Unit – The human body

Enquiry Question: Do the oldest children have the longest feet? (Pattern Seeking)

Knowledge Progression

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

Skill Progression

-Asking simple questions and recognising that they can be answered in different ways
-Performing simple tests
-Using their observations and ideas to suggest answers to questions
-Gathering and recording data to help in answering questions

Key Learning

-**To be able to identify** the head, **neck**, arms, **elbows**, hands, legs, **knees**, feet, face, ears, eyes, nose, hair, mouth and teeth.
-To draw and label these parts (above) correctly
-They identify that humans use their **eyes to see**
-They identify that humans use their **ears to hear sounds**
-Children understand that **their tongue helps them to taste food**
-Children learn that there are **five basic tastes** – sweet, salty, bitter, sour and savoury
-They understand that skin covers the human body and that **touch can be sensed at any point on the body through contact with the skin**.
-They identify that **the nose is used to sense smells**
-Can make simple conclusions to show their findings

Vocabulary

-head, neck, arms, **elbows**, hands, legs, knees, feet, face, ears, eyes, nose, hair, mouth and teeth.
-**Senses**:
-see: light, dark, **blind**
-hear: loud, quiet, noisy
-taste: **sweet**, **salty**, **sour**, **bitter**, **savoury**
-touch: skin, **rough**, **smooth**, hard, soft
-smell: nose, **scent**, sniff, **stench**

Misconceptions

-Children may think that age determines size.
-Children can use different names for the same part of the body. For example, the area between the chest and hips can be called the stomach, tummy or belly.
-Children may not have experienced true darkness and therefore think humans can see in the dark.
-Some children may think that sight is not affected when one eye is covered. Ask children to say what they can see when one eye is covered compared to what they can see with both eyes.
-Children may not recognise that some people have a visual impairment and cannot see well, or that some people cannot see at all and are therefore blind.
-Children may think that the tongue has 'zones' that only recognise a specific taste. Taste buds that detect the five basic tastes are found throughout the mouth.
-Some children may not have had experience of each of the different types of taste. Give them the opportunity to eat foods with each of these tastes.
-Children may think that the hand is the only part of the body that can sense touch.

-Children may have limited vocabulary to describe touch. They may need to learn some words before they complete the practical tasks.
-Children may not recognise that there are a range of different smells. For example, smells can be pleasant or unpleasant. Introduce children to a range of smells, including those with strong odours such as garlic, onion or lavender.
-Children may have limited vocabulary to describe smell. They may need to learn some words before they complete the practical tasks.

Prior Knowledge

-Use all their senses in hands-on exploration of natural materials. (Nursery - Humans)
-Name and describe people who are familiar to them. (Reception - Humans)

Future Learning

-Animals – Y1, Sp1
-Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. (Y2 - Living things and their habitats)
-Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. (Y6 - Living things and their habitats)
-Give reasons for classifying plants and animals based on specific characteristics. (Y6 - Living things and their habitats)

Possible Activities/Evidence

Key Learning Evidence:
-Draw around each child's foot, creating a footprint. Write the child's name, age and birth month on the footprint. Cut around the outline of each footprint. Ask children to order the footprints from longest to shortest. Support children to identify the oldest child's footprint and the youngest child's footprint.
-Play games, sing songs and rhymes with children to test their knowledge of the parts of the body. Games such as Simon says allow children to recap and recall the key vocabulary introduced in this step.

-Put children in a line from oldest to youngest. Give each child their footprint outline. Ask children questions about their age and length of footprint.
• Who is the oldest?
• Does _____ have the longest feet?
• Who is the youngest?
• Does _____ have the shortest feet? Children make simple conclusions based on their findings

-Collect some buckets and beanbags. Children stand 1 metre away from a bucket. Children should try to throw a beanbag into the bucket. Ask children to cover one eye and repeat the throwing task. *Teachers should hold onto children if both eyes are covered.* Repeat again covering both eyes with a blindfold. Discuss with children which attempt was the easiest and which was the hardest and why.
-Use blackout material to darken the room. Explore how light is needed to see. Compare how easy it is to see items in the room with and without a torch and with and without the blackout material.

-Complete a sound walk around school. Ask children to list the different sounds they can hear. Which sounds are loud? Which sounds are quiet? Model the vocabulary associated with the description of sound.
-Have a selection of musical instruments. Ask children to close their eyes and listen to one instrument being played. Can they identify the instrument from its sound? Encourage children to use the instruments to make different sounds. Discuss how they can make sounds louder and quieter.

-Collect a sample of foods for children to taste. *Ensure you cater for any allergies in the class*. Include food from the five basic tastes. bitter sweet savoury sour salty Ask children to taste and describe the different food. Sort the food into groups according to taste. Ask children to order tastes according to their preference. To extend learning, cover children's eyes and ask them to identify the food simply through taste.

Vocabulary Evidence:
Can label parts of the body on pictures and diagrams
Can explore objects using different senses

Make first-hand close observations of parts of the body e.g. hands, eyes.
Compare two people.
Take measurements of parts of their body.
Compare parts of their own body.
Look for patterns between people e.g. Do people with big hands have big feet?
Classify people according to their features.
Investigate human senses e.g. Which part of my body is good for feeling, which is not? Which food/flavours can I identify by taste? Which smells can I match?

Possible Evidence:
Can use first-hand close observations to make detailed drawings
Can name body parts correctly when talking about measurements and comparisons e.g. "My arm is x straws long." "My arm is x straws long and my leg is y straws long. My leg is longer than my arm." "We both have hands, but his are bigger than mine." "These people have brown eyes and these have blue."
Can talk about their findings from investigations using appropriate vocabulary e.g. "My fingers are much better at feeling than my toes" "We found that the crisps all taste the same."

MCQs

MCQ 1: Which statements about the human body are correct?
(Select all that apply)
☐ Humans have two eyes.
☐ The knee is part of the arm.
☐ The elbow is part of the arm.
☐ Feet are attached to the legs.
Correct answers:
☑ Humans have two eyes.
☑ The elbow is part of the arm.
☑ Feet are attached to the legs.
Follow-up discussion questions
- Why might someone think the knee is part of the arm?
- Why is it important to know the correct names for body parts?

MCQ 2: Which statements about sight are true?
(Select all that apply)

MCQ 4: Which statements about taste are correct?
(Select all that apply)
☐ The tongue helps us taste food.
☐ We can only taste sweet foods with one part of our tongue.
☐ There are five basic tastes.
☐ Different people can enjoy different tastes.
Correct answers:
☑ The tongue helps us taste food.
☑ There are five basic tastes.
☑ Different people can enjoy different tastes.
Follow-up discussion questions
- Why might people think different foods taste different to different people?
- Why is the idea of "taste zones" on the tongue incorrect?

MCQ 5: Which statements about touch and smell are correct?
(Select all that apply)

☐ We need light to see.
☐ Humans can see perfectly in complete darkness.
☐ Covering one eye can make some jobs more difficult.
☐ Blind people can always see a little bit.

Correct answers:

☑ We need light to see.
☑ Covering one eye can make some jobs more difficult.

Follow-up discussion questions

- Why might someone think humans can see in the dark?
- Why was throwing the beanbag easier with both eyes open?

MCQ 3: Which body part is the best match for each sense?

A) Eyes – hearing
B) Nose – smelling
C) Ears – tasting
D) Tongue – seeing

Correct answer:

☑ B) Nose – smelling

Follow-up discussion questions

- Can one body part help with more than one job?
- What might happen if one of our senses did not work properly?
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☐ We can only feel things with our hands.
☐ Skin covers the whole body.
☐ The nose helps us smell.
☐ Smells can be pleasant or unpleasant.

Correct answers:

☑ Skin covers the whole body.
☑ The nose helps us smell.
☑ Smells can be pleasant or unpleasant.

Follow-up discussion questions

- Why might someone think only their hands can feel?
- Which other parts of your body can sense touch?

Digging Deepers

Digging Deeper 1 (Early in the unit – linking prior learning)

Question

Imagine you are describing a person to someone who has never met them. Which body parts would you mention and why?

Prompts / hints

Think about:

- Which body parts can you see?
- Where are they on the body?
- What jobs do some body parts do?
- Can you use these words?
    - head
    - arms
    - legs
    - eyes
    - ears
    - nose

Digging Deeper 2 (End of unit – links all learning)

Question

A new child joins your class and asks, "Why do humans have five senses?" How would you explain your answer?

Prompts / hints

Think about:

- What are the five senses?
- Which body part is linked to each sense?
- How do the senses help us every day?
- Can you think of examples?
- Use these words:
    - sight
    - hearing
    - smell
    - taste
    - touch

○ mouth Sentence stems • *The person has...* • *Their _____ helps them to...* • *I would describe...* **Model answer** I would describe the person's head, arms, legs, hands and feet. I could also describe their eyes, ears, nose and mouth. These body parts help us do different jobs, such as seeing, hearing, smelling and eating.	Sentence stems • *Humans use their...* • *Our eyes help us...* • *Our ears help us...* • *The five senses help us...* **Model answer** Humans use their five senses to find out about the world around them. We use our eyes to see, our ears to hear, our nose to smell, our tongue to taste and our skin to feel different textures. Our senses help us stay safe, learn about our surroundings and enjoy different experiences.

Unit – Everyday Materials

Enquiry Question: What material would be the best to make a boat?

Knowledge Progression

-Distinguish between an object and the material from which it is made.
-Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.
-Describe the simple physical properties of a variety of everyday materials.
-Compare and group together a variety of everyday materials on the basis of their simple physical properties.

Skill Progression

-Identifying and classifying.
-Observing closely, using simple equipment.
-Performing simple tests.
-Gathering and recording data to help in answering questions.
-Using their observations and ideas to suggest answers to questions.

Key Learning

-**All objects are made of one or more materials. Some objects can be made from different materials** e.g. plastic, metal or wooden spoons. **Materials can be described by their properties** e.g. shiny, stretchy, rough etc. Some materials e.g. plastic can be in different forms with very different properties.
-Objects are made from different materials.
-Materials can have different textures.
-**There are different types of rock.**
-**Rocks come in different shapes, sizes and textures.**
-Rocks can be used to build things such as walls or buildings.
-Objects are made from different materials.
-Objects can be made from different materials depending on what they are used for.
-**When water freezes it turns to ice; when ice melts it turns to water.**
-**Some materials float in water (this means that they stay at the top); some materials sink in water (this means that they fall to the bottom).**

Vocabulary

Object, material, soft, hard, shiny, dull,stretchy, rock, heavy, light, rough, smooth,metal, wood, plastic, glass, wool, solid, liquid, melt, freeze, ice, float, sink, absorb, transparent, reversible, changes, opaque, independent variable, dependent variable, controlled variables, texture.

Misconceptions

-Children may think that materials can only be sorted in one way.
-Children may focus on sorting based on the material only. (Encourage children to think about other categories for sorting, such as texture, size or mass).
-Children may think that all rocks have the same properties, such as colour or texture. (Show children a range of examples to address this misconception).
-Some children may not relaise that rocks can be shaped and used in every day life, such as buildings.
-Children may not be able to tell the difference between an object and the material it is made from.
-Some children may think certain objects are always made from the same material, for example, all spoons are made from metal.
-Children may have limited vocabulary to describe objects and material. This may need to be revised before they complete the practical tasks.
-Children may not recognie that melting and freezing are reversible changes.
-Children may think that water is not a material as it is not solid like other materials they have explored in this block.

-Children may think the larger an object is, the more likely it is to sink. (Ensure children test a selection of objects of different sizes and masses to avoid this).
-Some children may think that objects made of the same material will all sink or float.
-Children may think that if the water is absorbed by the material, then it has disappeared. (Show them that the water can be removed by squeezing the absorbent material).
-Children may not understand the hazards of using torches. They need to be taught how to safely use this piece of equipment and should be aware that it can damage the eyes if shone directly into them.

Prior Knowledge

Use all their senses in hands-on exploration of natural materials. (Nursery - Materials, including changing materials)
Explore collections of materials with similar and/or different properties. (Nursery - Materials, including changing materials)
Talk about the differences between materials and changes they notice. (Nursery - Materials, including changing materials)

Future Learning

Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Y2 - Uses of everyday materials)
Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2 - Uses of everyday materials)

Possible Activities/Evidence

Key Learning/Vocabulary Evidence:
- Can label a picture or diagram of an object made from different materials
- Can describe the properties of different materials

Possible Activities:
-Classify objects made of one material in different ways e.g. a group of object made of metal.
-Classify in different ways one type of object made from a range of materials e.g. a collection of spoons made of different materials.
-Classify materials based on their properties.
-Test the properties of objects e.g. absorbency of cloths, strength of party hats made of different papers, stiffness of paper plates, waterproofness of shelters.

Possible Evidence of these:
-Can sort objects and materials using a range of properties
-Can choose an appropriate method for testing an object for a particular property
-Can use their test evidence to answer the questions about properties e.g. “Which cloth is the most absorbent?”

White Rose Science Activities:

Step 1 – Explore materials – wood, plastic, glass and metal

- selection of objects made with different materials
- large hoops



Step 2 – Explore materials – rock

- selection of rocks for children to sort
- large hoops
- hand lenses
- labels: hard, heavy, light, rough, smooth
- balance scales



Step 3 – Objects and materials

- sorting hoops
- selection of objects made from different materials

Step 4 – Melt and freeze

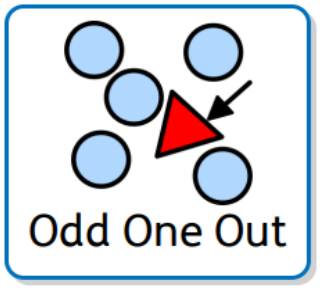
- ice cubes (enough for children to hold in their hands)
- small toys frozen in blocks of ice
- selection of objects for children to use to melt ice, e.g. hairdryer, blanket, gloves



Step 5 – Float or sink?

- large container filled with water
- selection of objects made from different materials





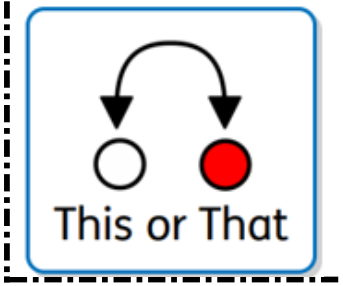
DIGGING DEEPER

Which object is the odd one out?









DIGGING DEEPER

What can make an object sink?

Weight colour shape