

Pipworth Community Primary School Science Curriculum

Year One Humans - Biology

What do we use our senses for? (Seasonal Changes)

This unit provides you with a framework for progression, including learning objectives, suggested TAPS assessment and PLAN science units, and clear links to national curriculum to help with topic planning.

Resources are available on PLAN science and TAPs document.

Please note there are two lessons on seasonal changes in this half term to be completed (It may be best to do the autumn one at the beginning and the winter one at the end of the half term).

You will need to complete an autumn and winter walk as well as a senses walk as part of the unit) and make a class journal to record in.

Core Substantive Knowledge

We use our senses to **gather and respond to information about our environment, which aids our survival**. Each sense provides different information which is combined and interpreted by our brain. Which sense is dominant varies between different animals, as well as which is the most sensitive.

The five senses - sight, taste, touch, hearing and smell - **collect information about our environment that are interpreted by the brain**. We make sense of this information based on previous experience (and subsequent learning) and by the combination of the information from each of the senses.

Our senses allow us to learn, to protect ourselves, to enjoy our world. Can you imagine what it might be like to live your life without any of your senses? The senses usually work together to give us a clear picture of the things around us. If one sense is not working due to an accident or illness, then other senses will take over or become stronger to make up for the missing sense.

The five senses are: taste, sight, touch, smell, and hearing.

Taste

Our sense of taste comes from the taste buds on our tongue. These buds are also called [papillae](#) (say: puh-pih-lee). But, the sense of smell also affects our taste. The tongue is only able to taste four separate flavours: salty, sweet, sour and bitter. But, you might ask, how come different sweet foods taste different if there are only four flavours? That's because your favourite candy might be a combination of sweet and salty. And the chips in your chocolate chip cookie could be a combination of sweet and bitter. Everything you taste is one or more combinations of these four flavours.

Not only can your tongue taste, but it also picks up texture and [temperature](#) in your food like creamy, crunchy, hot or dry.

Your tongue is also one of the strongest muscles in your body and is able to heal from injury more quickly than other parts of your body. We also need our tongue to produce certain sounds when we speak.

Sight

Our sense of sight is all dependent upon our eyes. A [lens](#) at the front of the [eyeball](#) helps to focus images onto the [retina](#) at the back of the eye. The retina is covered with two types of light sensitive cells – the [cones](#) and the [rods](#). The cones allow us to see colour and the rods allow us to see better at night and also aid us in our [peripheral](#) vision. All of this information is sent to the brain along the [optic nerve](#).

The images sent are actually upside down and our brain makes sense of what it receives by turning the image right side up. The brain also uses the images from two eyes to create a [3D](#) (three dimensional) image. This allows us to [perceive](#) depth. Some people are not able to tell red colours from green colours. This is called colour blindness. Others, through injury or other conditions, have little to no sight at all.

Touch

The sense of touch is spread through the whole body. [Nerve endings](#) in the skin and in other parts of the body send information to the brain. There are four kinds of touch sensations that can be identified: cold, heat, contact, and pain. Hair on the skin increase the [sensitivity](#) and can act as an early warning system for the body. The fingertips have a greater [concentration](#) of nerve endings. People who are blind can use their sense of touch to read [Braille](#) which is a kind of writing that uses a series of bumps to represent different letters of the alphabet. Our skin is the largest organ in our body and contains the most nerve endings.

Smell

Our nose is the organ that we use to smell. The inside of the nose is lined with something called the [mucous membranes](#). These [membranes](#) have smell [receptors](#) connected a special nerve, called the [olfactory](#) nerve. Smells are made of fumes of various substances. The smell receptors react with the [molecules](#) of these fumes and then send these messages to the brain. Our sense of smell is capable of identifying seven types of sensations. These are put into these categories: camphor, musk, flower, mint, ether, acrid, or putrid. The sense of smell is sometimes lost for a short time when a person has a cold. Dogs have a more sensitive sense of smell than man. In addition to being the organ for smell, the nose also cleans the air we breathe and impacts the sound of our voice. Try plugging your nose while you talk. Smell is also an aide in the ability to [taste](#).

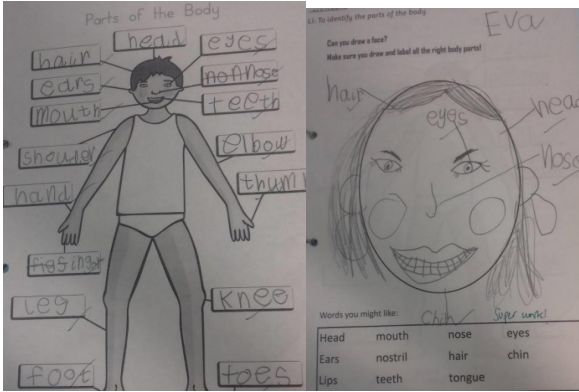
Hearing



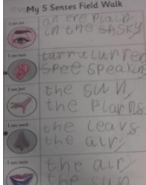
Our ears, which help us hear, are made of two separate parts: the [outer ear](#) and the [inner ear](#). The outer ear is the part that others see. It works like a cup to catch sound as it travels past our heads. This part is made of [cartilage](#) and skin. From here, sound travels to the [tympanic membrane](#) and then onto the inner ear via the three smallest bones in your body. The inner ear is also called the [cochlea](#) and is a spiral shaped tube which translates [vibrations](#) into sound and sends that message to the brain through the [auditory nerve](#). The brain uses the sounds from both the left and the right ear to determine distance and direction of sounds. Some people who are unable to hear rely on sign language for communication. This is done by using their hands and body language to communicate with others.

Additional Senses

In addition to sight, smell, taste, touch, and hearing, humans also have the sense of balance, pressure, temperature, pain, and motion. These various "new" senses all work together and may involve the coordinated use of the sense [organs](#). The sense of balance is managed by a complicated network of various body systems. Any quick change to any of the five senses can cause the feeling of dizziness or unsteadiness. You might have experienced this while riding in a car or turning quickly.

<p>Prior Knowledge Children will have learnt about basic hygiene e.g. keeping clean and brushing their teeth. They should know some body parts and may be able to describe what their senses are used for.</p>	<p>National Curriculum Links Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p> <p>Observe changes across the 4 seasons Observe and describe weather associated with the seasons and how day length varies</p>	<p>Scientific Enquiry and Threshold Concepts: Observation over time Seeking answers to questions through collecting and presenting data</p> <p>Second Order Concepts: Observing and measuring Recording Data</p> <p>Sticky Knowledge: The body is the main part of an animal or human.</p> <p>Humans are warm blooded mammals sometimes called people.</p> <p>The five sense are: taste, sight, touch, smell and hearing. We smell using our nose. We taste using our tongue. We touch using the skin on parts of our body, like our hands. We see using our eyes. We hear using our ears.</p>		<p>Vocabulary Human Body Mammal Warm blooded</p> <p>See Hear Smell Feel Taste Senses</p>
<p>Enquiry Question/Vocabulary</p>	<p>Activities</p>		<p>Resources</p>	<p>Success Criteria</p>
<p>Revisit Prior Learning at beginning of enquiry</p> <p>KQ Are we all the same?</p>	<p>Activity TAPs assessment Today you are an anatomist – you are going to identify and name the parts of the body. Play body part games e.g. Heads, shoulders, knees & toes, Simon says etc. What parts of the body do you know? Point to parts on themselves or others. Check which body parts children know.</p>			

<p>KQ1 Can you identify the parts of the body?</p> <p>LO: Name and label the parts of the body.</p> <p>Sticky Knowledge The body is the main part of an animal or human.</p> <p>Humans are warm blooded mammals sometimes called people.</p>	<p>Introduce Knowledge Organisers</p> <p>Sing some familiar songs about body parts and played 'Simon says ...' with the teacher taking the lead.</p> <p>Talk to the children about humans; tell them we are all humans and that humans are mammals with warm blood. Tell the children that the 'body' is the main part of a human or animal and that we have many body parts. Tell them that our bodies are covered with skin.</p> <p>The children then work with a partner and take it in turns to point to a part of their body and name it. The children are then asked to label the body using labels that they were given on the table use c/p words and pictures to help children spell the words correctly).</p> <p>Then give the children mirrors and ask them to draw and label features of their own face. They could use coloured pens to colour their eyes, skin etc. Are they all the same? What are these parts for? Are you the same/different to your partner? Some children may not need the template for drawing their face into and be able to do their own observational drawing - provide word bank for labelling.</p>	<p>Diagram of the body Communicate in print word bank of body parts</p>	<p>I can name different parts of the body</p> <p>I can label a diagram of the body</p>
<p>Body Human Mammal Warm blooded Skin (body parts)</p>			

<p>KQ2 Which body parts do we use for our senses?</p> <p>LO: Explain which part of the body we use for our senses.</p> <p>Sticky Knowledge The five sense are: taste, sight, touch, smell and hearing.</p> 	<p>Retrieval Practice Sing songs and rhymes to do with the body. Play games. Focus on the body parts children are not secure with.</p> <p>Introduce the key vocabulary: senses, see, hear, smell, taste, feel Which parts of our body do we use for each?</p> <p>Misconception: A lot of people think we only touch with our hands rather than our skin. There are some good slides on here (click link). https://www.thenational.academy/teachers/programmes/science-primary-ks1/units/human-body-parts/lessons/body-parts-for-our-senses#slide-deck</p> <p>Show children photographs of people using each sense and ask them to identify which sense. They record this on a sheet in their books.</p> <p>Ask children to draw themselves and label the picture with the body part they use for each sense. They should write sentences about what each body part is used for e.g. I taste with my mouth.</p> 	<p>Resources e.g. feely bag, smelling pots etc. (Check that any children with asthma don't have any triggers linked to any smells etc)</p>	<p>I can name which body part is used for which sense</p> <p>I can say what each sense is used for</p>
<p>See Hear Smell Taste Feel Senses</p>	<p>Take children outside so that they could focus on each sense in turn and identify what they noticed in particular when they used one sense. Children record this when they come back to the classroom.</p> 		

KQ3 How can we use our senses?



LO: Know which body part is used for each of the 5 senses.

Sticky Knowledge

We smell using our nose.
 We taste using our tongue.
 We touch using the skin on parts of our body, like our hands.
 We see using our eyes.
 We hear using our ears.

See
 Hear
 Smell
 Feel
 Taste
 Senses

You may want to start the half term with this unit and look at Autumn and then revisit at the end of term looking at winter.

Retrieval Practice

Match senses to body part (you could add pictures to these for pupils who can't read):

See	Hear	Smell	Touch	Taste
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Ears	Nose	Eyes	Mouth	Skin
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Activity

Set up a carousel of activities for children to explore using the different senses e.g. tasting different flavoured crisps, feely bags, smelly pots etc.....

Children don't need to record ALL investigations - teacher could focus on one table to work on and collect data and record from this activity only.

Ask pupils to talk about what they find out at the different tables through.

I can name which body part is used for which sense

I can say what each sense is used for

Seasonal Changes

National Curriculum Links:

Pupils should be taught to:

observe changes across the 4 seasons

observe and describe weather associated with the seasons and how day length varies

You will need to prepare a class big book to record and save photographs of children on their walks and to save class data in.

KQ4How do I know it is Autumn?

LO: Describe the weather associated with Autumn.



Spring
Summer
Autumn
Winter
Seasons
Weather

Sticky Knowledge
We see using our eyes.

Retrieval Practice

Read poems and stories to the children depicting Autumn.

An Autumn Greeting

"Come," said the Wind to the Leaves one day.
"Come over the meadow and we will play.
Put on your dresses of red and gold.
For summer is gone and the days grow cold."

You will need to set up a class journal to record whole class work in over the year.

Remind the children of the four seasons through looking at images of the four seasons. Focus on different pictures depicting Autumn. Ask children to use their senses to describe what they can see.

Take the children on an Autumn walk in the local area (over the fields) and ask them to make small observational drawings of what they can see. Take digital cameras/ iPads to take photographs. Draw the children's attention to the weather outside also. You could collect leaves and ask the children to make detailed observational drawings of them and collect some to put into the class journal.

Talk to the children about the length of the day.

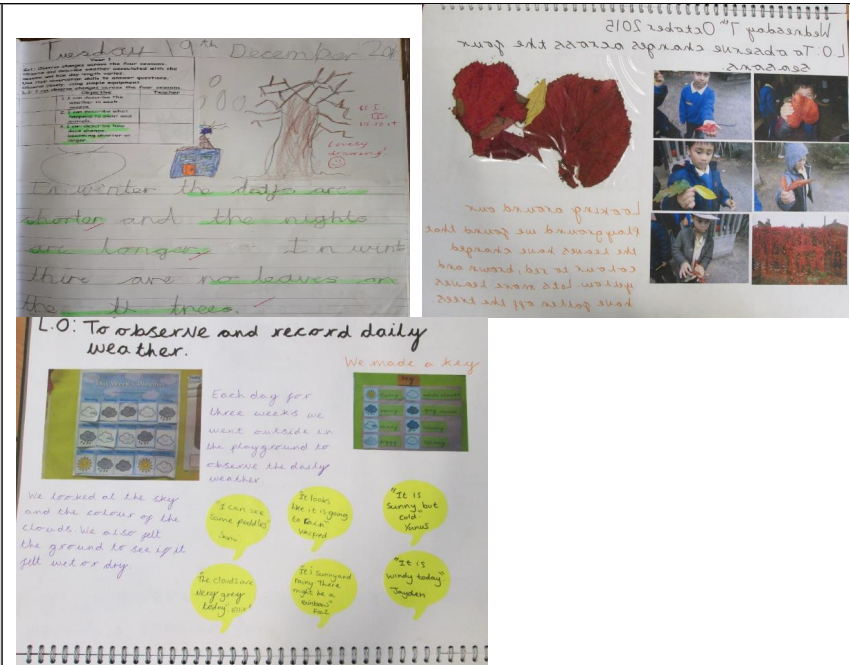
What is happening to the length of the day?

Children can record what they see on their autumn walk. They could write sentences or draw and annotate a picture.

Keep a record of the weather in class journal for the week.

Digital cameras
iPads
Small pieces of paper to make small observational drawings on

I can describe what I can see outside in Autumn
I can describe what the weather is like.

			
<p>KQ5 How do I know it is winter?</p> <p>LO: Describe the weather associated with Winter.</p>	<p>Retrieval Practice</p> <p>Read poems and stories to the children depicting winter.</p> <p>https://childrens.poetryarchive.org/explore/?key=winter</p> <p>You will need to set up a class journal to record whole class work in over the year.</p> <p>Remind the children of the four seasons through looking at images of the four seasons. Focus on different</p>	<p>Digital cameras IPads Small pieces of paper to make small observational</p>	<p>I can describe what I can see outside in Winter I can describe what the</p>

Spring
Summer
Autumn
Winter
Seasons
Weather



Sticky Knowledge
The sense of touch
tells us if we are hot
or cold.

KQ6
Writing like a
scientist - what do
we use
our senses for?

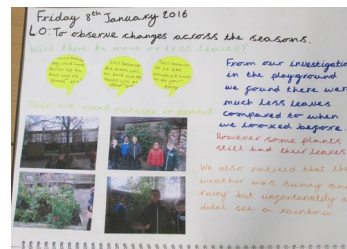
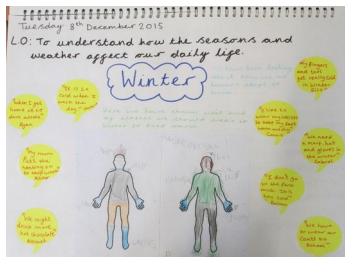
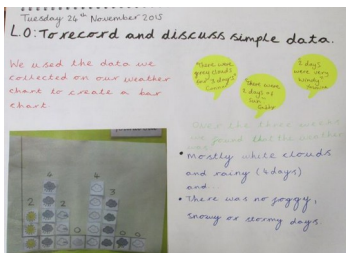
pictures depicting winter. Ask children to use their senses to describe what they can see. Take the children on a winter walk in the local area (over the fields) and ask them to make small observational drawings of what they can see. Take digital cameras/ iPads to take photographs. Draw the children's attention to the weather outside also. Talk to the children about the length of the day.

What is happening to the length of the day?

Children can record what they see on their winter walk. They could write sentences or draw and annotate a picture.

Collect weather data over a week and record in class journal and discuss with the children.

Talk to the children about the type of clothing they would wear in the winter, take photos and scribe children's comments and stick into journal.



drawings on

weather is like.

Give the children a variety of visual prompts to answer the question.
Scaffolded support options:
Use Clicker if appropriate.
Sentence starters
Simple Cloze procedure

Assess against the sticky knowledge.
The body is the main part of an animal or human.
Sticky Knowledge
Humans are warm blooded mammals sometimes called people.

The five sense

		<p>are: taste, sight, touch, smell and hearing. We smell using our nose. We taste using our tongue. We touch using the skin on parts of our body, like our hands. We see using our eyes. We hear using our ears.</p>	
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