-Fry was hanging the washing out to dry on the bits sticking out of the "Robo-octopus-dog-rat-bat-eagle-ot" that hadn't ended up falling off it.

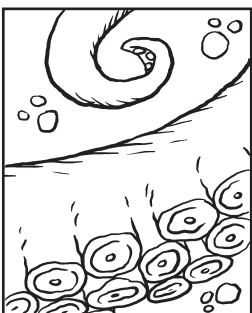
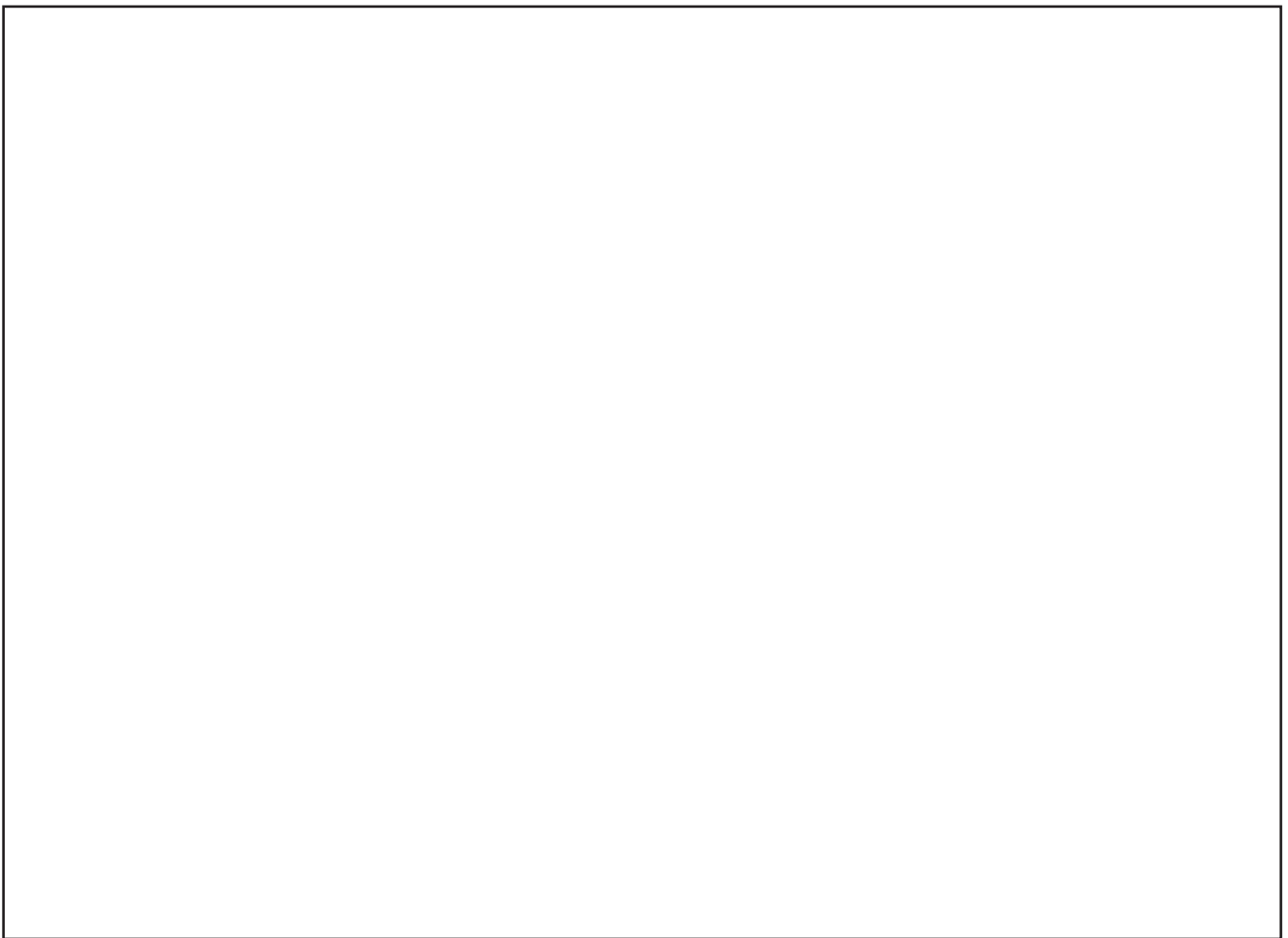
The End

Activity sheet 1

My Robo-octopus-dog-rat-bat-eagle-ot

Name: _____

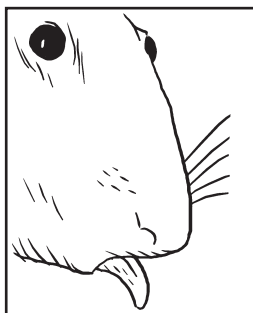
Draw a picture of what you think the Robo-octopus-dog-rat-bat-eagle-ot would look like.
Label each of the senses that the machine would have.
There are clues at the bottom of the page to help you.



touch



smell



taste



hearing

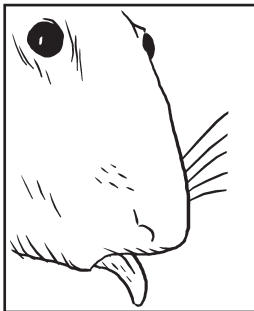
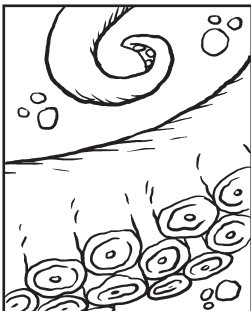
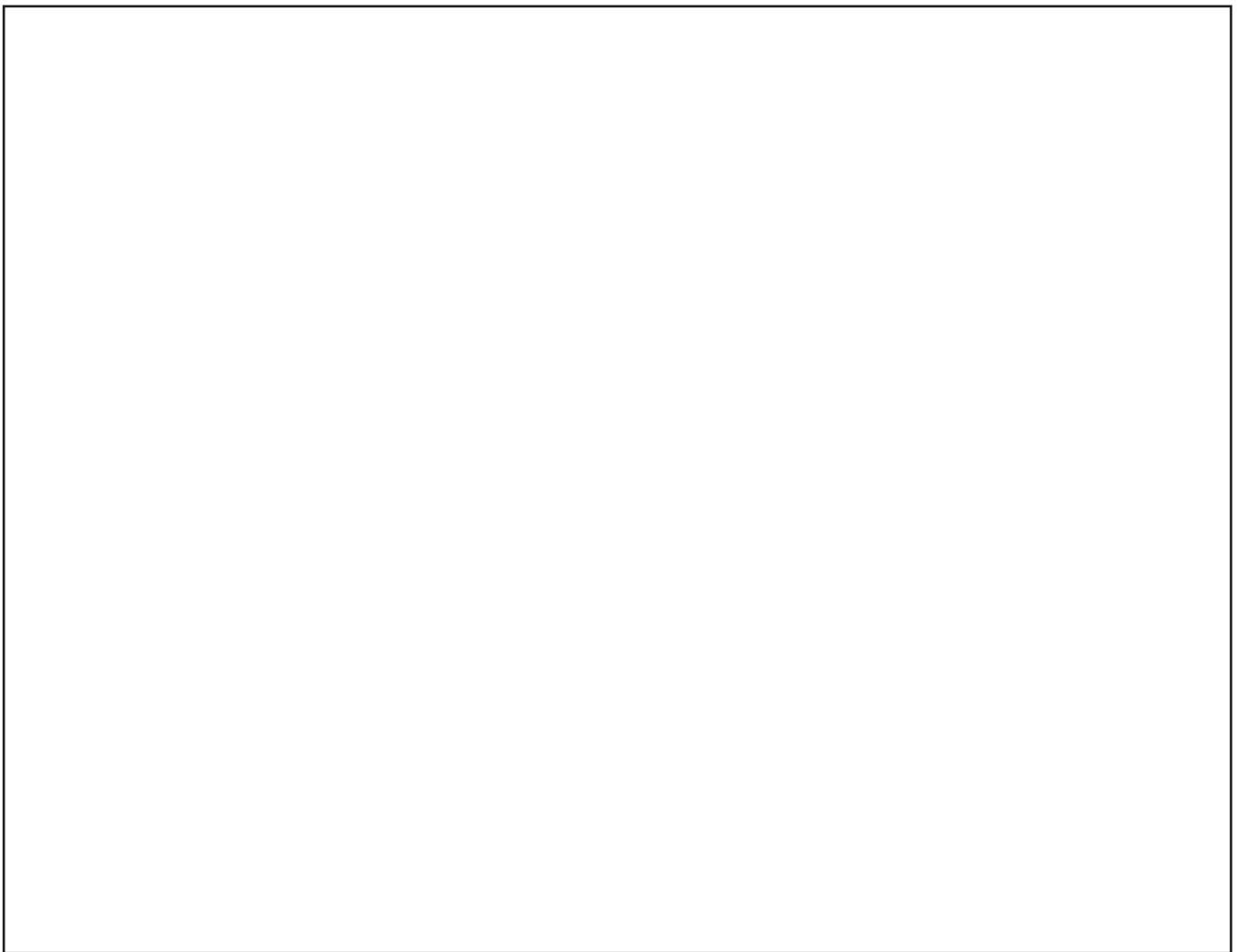


sight

My senses machine

Name: _____

Draw a picture of the robot with five senses from the story or your own machine.
Label each of the senses that the machine would have.
There are clues at the bottom of the page to help you.



Activity sheet 3

My senses machine

Name: _____

Draw a picture of a different machine with five senses, using different animals as the idea behind each part. Label each of the senses that the machine would have.

