



INTERACTION

INTERACTION

CONTENTS	EVALUATION CRITERIA	
	Pupils will be able to:	
Vital functions in human beings: interaction	Know the systems involved in interaction.	
The senses	Know how the sense organs work.	
Introduction to scientific activity: sources of information	Use different sources of information.	
Work and study skills	Develop work and study techniques, work habits and effort and responsibility.	
Projects and reports	Plan and carry out projects, presentations and reports.	

– OPENING PAGES

Song: *How I use my senses*

STORY

A day out at the beach

– WORK TOGETHER

Sensitive skin

– CONTENT PAGES

The nervous system

Sight

Hearing

Smell and taste

Touch

The locomotor system

– OUR WORLD

Sensing our world

– REVIEW

– UNIT SUMMARY

In this unit pupils will learn about:

- the nervous system and the parts of the brain
- the five senses and their organs
- the locomotor system

– LANGUAGE FOCUS

- Vocabulary to describe objects
- Bones, muscles and joints
- The senses
- Tastes
- The nervous and locomotor systems

– KEY STRUCTURES

- Can / can't
- Tell (sb / sth) to ...
- This / These
- Reason clauses: because
- Present tenses: ... reads / is reading

LEARNING STANDARDS Pupils are able to:	KEY COMPETENCES						
	LIN	MST	DIG	LTL	SOC	AUT	CUL
Understand the locomotor and nervous systems are involved in interaction, and identify the elements they are composed of.	●	●				●	
Know how the senses play an important role in interaction.		●			●		
Understand how the sense organs work.		●					
Know some problems that can affect our senses and how to look after the sense organs.		●			●		
Look for, select and organise concrete and relevant information; analyse, reach conclusions, communicate the results, reflect on the process and communicate information orally and in writing.	●		●	●		●	
Express orally, clearly and in order, the contents related to the unit, displaying understanding of oral and written texts.	●	●		●			●
Carry out simple experiments and investigations.				●			●

LIN Competence in linguistic communication

MST Competence in mathematics, science and technology

DIG Competence in the use of new technologies

LTL Competence in learning to learn

SOC Competence in social awareness and citizenship

AUT Competence in autonomous learning and personal initiative

CUL Competence in artistic and cultural awareness

DIGITAL RESOURCES

PUPIL'S IWB

MY COMMUNITY

LEARNING KIT

- Interactive content activities, Interactive language activities, Flashcards, Presentations, Song, Multimedia

TEACHER'S KIT

- Teacher's Book, Test generator, Methodology, Wordlists, Worksheets, Lyrics, Multimedia, 360° evaluations

FAMILY CORNER

- Presentations, Wordlist, Family guide

Page 7 **1.02** **1.03**

Page 8 **1.04**

Page 10 **1.05** **1.06** **1.07**

Page 11 **1.08**

Page 12 **1.09** **1.10** **1.11**

Page 13 **1.12** **1.13** **1.14**

Page 14 **1.15** **1.16** **1.17**

Page 15 **1.18** **1.19**

Page 16 **1.20** **1.21** **1.22**

Page 17 **1.23** **1.24**

Page 20 **1.25**

6 OPENING PAGES

SUMMARY

The aim of the unit opener is to develop pupils' observational skills and find out what they already know about the five senses. Elicit action verbs that describe what is going on in the scene and adjectives to describe the various characters and objects.

LANGUAGE

- Question words: which, how, what, etc.
- Prepositions of place: in, on, under, next to
- There is / are ...
- Can see / Can smell ...
- Vocabulary: see, hear, taste, feel, hear, senses, sense organs, hot, cold, smooth, soft, rough, rigid

MATERIALS

Digital flashcards.

1.02 – 1.03 *How I use my senses song*

GETTING STARTED

- If you are using an interactive whiteboard, focus only on the picture of the beach, not the questions. Either elicit ideas about what is happening in the picture, or ask questions, pointing to each part of the picture.
- Alternatively, use the whiteboard writing tools and ask the pupils to come up to the board, mark an area of the picture and describe what they can see. Help them produce full, correct sentences.

STEP BY STEP

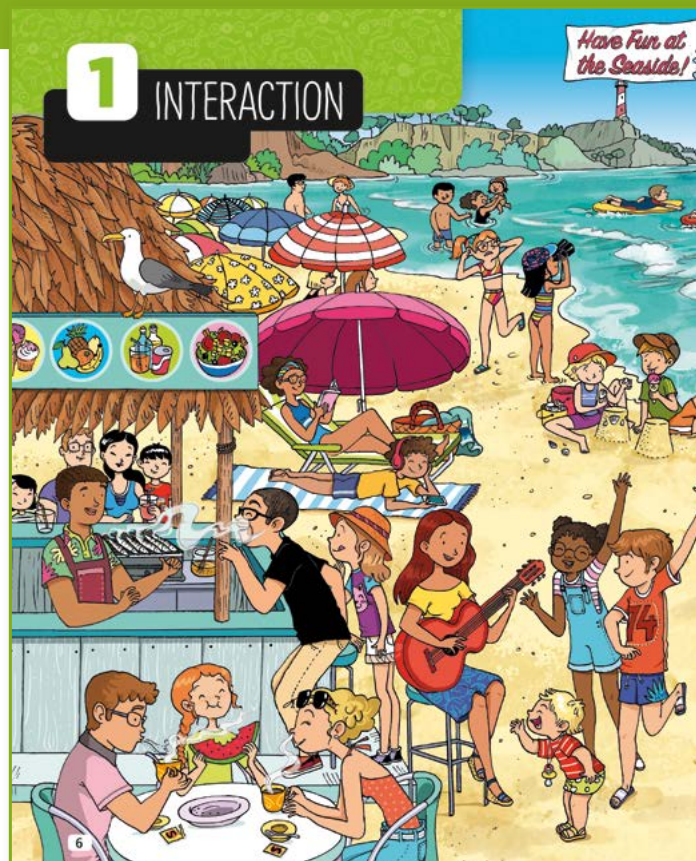
PAGES 6–7

Activity 1

Elicit the names of the five senses and the sense organs. Encourage the pupils to talk about the noises they can hear when they come to school, the things they can see, the odours they can smell, etc.

Activity 2

- Write 'I can...' on the board and model the activity using the sentence starter. With a partner, pupils take turns to point to things they can see / hear / touch / smell and taste in the picture.



- Encourage them to produce full sentences as they do this.

Activity 3

Check pupils understand the adjectives: rough, hard, smooth, soft, rigid. Ask them to find objects in the classroom that represent these adjectives. Then ask them to decide which words describe each of the objects in the picture.

Activity 4

Use the whiteboard writing tools to circle Alex and Carla in the picture. Elicit full sentences from the class.

Activity 5

Model the activity and then ask pupils to raise their hands to answer the question. Draw their attention to the Useful language box to give their answers.

Activity 6 1.02

Draw pupils attention to the words and the pictures. Elicit examples of things we can sense for each. When they are ready, play the song. Give them time to write their answers in their notebooks, and then play the song again to check.

LET'S BEGIN

- Which organs do you use to interact with the world around you?
- Look at the picture. Point to something you can:
 - taste
 - touch
 - see
 - hear
 - smell
- Say which characteristics each object has.

1	2	3	4	5
rough	smooth	hard	soft	rigid
- Find Alex and Carla. What are they doing?
- How are the adults and children in the picture using their senses? Point and say.
- Listen to the *How I use my senses* song. In your notebook, write the words in the order you hear them.

see	touch	smell	taste	hear
- Sing the song. Point to the correct sense organ.

Useful language
He / she ... is tasting / seeing ...

1.02-1.03 HOW I USE MY SENSES



(Chorus)

Five senses one and two,
Three, four and five!
Five senses we can use,
Every day and all our life!

Smell! You can smell with your nose,
Let's smell a pretty rose!
Touch with fingers and toes,
Feel the cold ice when it snows!

(Repeat chorus)

Taste! You can taste with your tongue,
Try different dishes. It's fun!
Hear! We can hear with our ears,
And with our eyes we see who's near!

(Repeat chorus)

Activity 7 1.03

Play the song again and ask the class to sing along while they point to the parts of their body.

TARGETED QUESTIONS

- What can you see in the classroom? Let all the pupils participate. You can extend the question by asking them to look for objects with different characteristics.
- You can bring some objects to the class and let the pupils touch them. **How do they feel?**
- How do deaf people communicate? Pupils can make up some gestures of their own for the rest to guess.
- How many foods and tastes can you think of? Make a list on the board and let the pupils vote for their favourite food.

WRAP IT UP

Play 'Stand up, sit down' using the song to review the vocabulary of the senses and sense organs. Explain to the pupils that they have to stand up and sit down every time one of the senses or sense organs is mentioned.

360° EVALUATION

Download, print and distribute the Diagnostic test and Self-evaluation test for the pupils to complete.

SOLUTIONS

- Eyes, ears, nose, tongue, skin.
- Pupils' own answers.
- Shell (rough, hard, rigid); seaweed (smooth, soft); rock (rough, smooth, hard, rigid); sand (soft, smooth)
- Carla is building a sandcastle; Alex is surfing.
- He / She is smelling ... / tasting ... / touching ... etc.
- Smell, touch, taste, hear, see.

8 STORY

SUMMARY

This page opens with a story in which your pupils have the opportunity to see Carla and Alex at a particular moment during their day at the beach. They are learning to surf and using their limbs to help them balance.

LANGUAGE

- Present simple; First, then, next ...
- Vocabulary: limbs, arms, legs, muscles, joints, knees, salty, bad, delicious, elbow

1.04 A day out at the beach.

Story

A day out at the beach

Listen, read and act out.



1 Read the descriptions and match them to the words below in your notebook.

- a This is an upper limb.
- b This is a lower limb.
- c This is a joint. It helps you bend your arm.
- d This is a joint. It helps you bend your legs.
- e This is the organ you use to taste.
- f This is the organ you use to smell.

nose knee arm elbow tongue leg

8

GETTING STARTED

- Play a memory game with the picture on pages 6–7. With their books closed, pupils tell you details they can remember from it.
- Draw a stress pattern on the board and ask the pupils to find examples of it in the story: Oo (balance, muscles, seaweed, surfing).

STEP BY STEP

PAGE 8

A day out at the beach 1.04

Ask three pupils to read the story from the book. The rest of the class should read along. The concepts can be further reinforced by dividing the class into groups of three and asking them to act out the story, each taking the role of the instructor, Alex and Carla. This is a good opportunity to work on intonation and expressive language.

Activity 1

Ask the pupils to read the sentences and match them to the correct words. When they finish, they should copy the words and sentences into their notebooks.

WRAP IT UP

Review vocabulary and spelling of parts of the body. Divide the class into small groups. Hand out sticky notes and ask pupils to choose one member of the group to be a model. The rest of the group labels their classmate with the parts of the body written on the notes.

FAST FINISHERS

In pairs, one pupil points to a part of his / her body and the other shouts out the correct name. Then, they can swap.

SOLUTIONS

- 1 a. arm; b. leg; c. elbow; d. knee; e. tongue; f. nose

WORK TOGETHER 9

Work together
Sensitive skin

Think first

Different parts of your body have more or less sensitivity. In groups, choose three of four areas of the body to test. For example, the palms of your hands, fingertips, arms and face. Think about the following questions individually. Then discuss them as a group. Take notes about your group's answers.

- Which is the most sensitive part?
- Which is the least sensitive part?
- Can you identify the objects with your eyes covered?

Materials: blindfold, a variety of objects (feather, pine cone, sponge, tennis ball).

Steps

- 1 Work in pairs. Cover your partner's eyes.
- 2 Use the objects to touch the different parts of your partner's body.
- 3 Now swap places with your partner. Write your conclusions.
- 4 Compare your conclusions with another pair.



Reflect

Check your answers to the **Think first** questions. Has the experiment changed your ideas about skin sensitivity? Can you identify the different objects with your eyes covered?

Evaluate your cooperative learning.

9

SUMMARY

Pupils will use the *Cooperative investigation* technique applied to an enquiry-based activity to encourage their curiosity about the world around them. First, the pupils will discuss their ideas with a partner, then share them with the class, in order to form a class hypothesis. Next, they will agree on a plan and work in pairs to carry it out. With their partner, they will develop their conclusions and share them with the class. Finally, the pupils will test their hypothesis by comparing their conclusion to their original hypothesis.

LANGUAGE

- Comparatives: more, less
- Language of speculation: I think ..., I don't think ...
- Vocabulary: sensitive, parts of the body

MATERIALS

Blindfold, variety of objects with different textures, (feather, pine cone, sponge, tennis ball).

GETTING STARTED

- In this section, the pupils will develop their own hypothesis regarding skin sensitivity.
- Make sure you have a variety of different objects as pupils will need them in their experiment. Let them touch the objects and say how they feel. Alternatively, say a texture and ask a pupil to point to an object with that characteristic.

STEP BY STEP

PAGE 9

Set up the activity, then give the class two minutes to read through the first section and to think about their hypothesis. Then, divide the class into groups of four.

- **Step 1.** Make sure each pair in the group of four has a blindfold and access to the materials. Monitor the pupils as they are blindfolding their partners.
- **Step 2.** Make sure the pupils are comfortable wearing the blindfolds and that the experiment is carried out correctly (touching parts of their partner's body with different objects).

- **Step 3.** After the pupils have swapped with their partners and done the experiment, remind them to write down their findings in their notebooks.
- **Step 4.** Explain to the pupils that they need to compare their conclusions with the other pair in their group so they can present their final conclusion to the rest of the class.
- Pupils should check their hypothesis from Think first and compare it to the conclusion of their experiment.

WRAP IT UP

Ask the pupils to discuss their experience of being blindfolded and how they identified the different objects.

360° EVALUATION

Download, print and distribute the Cooperative learning evaluation for the pupils to complete.

10 THE NERVOUS SYSTEM

SUMMARY

These two pages introduce pupils to the nervous system. As there is a significant amount of new vocabulary and concepts on this double page, it is not necessary to expect them to absorb all of this information at once. The main learning aim of the lesson is to understand the purpose of the nervous system and gain an understanding of how it works.

LANGUAGE

- Vocabulary: brain, nerves, skull, spinal cord, spinal column, cerebrum, cerebellum, brain stem, signals, balance, voluntary, involuntary
- Warn about ...
- Tell (sb / sth) to ...
- Reason clauses: because

1.05 The nervous system

1.06 Brain and nerves

1.07 Activity 2

1.08 Parts of the brain

GETTING STARTED

- Write this sentence on the board: *The nervous system controls everything we do.* In teams of four, pupils have 30 seconds to write things the nervous system controls, such as walking, talking and breathing. Pupils compare their answers as a class.
- Draw pupils' attention to the initial question and elicit ideas.

STEP BY STEP

PAGES 10–11

- Before you read the texts on page 10, ask pupils to point to where the brain is in their bodies. Ask them to look at the picture and pre-teach the vocabulary.
- Ask pupils to say where the nerves in their body are (*There are nerves in every part of the body.*). Remind them of the results of the sensitive skin experiment from page 9. Ask pupils why some parts of the body are more sensitive than others. (*Some parts of the body have more nerves than others.*)

The nervous system

What does the brain need to work correctly?

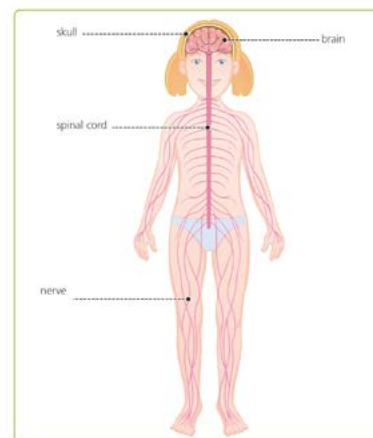
The nervous system controls everything you do: thinking, walking, talking, breathing, remembering, etc. It also allows you to interact with your environment and can keep you safe from danger. The nervous system includes the **brain**, the **spinal cord** and the **nerves**.

Brain and nerves

The most important part of the nervous system is the **brain**. This organ is inside your head and is protected by the **skull**.

The brain receives information from the **sense organs**. In most cases, this information goes to the brain from the **spinal cord**.

The brain reads the signals sent by the eyes, ears, nose, tongue and skin. Then it sends messages back to different parts of the body.



1 What are the three main parts of the nervous system?

2 Listen and write the correct parts of the body.

brain spinal cord sense organs

3 Why is the skull important?

10

- Point out the diagram of the cross-section of a head on page 11. Ask the pupils why the brain is the most important organ in the body.
- Explain the different parts of the brain and draw pupils' attention to the photos below. Ask questions about the texts to check understanding.

Activity 1

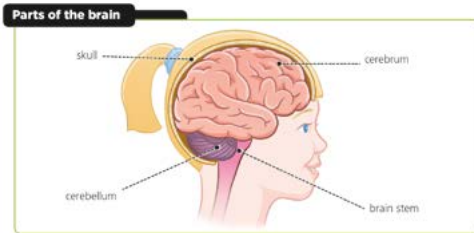
Help pupils by giving the definitions and asking them to say the words. Ask them to write the answers in their notebooks.

Activity 2 1.07

First, elicit the purpose of each of the body parts in the word box. Then play the audio twice, the second time pausing to elicit the answers.

Activity 3

Ask pupils to place their hands on their heads and gently feel their skulls beneath their hair. Ask them to think about the properties of their skull (*round, smooth, hard*). Ask them what would happen if their skull did not have these properties.



The **cerebrum** controls voluntary actions. These are things you want to do, for example, talking, writing or reading.



The **cerebellum** controls balance, movement and coordination.



The **brain stem** controls involuntary actions. These are things you do not think about, for example, breathing and digesting food.

4 Which part of the brain helps you when you are riding your bike or skateboarding?

5 How can the nervous system keep you safe from danger?

6 With your partner, make a list of eight voluntary and involuntary actions. Which parts of the brain control them?

Useful language

The nervous system warns you about ...

The nervous system sends messages and tells the brain to ...

11

Activity 4

Ask pupils what they need to have in order to ride their bike or skateboard (*balance and coordination*) and establish which part of the brain controls this.

Activity 5

In pairs or groups, encourage pupils to think of what would happen if they crossed the road in busy traffic. In what ways the nervous system would alert them of the dangers? Draw their attention to the Useful language box to help them give their answers.

Activity 6

Refer back to the *Getting started* activity and ask pupils to write down eight actions in their notebook with a partner. They should then match these to the different parts of the brain.

WRAP IT UP

Elicit which parts of the brain pupils have used in class today and what they used them for (*cerebrum for thinking, writing, speaking; cerebellum for putting their hands up, walking; brain stem for actions such as blinking, sneezing, etc.*).

FAST FINISHERS

If you have access to the internet in the classroom, ask pupils to find out the name of the bones which protect the spinal column (*vertebrae*). If not, ask them to review the information on the page and create true / false questions for one another.

SOLUTIONS

- 1** The brain, spinal cord and nerves.
- 2** a. sense organs; b. brain; c. spinal cord
- 3** It is important because it protects the brain.
- 4** The cerebellum.
- 5** Our senses (hearing, seeing etc) help us avoid danger.
- 6** Pupils' own answers.

12 SIGHT

SUMMARY

This page focuses on the sense of sight and introduces pupils to a detailed explanation of how our eyes work.

Depending on the level of your class, this can be done in greater or lesser detail. The important learning aim of this lesson is to give an overview of the process of sight.

LANGUAGE

- This / These
- Sequence words: then, next, after that, etc.
- Vocabulary: sight, pupil, iris, lens, retina, eyebrows, eyelid, eyelashes, sweat, dust

1.09 Eyes

1.10 How do you see things?

1.11 Activity 2

GETTING STARTED

Draw pupils' attention to the initial question and ask them to identify the colour of their partner's eye and compare it with theirs.

STEP BY STEP

PAGE 12

- Pupils read the texts. Ask them to identify the different parts of the eye on the diagram.
- Focus their attention on the framed diagram and ask what the eye is looking at (*cherries*). Encourage them to identify the numbered parts of the diagram.
- Once pupils have read the process of how they see things, ask questions to check understanding.

Activity 1

Ask pupils to close their books. Draw a picture of an eye and ask them to help you label the parts that protect it from sweat and dust.

Activity 2 1.11

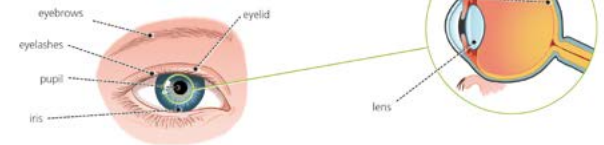
Elicit the meaning of *internal* and *external*. Then play the audio and ask pupils point to each part on the page. Repeat the audio to elicit the answers.

Sight

What colour are your eyes? What part of the eye is coloured?

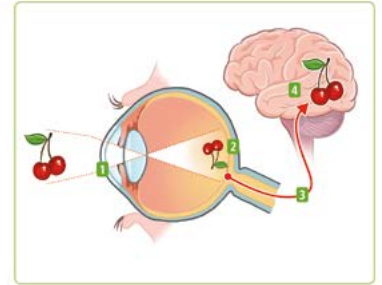
Eyes

Your eyes are the organs of sight. The eyes are very delicate and are protected by the eyebrows, eyelashes and eyelids. These stop sweat and dust from getting into your eyes.



How do you see things?

- 1 Light reflects off an object and enters the eye through the **pupil**.
- 2 The light goes through the **lens** and makes an image on the **retina** at the back of the eye. The image is upside down.
- 3 The **retina** sends the information to the brain.
- 4 The **brain** reads the signals and turns the image right side up.



- 1 Name the parts of the eye used for protection. What do they do?
- 2 Listen and say *external part* or *internal part*.
- 3 In pairs, look at each other's eyes and identify the different external parts of the eye.

12

Activity 3

Allow pupils time to really examine each other's eyes and identify the external parts. Remind them to be careful when touching their partner's eyes so as not to hurt them.

WRAP IT UP

Play the 'Alphabet game' to list things that pupils can see in the classroom. Pupils have to suggest something for each letter of the alphabet.

SOLUTIONS

- 1 The eyebrow, eyelid and eyelashes protect the eye from dust and sweat.
- 2 External (eyebrow, eyelid); internal (lens, retina, pupil, iris)
- 3 The eyelid, eyebrow and eyelashes.

HEARING 13

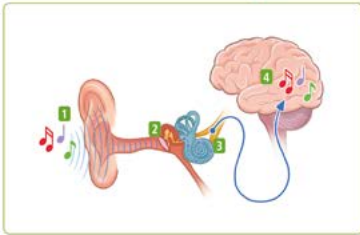
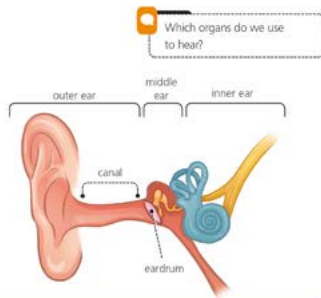
Hearing

Ears

Your **ears** are the organs of hearing. The ear has three parts: the outer ear, the middle ear and the inner ear. The ears are very delicate. Earwax is a sticky substance inside your ear canal. It protects your ears from dirt and infection.

How do you hear things?

- 1 Sound waves enter through the **outer ear**.
- 2 The waves hit the **eardrum** in the **middle ear** and make it vibrate.
- 3 This vibration makes the liquid in the **inner ear** move and send signals to the brain.
- 4 The **brain** reads the signals and tells you what you are hearing.



- 1 Look around. Which objects make sounds?
- 2 Which organ reads signals from your eyes and ears?
- 3 How do sound waves travel? Order the words.

brain	sound wave	middle ear
outer ear	inner ear	
- 4 Listen and answer in your notebook.
 - a. What language do deaf people use to communicate?
 - b. What part of the body do they use to talk?
- 5 How can you protect your sense of hearing?
- 6 What are some diseases that affect the sense of hearing?

SUMMARY

This page focuses on the function of the ear. Depending on the level of your class, this can again be done in greater or lesser detail. The important learning aim of this page is to give an overview of the process of hearing.

LANGUAGE

- Vocabulary: hearing, outer ear, middle ear, inner ear, eardrum, canal, substance, earwax; enter, liquid, signal; vibrate; sticky, dirt, infection

- 1.12 Ears
- 1.13 How do you hear things?
- 1.14 Activity 4

GETTING STARTED

- Draw pupils attention to the initial question and elicit an answer (*We use our ears and our brain*).
- Ask pupils to read the texts and look at the diagram.

STEP BY STEP

PAGE 13

Activity 1

Ask pupils to look around the classroom and identify objects that make different sounds.

Activity 2

Pupils can say or write the answers in their notebook.

Activity 3

Use sticky notes with the vocabulary written on them and ask the pupils to put them in the correct order.

Activity 4 1.14

Read the questions and elicit ideas. Then play the audio twice, the second time pausing to elicit the answers.

Activity 5

Talk about ways that we can do this (*speaking quietly, etc*).

Activity 6

This activity can be set as homework for the next lesson.

WRAP IT UP

Play 'Hangman' to review vocabulary from the page.

SOLUTIONS

- 1 Pupils' own answers.
- 2 The brain.
- 3 Sound wave, outer ear, middle ear, inner ear, brain.
- 4 a. sign language; b. hands
- 5 Keeping the ear canal clean; not putting objects in our ears.
- 6 Ear infections, tinnitus, etc.

14 SMELL AND TASTE

SUMMARY

This page reviews the senses of smell and taste. The main learning aim is to deepen pupils' knowledge of how we smell and taste and which organs and parts of the body work together to do this. Pupils will be familiar with the sense of smell and taste, but it is probably the first time they will reflect on how taste and smell are connected.

LANGUAGE

- Vocabulary: nose, nostrils, olfactory nerve, odour, tongue, taste buds, sour, bitter, horrible, delicious
- A / an ... tastes ...

1.15 Smell

1.16 Taste

1.17 Activity 4

GETTING STARTED

Refer to the initial question and elicit ideas from the pupils (*We're unable to smell and taste because of our blocked nose.*).

STEP BY STEP

PAGE 14

Ask pupils to look at the diagram and say what they can see.

Activity 1

Challenge the pupils to complete this sentence: *The olfactory nerve sends ... to our ...*. Write the sentence on the board and ask for volunteers to spell the words *information* and *brain* to complete it.

Activity 2

Say names of different foods and identify their tastes. (*bitter, sour, sweet, salty*).

Activity 3

- Pupils discuss their ideas in pairs or small groups. They should use the Useful language box to help them.
- Draw their attention to the Project tips box as this content page could be useful for their project.

Smell and taste

What happens to the sense of smell and taste when you have a cold?

Smell

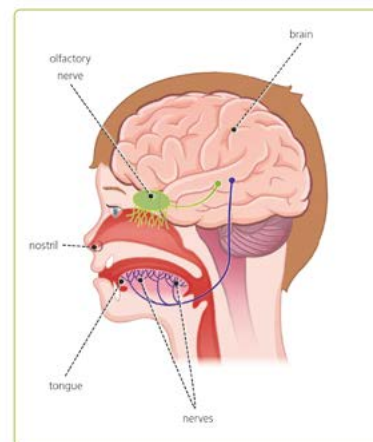
Your **nose** is the organ of smell. Air enters the nose through the **nostrils**. The **olfactory nerve** sends information to your brain which tells you what you are smelling. You can smell about 10,000 different odours.

Taste

Your **tongue** is the organ of taste. The tongue is covered in **taste buds**. These identify different tastes. Nerves send information about the different tastes to your brain.

Project tips

Spices are ingredients which add flavour to food.



1 What does the olfactory nerve do?

2 What is the function of the taste buds?

3 Think of six different foods. How do they taste?

4 Listen and answer in your notebook.

- Which smells does the boy like?
- Which smell does he hate?

5 Why do you sneeze?

Useful language

A / An ... tastes sour / bitter, etc.
A / An ... tastes delicious / horrible, etc.

14

Activity 4 1.17

Check pupils' understanding of the task. Play the audio twice, the second time pausing to elicit the answers.

Activity 5

Pupils discuss the question in small groups.

WRAP IT UP

Play 'Pictionary' to review vocabulary.

SOLUTIONS

- 1 The olfactory nerve sends information to the brain.
- 2 Taste buds identify different tastes.
- 3 Pupils' own answers.
- 4 a. flowers and bread; b. coffee
- 5 We sneeze when an irritant (*dust, pollen*) enters our nostrils or we have a cold.

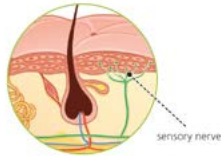
TOUCH 15

Touch

Skin

Your skin is the organ you use to touch. The body is covered in skin. Your skin can tell you if something feels hot or cold, rough or smooth, hard or soft. Sensory nerves send this information to your brain.

Which is the largest organ in the human body?



1 With a partner, think of two objects for each characteristic.

smooth cold rough hot

2 Explain why touch is such an important sense.

3 Listen and write the correct word in your notebook.

- a. A person with tactile agnosia cannot identify an object by **smell** / **touch**.
- b. The part of the body that does not function correctly is the **nose** / **brain**.

Useful language

Touch is an important sense because ...

SUMMARY

Pupils are introduced to the sense of touch and learn how their skin warns them of danger. They will also review adjectives to describe the characteristics of objects.

LANGUAGE

- Reason clauses: because
- Warn (sb) about ...
- Vocabulary: touch, skin, sensory nerve, hot, rough, hard, cold, smooth, soft

MATERIALS

Variety of objects with different textures.

1.18 Skin

1.19 Activity 3

GETTING STARTED

- Pass around different objects and ask pupils to think of words to describe how they feel (*soft, hard, smooth, rough, cold*). Alternatively, put objects in a bag and ask volunteers to feel one of the objects without looking, guess what it is and describe how it feels.
- Draw pupils' attention to the initial question and elicit the answer (*the skin*).

STEP BY STEP

PAGE 15

- Explain that the skin is made up of many layers of cells. This is why it is so flexible. As the cells flake off the skin's surface, new ones replenish it from below.
- Once pupils have read the introduction to the section, ask them to think of further examples for the textures and temperatures reflected in the photos. Brainstorm ideas with the whole class and write them on the board as a reference.

Activity 1

Ask pupils to use objects from the class and relate them to the characteristics in the box.

Activity 2

Ask pupils to discuss the question in small groups or pairs. Elicit ideas using the sentence stem provided in the Useful language box.

Activity 3 1.19

Check pupils' understanding of the task. Play the audio twice, the second time pausing to elicit the answers.

WRAP IT UP

Play a memory game with words from pages 12–15.

SOLUTIONS

- 1 Pupils' own answers.
- 2 Touch is an important sense because it protects us from danger.; All of them are important to prevent us from danger.
- 3 a. touch; b. brain

16 THE LOCOMOTOR SYSTEM

SUMMARY

On this double-page spread, pupils study the locomotor system. The key feature of these pages is the new vocabulary involved in naming bones and muscles. As always, depending on the level of your class, this can be covered in greater or lesser detail.

LANGUAGE

- Superlatives: longest / smallest
- Can / can't
- Vocabulary: skeleton, bones (skull, scapula, rib, humerus, etc.), joints, muscles (pectorals, biceps, trapezius, triceps, etc.)

1.20 The locomotor system

1.21 The skeleton

1.22 Activity 2

1.23 Muscles

1.24 Activity 6

GETTING STARTED

Ask the class to focus on the initial question. Elicit ideas about what exercise they do, and what they should do before and after (*stretch your muscles*).

STEP BY STEP

PAGES 16–17

- Ask pupils to look at the diagram on page 16 and place their hands gently on their heads. They should remember information about the skull from earlier in the unit, so now it is a good time to consolidate their ideas. Read the names of the bones one by one, taking time to explain to the pupils how to feel them. Some bones such as the pelvis are easier to sense through movement.
- Ask pupils to take a pen or a similar small object and to grip it in their hand. Ask them to put their other hand on their forearm and say if they can feel the muscle tense. Then, ask them to relax their grip and see what happens to the muscle in their arm. Finally, ask them to smile and ask if they can feel the muscles in their face move.

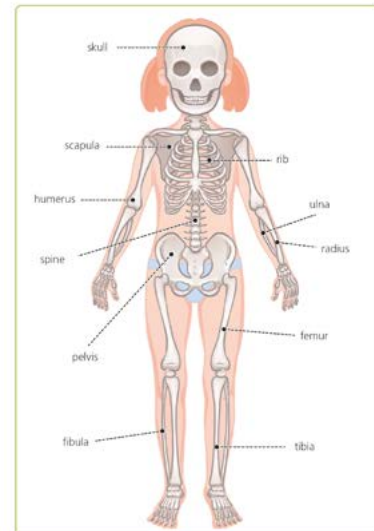
The locomotor system

What should you do before you exercise?

The **locomotor system** lets you control the different parts of your body and allows you to move around. The locomotor system includes bones, joints and muscles.

The skeleton

All the **bones** make up the skeleton. Your bones are connected by **joints**. The joints in your knees, elbows and shoulders allow your bones to move.



- 1 Look at the picture and name:
 - a. the bone that protects the brain.
 - b. the bones that make up the lower limbs.
 - c. the bones that make up the upper limbs.
- 2 Listen and answer.
 - a. How many bones do you have in your body?
 - b. Which is the longest bone in the body?
 - c. Where is the stapes, the smallest bone in the body?
- 3 Take turns with a partner. Ask: *Where is your femur? Where is your skull?* Your partner points to the correct bone.

16

- Refer to the introductory text and diagram on page 17. Ask questions to check understanding. Explain that muscles are attached to bones at the joints by tendons.

Activity 1

Read the sentences aloud and ask pupils to point to the bones using their own body. Repeat, asking them to point at the bones in the book.

Activity 2 1.22

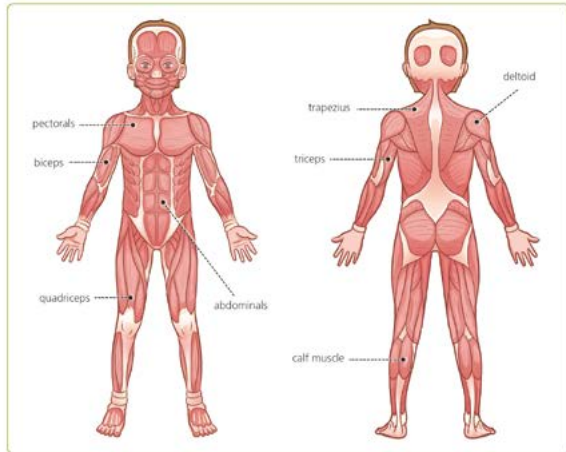
Go through the questions and elicit predictions. Then play the audio twice, the second time pausing to elicit the answers.

Activity 3

Tell pupils they are going to play a game. Read the instructions aloud and choose two volunteers to demonstrate the game to the class. Put pupils into pairs and allow them 2-3 minutes to play with their partner.

Muscles

You have **muscles** around many of your bones. They help you walk, stand, sit, hold objects and make other movements.



- 4** Look at the pictures above and answer the questions.
- a. Which muscles help you walk and jump?
 - b. Which muscles help you move your arms?
 - c. Which muscles do you use to pick up heavy objects?
- 5** The heart is a muscle too. What function does it have? Which bones protect it?
- 6** Which muscles can you control? Listen and say the correct words.
- heart quadriceps calf muscles eyelids

Activity 4

Ask the pupils to walk a few paces. Explain that there are many smaller muscles in the body which allow us to move smoothly, but that there are two principle muscles which help us walk or jump. Elicit ideas. Then, ask the pupils to pretend to pick something heavy up off the floor. Ask them to identify the muscles they use.

Activity 5

Elicit ideas about the heart's function. Ask pupils to put their hand where their heart is and say which bones they can feel beneath their hands.

Activity 6 1.24

Check pupils' understanding of the task. Play the audio twice, the second time pausing to elicit the answers.

WRAP IT UP

Ask pupils to draw a three by two grid in their notebooks. Play 'Bingo' to review vocabulary from pages 16–17.

FAST FINISHERS

Find out more about the heart. Ask fast finishers to investigate how often the heart beats in a day, how much blood it pumps around their body and the difference between an artery and a vein, etc.

SOLUTIONS

- 1** a. skull; b. femur, tibia and fibula; c. humerus, ulna and radius
- 2** 206 (270 at birth)
- 3** Femur
- 4** a. calf muscles and quadriceps; b. biceps and triceps; c. all your muscles working together
- 5** The heart pumps blood around the circulatory system. It is protected by the ribs.
- 6** Only voluntary movements and some involuntary movements can be stopped for a short time, such as when you stare, hold your breath or stop a sneeze.

18 OUR WORLD

SUMMARY

This double-page spread focuses on the importance of looking after the senses, and focuses in particular on the senses of hearing and sight. This provides pupils with the opportunity to think about their own daily routines and how they can protect their own senses and sense organs.

LANGUAGE

- I can ..., It's safe to ..., It's not safe to ...
- I think ..., I don't think ..., People can ...
- Vocabulary: gloves, sunglasses, headphones, drill, screen, eye damage, tired eyes

Our world

Sensing our world

What can you do to protect your senses? Look at the photos. Which objects can these people use to protect their senses? Match the people to the objects they need.



- 1 Look at photos a–d. Which of these objects do you use to protect your senses?
- 2 How can you protect your skin from the sun?
- 3 🗣️ What else can you do to look after your senses?
- 4 Read the text below. How can you protect your hearing?
Listening to loud noises can damage your sense of hearing. To protect your sense of hearing, don't turn the volume up high when you are watching TV and remember to turn the volume down when you are using headphones. You can help other people to protect their hearing by using a quiet voice in class.
- 5 🧑🏫 With a partner, prepare a list of five ways that you will try to follow every day to protect your senses.

Useful language

I can ...
It's safe to ...
It's not safe to ...

18

GETTING STARTED

If it is a sunny day, come into the classroom with a pair of sunglasses, or a pair of gloves or hat if it is a cold day. Elicit ideas about what they are and what they are used for. Brainstorm ideas about other pieces of clothing we use to protect our senses. Draw five columns on the board, one for each of the senses and see how many protective objects the class can think of for each.

STEP BY STEP

PAGES 18–19

- Ask pupils to read the introductory text on page 18 and identify what the people in the photos are doing and what the objects below are. Elicit which object is needed by each person (1.b, 2.a, 3.d, 4.c).
- Refer to the table on the board and elicit other ways we can protect our senses. Elicit things that might damage our eyes (*the Sun, screens, feeling tired*).
- Then, ask pupils to read the introductory text on page 19 and look at the photos below.

Activity 1

Pupils focus on the objects and say how they protect our senses.

Activity 2

Refer pupils to picture 1 and elicit ways the girl can protect her skin from the sun.

Activity 3

Ask pupils to make suggestions using the sentences in the Useful language box as a reference.

Activity 4

Elicit how much time pupils spend watching videos, or playing games on a console or tablet. Ask if they listen to music. Read the text aloud and elicit things we can do to protect our hearing.

Activity 5

Tell pupils to work with a partner to brainstorm ideas. They can then make groups of four to compare their thinking.

Protect your sense of sight

Looking at screens, including mobile phones, can cause eye damage. Screens can make your eyes tired and become dry and red. Make sure you take a break when working with screens and try to spend as much time as possible playing outside. Remember to wear sunglasses on a sunny day as bright sunlight can damage your eyes.



screen



sunglasses



tired eyes

Useful language

I think that ...
I don't think that ...
People can ...

6 Which of these things are bad for your sight?

watching TV all day wearing a cap on a sunny day
reading in a dark room looking at a screen

7 How can you protect your sense of sight? Think of ways with your partner.

8 Make a list of people who need to protect their sight at work.

9 Imagine you need to design a sign to remind people to protect their sight. Here are some ideas to help you.

• Decide who the information will help:

people at home people at the beach workers

• Choose one piece of advice for these people.

• Design a symbol to show people what they can do to protect their sight.

• Draw and colour your symbol.

• Write a sentence under the symbol to explain what people can do to protect their sight.

19

Activity 6

Pupils decide which of the actions protect their sight, and which can be bad for it.

Activity 7

In pairs, pupils brainstorm ways in which they can protect their sight. They can use ideas from activity 6 to help them.

Activity 8

In pairs, ask pupils to make a list of people who need to protect their sight at work

Activity 9

Draw pupils' attention to the suggestions on the page but emphasise that they also need to develop their own ideas. Refer them to the Useful language box to help them do this.

WRAP IT UP

Search online for signs reminding people how to protect their senses. Show the signs to the class and ask the pupils to identify which sense people are protecting if they follow the advice on the sign.

SOLUTIONS

- 1** Gloves (hands), sunglasses (eyes) and headphones (ears).
- 2** Using sunscreen, wearing a t-shirt and a cap or sunhat.
- 3** Pupils' own answers.
- 4** By keeping the volume low when watching TV or listening to music and by using a quiet voice in class.
- 5** Pupils' own answers.
- 6** Watching TV all day, reading in a dark room and looking at a screen.
- 7** Pupils' own answers.
- 8** Suggested answers could include: construction worker, lifeguard, police officer, office worker, fire fighter and laboratory technician.
- 9** Pupils' own answers.

20 REVIEW

SUMMARY

This double-page spread first offers pupils the opportunity to organise what they have learnt in the unit by means of a concept map. Pupils then review the content of the unit by completing a set of autonomous review activities. They also learn a new study skill. In this unit pupils use a visual diagram to organise and review what they have learnt.

Pupils can then undertake the simple End-of-unit test.

LANGUAGE

- Imperatives: write, add, order, choose, colour
- Can
- Encourage pupils to speak and write in complete sentences

MATERIALS

Digital flashcards.

REVIEW

1 Copy and complete in your notebook.



2 Which sense organ are they using? Listen and choose the correct picture.



3 Choose the correct words and write the sentences in your notebook.

- The eye / brain is the control centre of the body.
- A knee / leg is a type of joint.
- The skin / brain is the largest organ in the body.
- The arms are the upper / lower limbs.
- The skull / spinal cord protects the brain.
- The brain stem / cerebellum controls coordination.

GETTING STARTED

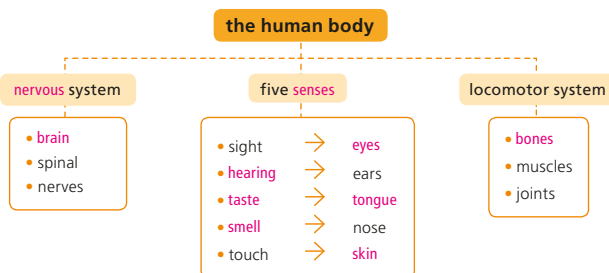
Play a race game with the picture on pages 6–7. Pupils look at the picture and point to what you describe. This also works well on the interactive whiteboard as you can ask two pupils or teams to come to the board and use the writing tools to highlight their answers.

STEP BY STEP

PAGES 20–21

Activity 1

- Remind pupils that when we organise new information it is easier to understand and remember it.
- Focus pupils' attention on the concept map and ask them to tell you what the missing words are. Pupils then copy and complete the concept map in their notebooks.



Activity 2 1.25

Pupils listen to the statements and decide which picture represents each one.

1. d (skin - touch)
2. b (tongue - taste)
3. c (eyes - see)
4. a (ears - hear)
5. e (nose – smell)

Activity 3

After completing the activity, pupils can then make sentences with the words they have not chosen.

- | | |
|----------|---------------|
| a. brain | d. upper |
| b. knee | e. skull |
| c. skin | f. cerebellum |

Activity 4

- | | |
|----------|------------|
| a. touch | c. hearing |
| b. sight | d. touch |

1.25 Activity 2

4 In your notebook, write which of the five senses these objects protect.



5 How do you see and hear things? Order the words in your notebook.

- a retina pupil brain lens light
- b middle ear sound brain inner ear outer ear

6 In pairs, put the words in order to make questions. Test your partner.

Pupil A

- a. organ / the / What / sight / is / of ?
- b. brain / does / do / What / the ?
- c. ear / parts / How / does / the / have / many ?

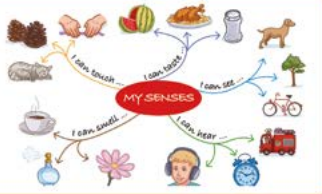
Pupil B

- a. does / What / locomotor / the / include / system ?
- b. organ / is / smell / What / the / of ?
- c. external / the / What / are / eye / of / the / parts ?

Study skills

Use a visual diagram to show how you use your senses.

- Write the main subject in the middle.
- Add sections. Use different colours.
- Add information to each section.
- Add pictures.



What do you know now? Check your progress!

Activity 5

Review the process of seeing and hearing things. Encourage pupils to use correct linking words (*first, then, next, etc.*) as you do this.

- a. light, pupil, lens, retina, brain
- b. sound, outer ear, middle ear, inner ear, brain

Activity 6

Pupils write the questions in their notebooks before using them to orally test their partner.

Pupil A

- a. What is the organ of sight? (The eye)
- b. What does the brain do? (It reads signals from the sense organs)
- c. How many parts does the ear have? (Three)

Pupil B

- a. What does the locomotor system include? (Bones, joints and muscles)
- b. What is the organ of smell? (The nose)
- c. What are the external parts of the eye? (The eyelid, eyebrows and eyelashes)

Study skills

- Tell pupils they are now going to use a visual diagram to organise what they know about their senses.
- If this is the first time your class has used a visual diagram, spend some time explaining how these work. Visual diagrams help us make connections between concepts and work particularly well for visual learners.
- Ask pupils to copy the diagram in their notebooks. Remind them to start in the centre of the page and leave plenty of space around the sides to add more examples.
- Encourage the use of colours and clarity in their work.
- This activity also works well as a pair-work activity. Pupils can draw the diagram on A3 card to display on the wall later.

360° EVALUATION

Download, print and hand out the End-of-unit test. Compare it to the test from the beginning of the unit. Ask pupils to then complete the Self-evaluation again to see what they have learnt.

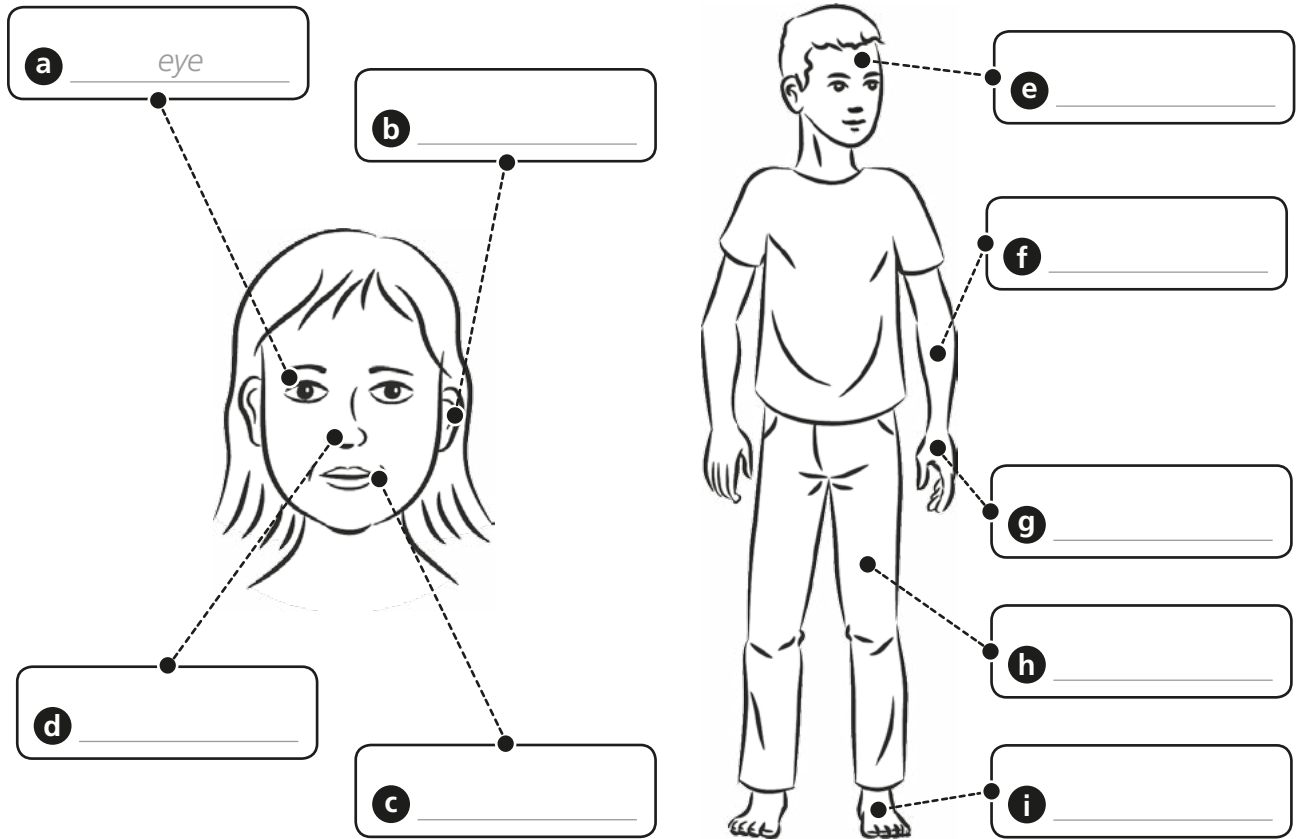
UNIT 1**DIAGNOSTIC TEST**

Name: _____

Class: _____

1 Label the parts of the body.

arm mouth leg nose foot ear hand -eye- head

**2** Cross the odd one out.

- a** Bones: pelvis / spine / ~~lungs~~ / skull / ribs
- b** Joints: wrist / ankle / cerebrum / elbow / knee
- c** Senses: smell / taste / touch / hear / talk
- d** Muscles: abdominals / wrists / deltoids / biceps / trapezius

3 Read the sentences. Circle *true* or *false*.

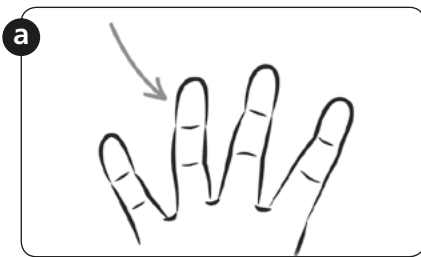
- a** The knees, elbows and shoulders are all examples of joints. true / false
- b** The nervous system allows you to interact with the environment. true / false
- c** Your eyes can tell you how something feels. true / false
- d** The brain, skin and heart are all organs. true / false
- e** Nostrils are holes which allow light to enter your eyes. true / false

4 Circle the correct words.

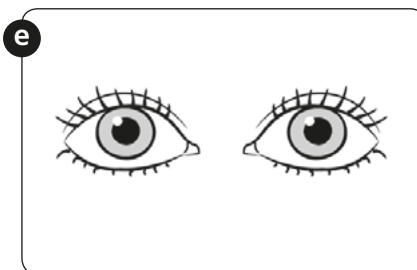
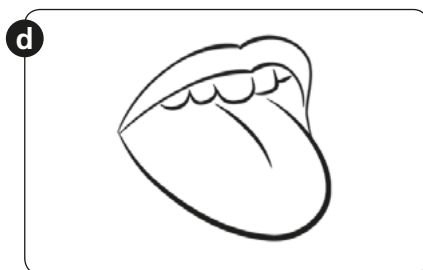
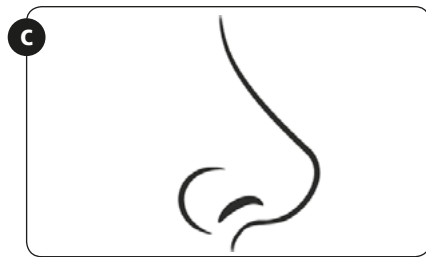
- a** The most important part of the nervous system is the brain / spinal cord.
- b** The cerebellum / brain stem controls balance and coordination.
- c** The cerebellum / cerebrum controls voluntary actions such as dancing.
- d** The cerebrum / brain stem controls involuntary actions such as digesting food.

5 Write the sense.

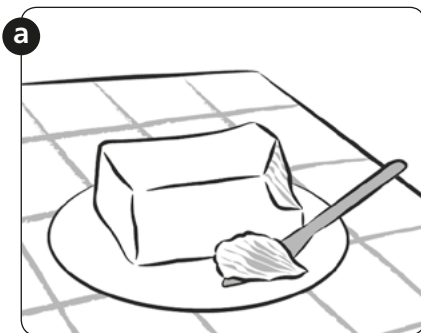
sight hearing smell taste ~~touch~~



touch



6 How do these things feel? Circle two words.



smooth / rough

hard / soft



hard / soft

smooth / rough



hot / cold

smooth / rough

UNIT 1**PUPIL'S SELF-EVALUATION**

Name: _____

Class: _____

What do you know about how your body interacts with the environment? Tick.

	I'm an expert!	I know some things, but I have some questions.	I have lots of questions!
The nervous system: the parts and function			
Sight: the parts of the eye and how it works			
Hearing: the parts of the ear and how it works			
Smell: the parts of the nose and how it works			
Taste: the parts of the tongue and how it works			
Touch: the skin			
The locomotor system: the parts and function			

UNIT 1

COOPERATIVE LEARNING
EVALUATION

Name: _____

Class: _____

Evaluate your cooperative learning. Tick.

Self-evaluation

	Great work!	Good job!	I can do better next time!
I worked well with my group.			
I waited my turn to speak.			
I listened to the rest of the group members.			
I asked for help when I needed it.			

Group evaluation

	Great work!	Good job!	We can do better next time!
We all contributed to the project.			
We shared our ideas and listened to each other.			
We respected each other's opinions.			
We finished our task on time.			
We all helped to prepare the experiment.			
We solved any problems we had effectively.			
We all enjoyed working together.			

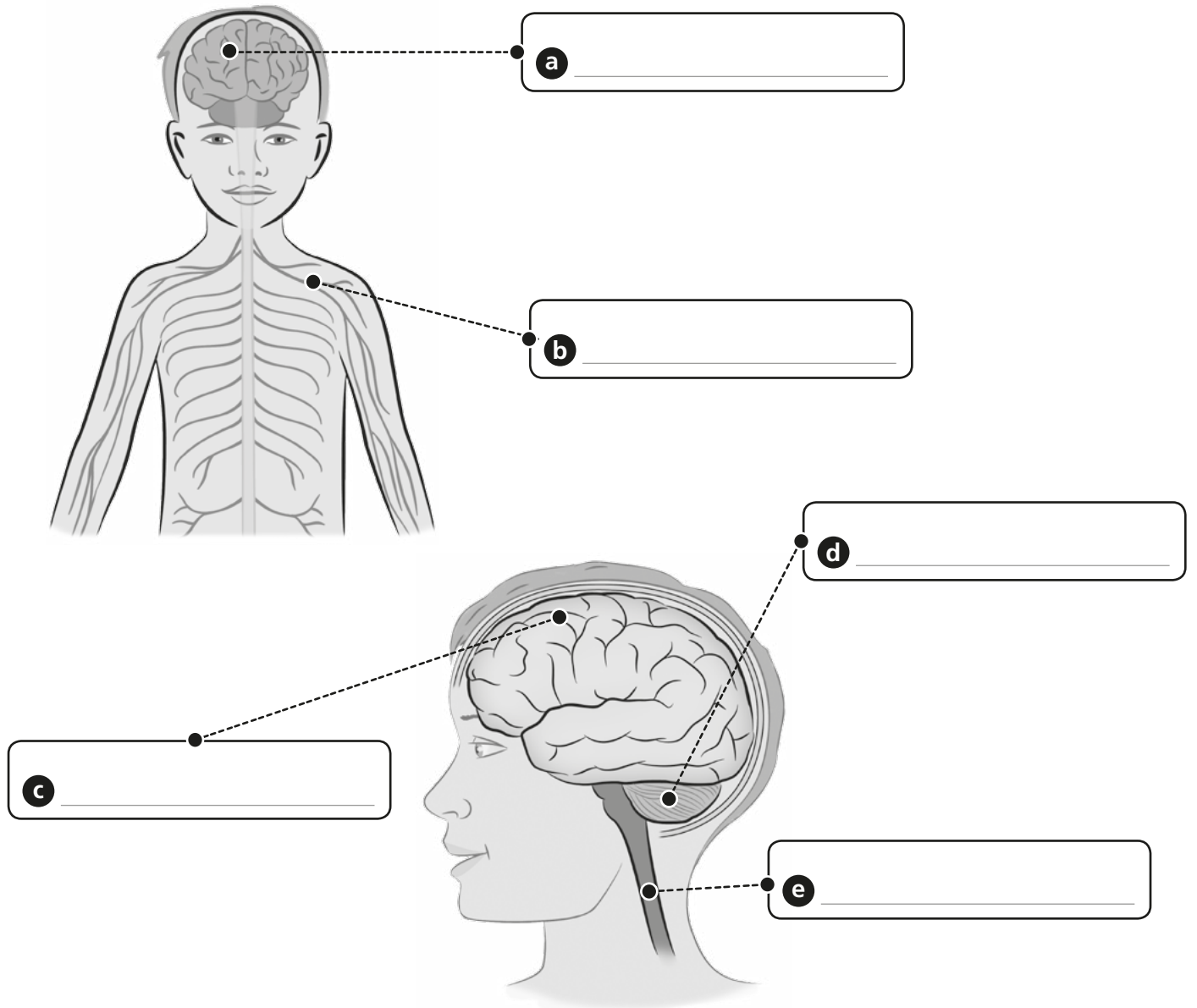
UNIT 1**END-OF-UNIT TEST**

Name: _____

Class: _____

1 Label the nervous system.

cerebrum brain brain stem nerves cerebellum

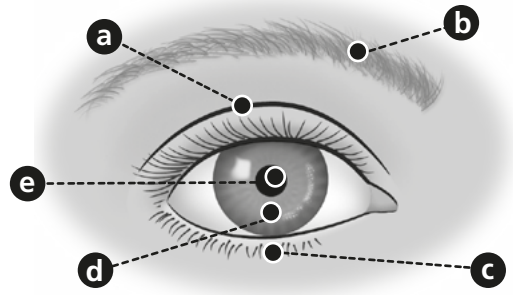
**2** Complete the sentences.

cerebellum brain stem sense organs cerebrum

- a** The brain receives information from the _____.
- b** The _____ controls voluntary movements such as walking.
- c** The _____ controls balance and coordination.
- d** The _____ controls involuntary movements, such as breathing.

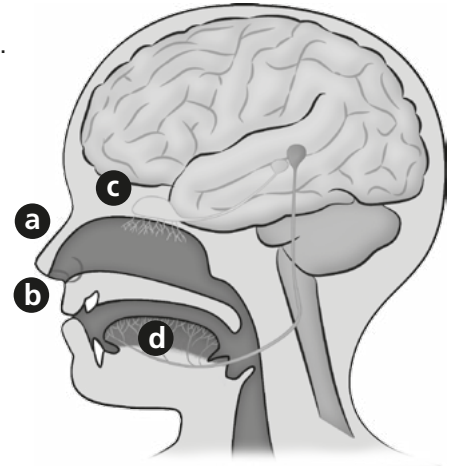
6 Label the parts of the eye.

- a _____ eyelid _____
- b _____
- c _____
- d _____
- e _____



7 Label the diagram on how you smell and taste.

- a Your _____ nose _____ is the organ you use to smell.
- b Air enters the nose through the _____.
- c The _____ sends the information to your brain.
- d Your tongue is covered in _____ which identify all the different tastes.

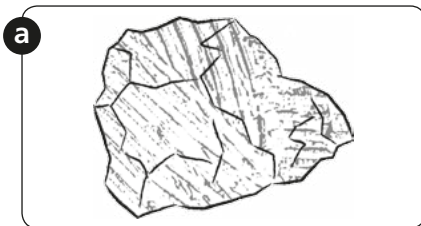


8 How do you hear? Complete the sentences.

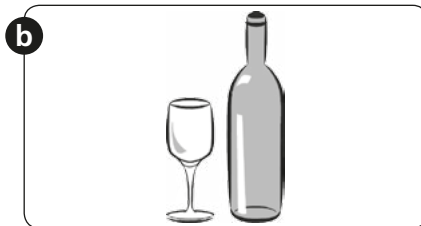
middle signals brain outer inner eardrum

- a Sound waves enter through the _____ ear.
- b The waves hit the _____ in the _____ ear and make it vibrate.
- c The vibration moves liquid in the _____ ear which sends _____ to the brain.
- d The _____ reads the signals and tells you what you are hearing.

9 How do these things feel? Write two properties for each.



Rocks feel rough and ...



Glass feels ...



Ice cream feels ...

Dear Parent / Carer,

In this unit, your child will begin by looking at the illustration related to the sense organs on the first two pages. This illustration acts as a tool to help your child brainstorm ideas and opinions on the subject matter and to assess their previous knowledge. Your child then listens to and reads a story about the course characters, Carla and Alex, who are spending the day at the beach. The story is accompanied by an audio and fun illustrations which ease your child into the unit subject matter while encouraging curiosity and participation.

After the story, your child moves on to the *Work together* section in which they will use a cooperative learning technique to carry out a group experiment. Your child will learn about how the sense of touch functions while also developing important teamwork and communication skills.

This unit on interaction expands on your child's previous knowledge of the human body and sense organs. Your child will learn more about the importance of the nervous system and the functions of its main parts, as well as the process of how the brain reads and interpretes information sent by each sense organ.

Finally, the *Our world* page encourages your child to reflect on which of their sense organs need protecting and identify ways to do this in their day-to-day lives.

Useful language tips throughout the unit provide your child with language support to help improve their oral skills.

Key vocabulary

- Cerebellum, cerebrum, brain stem
- Eyes, ears, nose, tongue, skin
- Sight, hearing, smell, taste, touch
- Muscles, bones and joints

Materials

- Objects with different textures (feather, pine cone, sponge, tennis ball, etc.), blindfold

Have fun and happy learning!

Best wishes,

Science teacher