

1

INTERACTION




1 How much can you remember? Complete the table about the senses.

Sense	Sense organ	Receptors in the ...	Stimulus	Nerve
hearing	ear			
			light	
smell				
				sensory nerves of the peripheral nervous system
		taste bud		

2 Look at the photos and fill in the information.

a




Sense: touch

Sense organ: skin

Fact: Skin is also sensitive to pain, heat and temperature.

b




Sense: _____

Sense organ: _____

Fact: _____

c




Sense: _____

Sense organ: _____

Fact: _____

d



Sense: _____

Sense organ: _____

Fact: _____

- 3 Read the article about a blind man. Three sentences are missing from the article. Choose from sentences a-e to fill each gap (1–3). There are two extra sentences.**



Adapting the senses

Bats use echolocation to fly and hunt at night. Due to their poor eyesight, they rely more on their hearing to find their way in the dark. They emit sounds, which reflect off the surfaces of surrounding objects.

(1) _____ Doing this, bats can determine the location, shape and size of an object and so can Daniel Kish!

Daniel has been blind since he was 13 months old. **(2)** _____

He began making a clicking sound with his tongue and listening to the echo to create images of the world around him. He has even learnt to ride a bike!

Although some people may disapprove of the noise, Daniel continues to click because he knows it is important for blind people to be independent. **(3)** _____ Because of Daniel's bravery, thousands of blind people now have the ability to see, with sound!



- a** Although they did not have very good hearing.
- b** As part of an organisation, he now trains many other blind people to use echolocation.
- c** Sounds cause your eardrums to vibrate, which is transformed into a nerve impulse.
- d** However, that has never prevented him from moving around on his own.
- e** When these sounds return to their ears, they notice slight differences in the echo.

4 Circle the odd one out. Write an explanation.

a central nervous system / peripheral nervous system / brain / spinal cord

The peripheral nervous system is the odd one out because the others all belong to the central nervous system.

b peripheral nervous system / sensory neuron / interneuron / motor neuron

c sight / touch / sound / taste

d effector / response / motor neuron / sense organ

e response / receptor / sense organ / sensory neuron

5 How do we respond to a stimulus?
Order the sentences. Write 1–6.

a The brain processes the message's information in the cerebrum.

☐

b The stimulus is changed into an electrical message and passed along the peripheral nervous system.

☐

c A stimulus is detected by receptors in one of our sense organs.

☐

1

d As the control centre, the brain sends out a reaction along motor neurons to an effector.

☐

e A response is carried out by an effector.

☐

f Sensory neurons pass the impulse onto the central nervous system.

☐

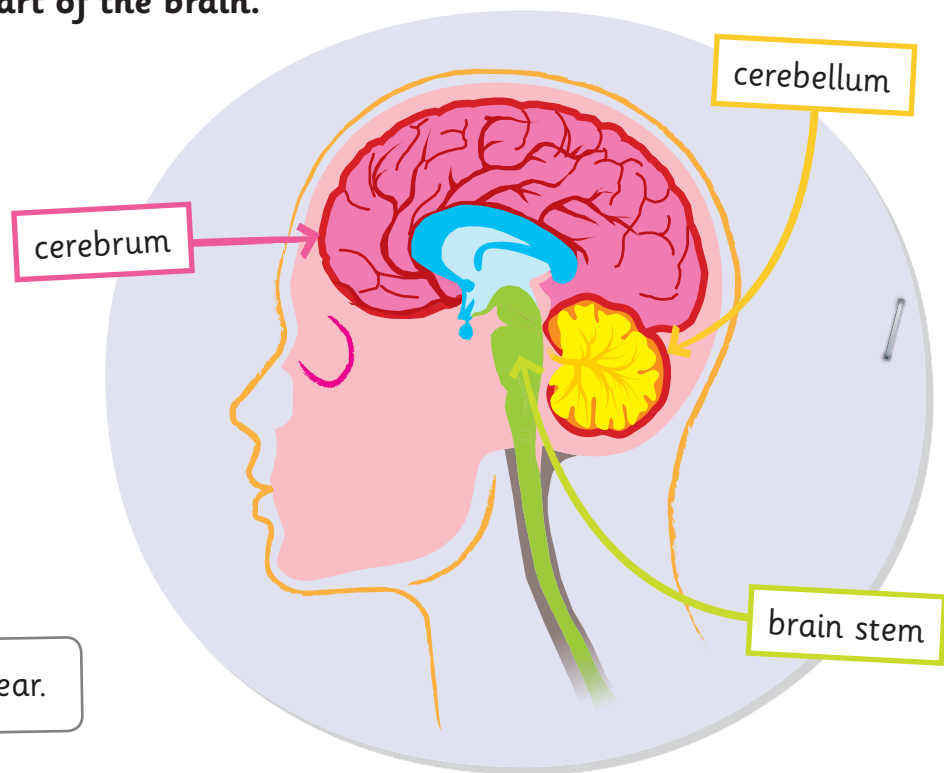
6 Are the sentences *true* or *false*?



- a An impulse travels along the axons of neurons.
- b We always know when our brain interprets information and coordinates a response.
- c Reflexes are controlled by our spinal cord, which is a long piece of nerve tissue.
- d Motor neurons send signals to the brain.
- e The nervous system is made up of cells and tissues, but not organs.

_____ true _____

7 Which part of the brain is responsible for these actions?
Match each action to a part of the brain.



- a Doing gymnastics.
- b Going to sleep.
- c Deciding which shirt to wear.
- d Running on the football pitch.
- e Keeping your heart beating.
- f Remembering your friend's mobile number.
- g Tasting a delicious ice cream.
- h Breathing.
- i Feeling sad after doing badly in an exam.

8 How many bones and muscles do you know? Find 22 more words.

r	g	l	u	t	e	u	s	x	q	f	r	m	c	r
s	c	a	p	u	l	a	b	o	w	d	p	j	p	w
s	m	t	r	f	a	c	e	m	u	s	c	l	e	s
f	q	d	t	b	p	e	c	t	o	r	a	l	l	p
i	c	b	q	u	a	d	r	i	c	e	p	s	v	i
b	d	o	r	s	a	l	u	l	n	a	u	l	i	n
u	a	c	l	a	v	i	c	l	e	y	j	r	s	e
l	b	i	c	e	p	s	f	e	m	o	r	i	s	h
a	d	p	j	h	a	b	i	c	e	p	s	b	d	u
k	o	c	a	l	r	q	m	y	c	l	e	s	e	m
h	m	f	v	t	b	t	r	i	c	e	p	s	l	e
d	i	e	r	u	e	p	g	h	i	v	v	l	t	r
b	n	m	t	w	d	l	l	x	r	e	z	r	o	u
w	a	u	s	k	u	l	l	t	i	b	i	a	i	s
h	l	r	a	i	n	z	r	a	d	i	u	s	d	e

