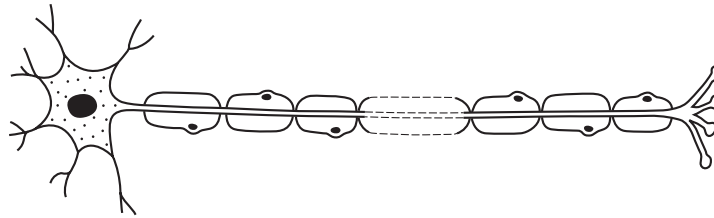


1 Which type of cells do **all** sense organs contain?

- A ciliated
- B effector
- C mesophyll
- D receptor

2 The diagram shows a cell.



What type of cell is shown?

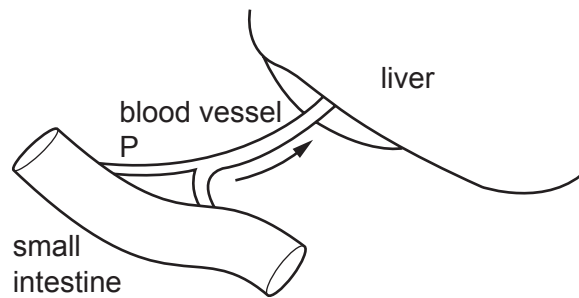
- A ciliated cell
- B motor neurone
- C relay neurone
- D sensory neurone

3 When a bright light is shone into the eye, the diameter of the pupil decreases.

What is this an example of?

- A accommodation
- B a simple reflex
- C photosynthesis
- D voluntary response

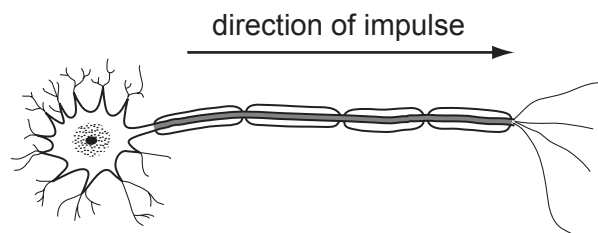
- 4 The diagram shows blood vessel P which carries digested food from the small intestine to the liver.



Which row describes the level of glucose in blood vessel P and the level of glycogen in the liver, shortly after a meal containing carbohydrates?

	glucose in blood vessel P	glycogen in liver
<b>A</b>	high	decreasing
<b>B</b>	high	increasing
<b>C</b>	low	decreasing
<b>D</b>	low	increasing

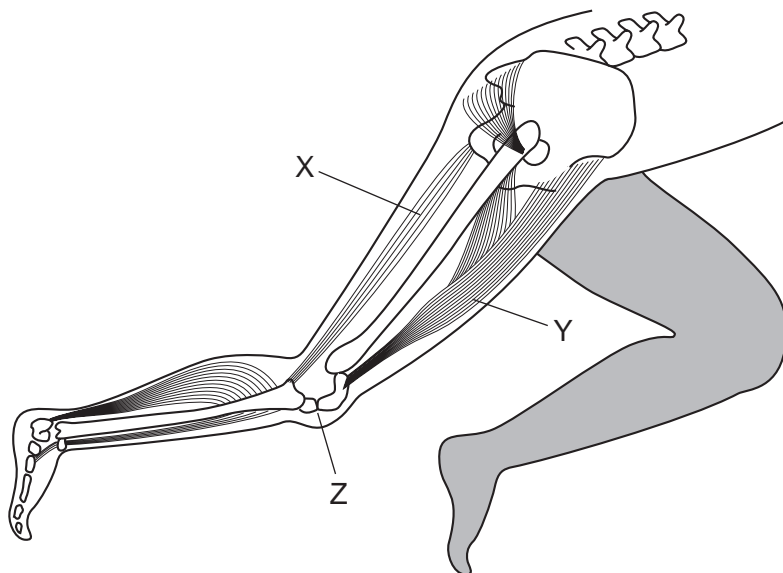
- 5 The diagram shows a neurone carrying an impulse.



Which row describes the type of neurone and the direction of impulse?

	type of neurone	direction of impulse
<b>A</b>	motor	towards the spinal cord
<b>B</b>	motor	away from the spinal cord
<b>C</b>	sensory	towards the spinal cord
<b>D</b>	sensory	away from the spinal cord

6 The diagram shows some bones and muscles in a leg of a human.



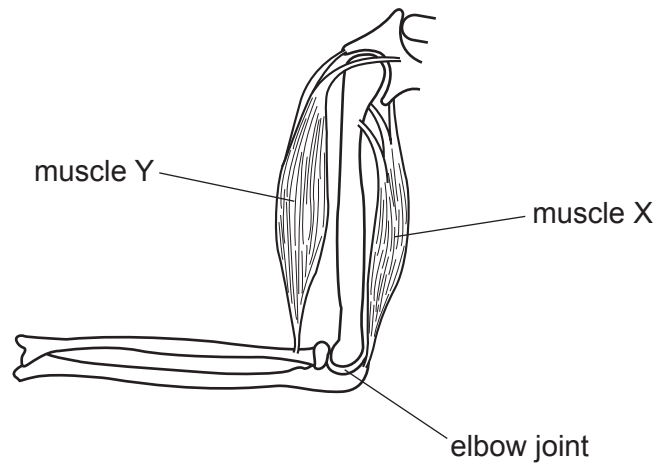
What happens to muscle Y and to the leg at joint Z, when muscle X contracts?

	muscle Y	leg at joint Z
<b>A</b>	contracts	bends
<b>B</b>	contracts	straightens
<b>C</b>	relaxes	bends
<b>D</b>	relaxes	straightens

7 What happens when the body temperature rises above normal?

	blood vessels in the surface of skin	sweat production
<b>A</b>	constrict	decreases
<b>B</b>	constrict	increases
<b>C</b>	dilate	decreases
<b>D</b>	dilate	increases

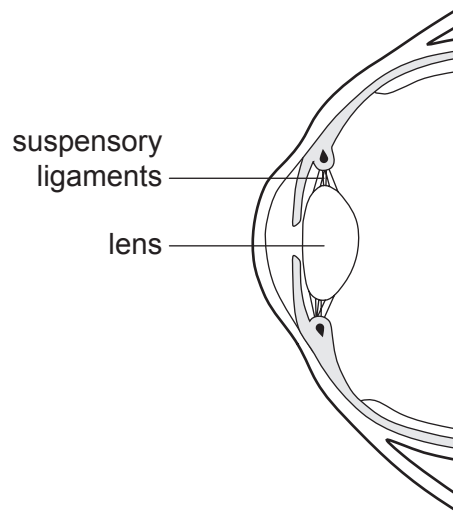
8 The diagram shows some of the muscles and bones of the human arm.



When muscle X contracts, what happens to the arm and what happens to muscle Y?

	arm	muscle Y
<b>A</b>	bends	contracts
<b>B</b>	bends	relaxes
<b>C</b>	straightens	contracts
<b>D</b>	straightens	relaxes

9 The diagram shows a section through part of the human eye.



When a person looks at an object which is close to their eye, which of the following takes place?

	suspensory ligaments	lens
<b>A</b>	slacken	becomes fatter
<b>B</b>	slacken	becomes thinner
<b>C</b>	tighten	becomes fatter
<b>D</b>	tighten	becomes thinner

10 After a meal, the concentration of blood glucose increases.

What then causes the concentration of blood glucose to return to normal?

- A** adrenalin
- B** blood cells
- C** insulin
- D** platelets

11 A bright light suddenly shines into a person's eyes.

What happens?

- A The lenses become more concave.
- B The lenses become more convex.
- C The pupils become larger.
- D The pupils become smaller.

12 What is true for a runner, at the end of a marathon race, in a hot climate?

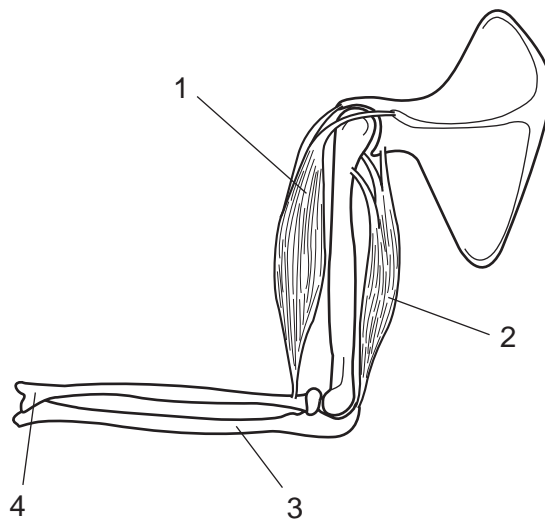
- A sweating and vasoconstriction
- B sweating and vasodilation
- C vasoconstriction only
- D vasodilation only

13 When a person is frightened, adrenalin is released by the adrenal glands.

What are the effects of the adrenalin?

	breathing rate	heart beat rate
A	decreased	decreased
B	decreased	increased
C	increased	decreased
D	increased	increased

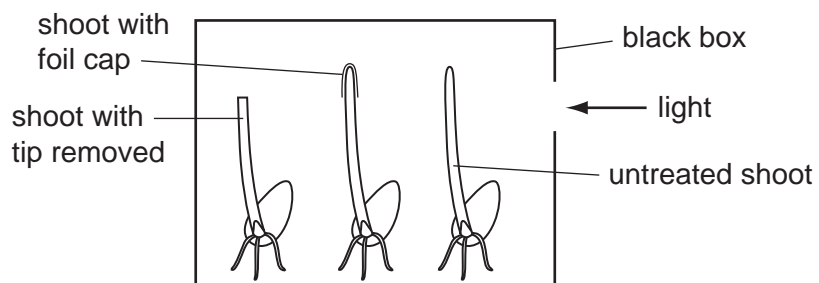
14 The diagram shows bones and muscles in the human arm.



Which row correctly identifies the biceps, triceps and ulna?

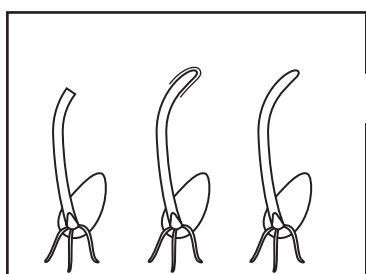
	biceps	triceps	ulna
<b>A</b>	1	2	4
<b>B</b>	1	2	3
<b>C</b>	2	1	4
<b>D</b>	2	1	3

15 The diagram shows the apparatus used to investigate the effect of light on the growth of three plant shoots.

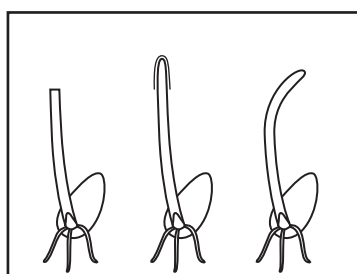


Which diagram shows the likely result after one day?

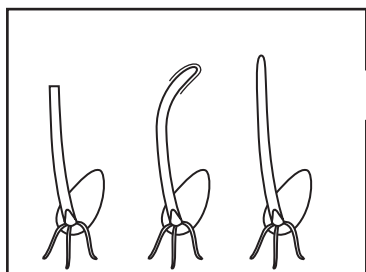
**A**



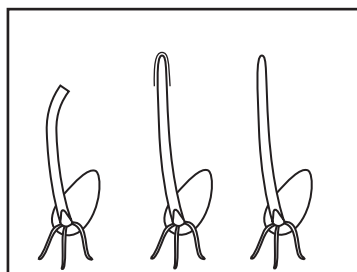
**B**



**C**



**D**



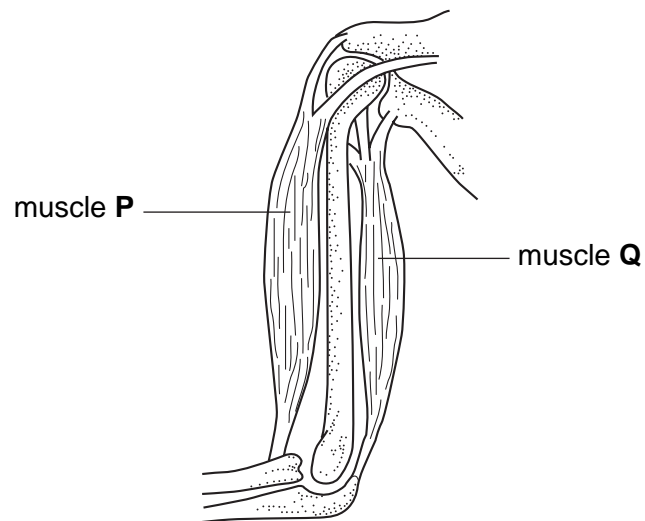


16 Capillaries near the surface of the skin become wider after drinking large amounts of alcohol.

Why does this cause the body temperature to drop?

- A It allows heat to be lost rapidly from the skin.
- B It causes vasoconstriction.
- C It prevents vasodilation.
- D It stops the person from sweating.

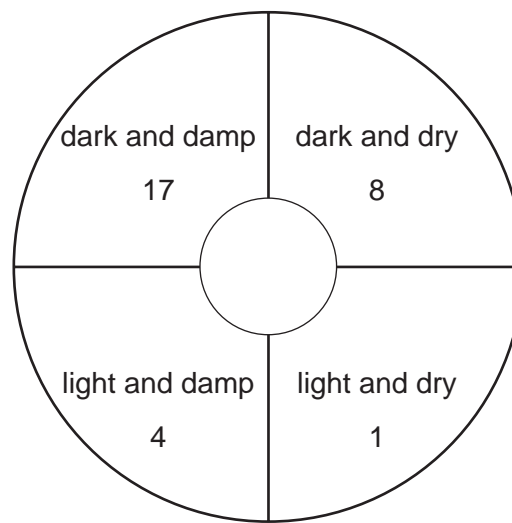
17 The diagram shows muscles and bones in a human arm.



When muscle Q contracts, what happens to muscle P and to the arm?

	muscle P	the arm
A	contracts	bends
B	contracts	straightens
C	relaxes	bends
D	relaxes	straightens

- 18 Thirty woodlice were placed in the centre of a dish with four compartments, each with different conditions. The diagram shows the number of woodlice that had moved into the different compartments after twenty minutes.

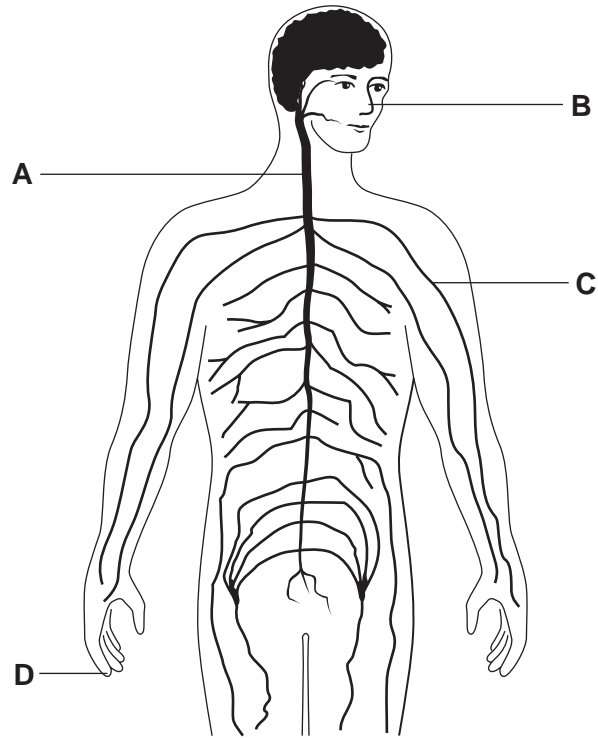


What do these results show?

- A** Woodlice prefer light and damp conditions.
- B** Woodlice prefer light and dry conditions.
- C** Woodlice prefer to be in the dark.
- D** Woodlice prefer to be in the light.

19 The diagram shows the human nervous system.

Which letter indicates a part of the central nervous system?



20 The diagram shows a person sweating in hot weather.

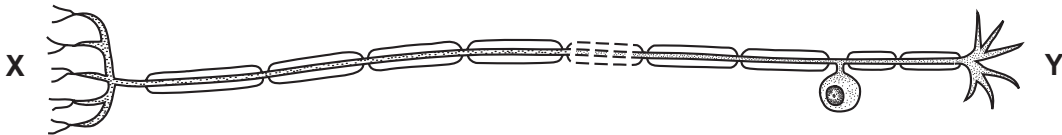


What part is played by sweat glands during the process of sweating?

- A** effector
- B** receptor
- C** sense-organ
- D** stimulus

- 21 What is an example of homeostasis?
- A breathing in oxygen
  - B regulating blood glucose
  - C removing undigested food through the anus
  - D urinating to empty the bladder

22 The diagram shows a neurone.

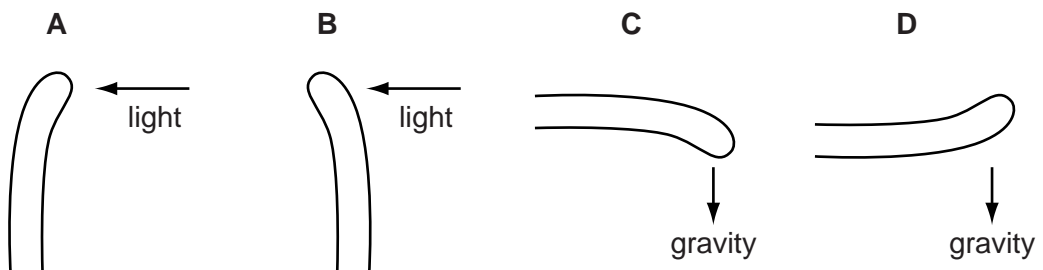


Which structures could be found at X and Y?

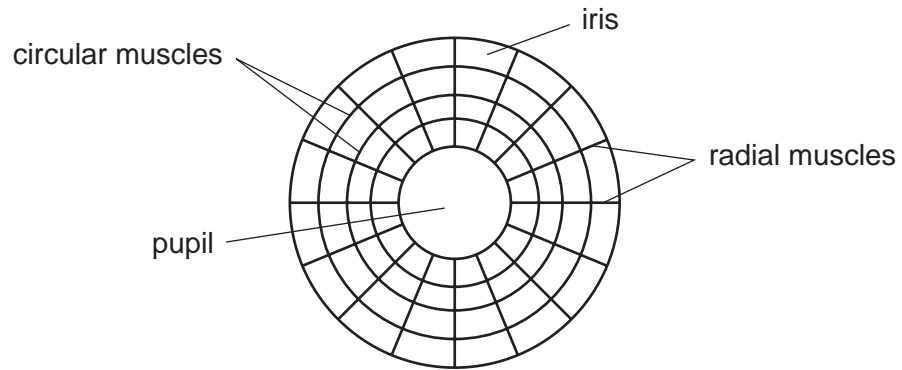
	X	Y
A	brain	intestine
B	brain	leg
C	eye	hand
D	skin	spinal cord

23 The diagram shows shoots of maize seedlings.

Which shoot shows negative geotropism?



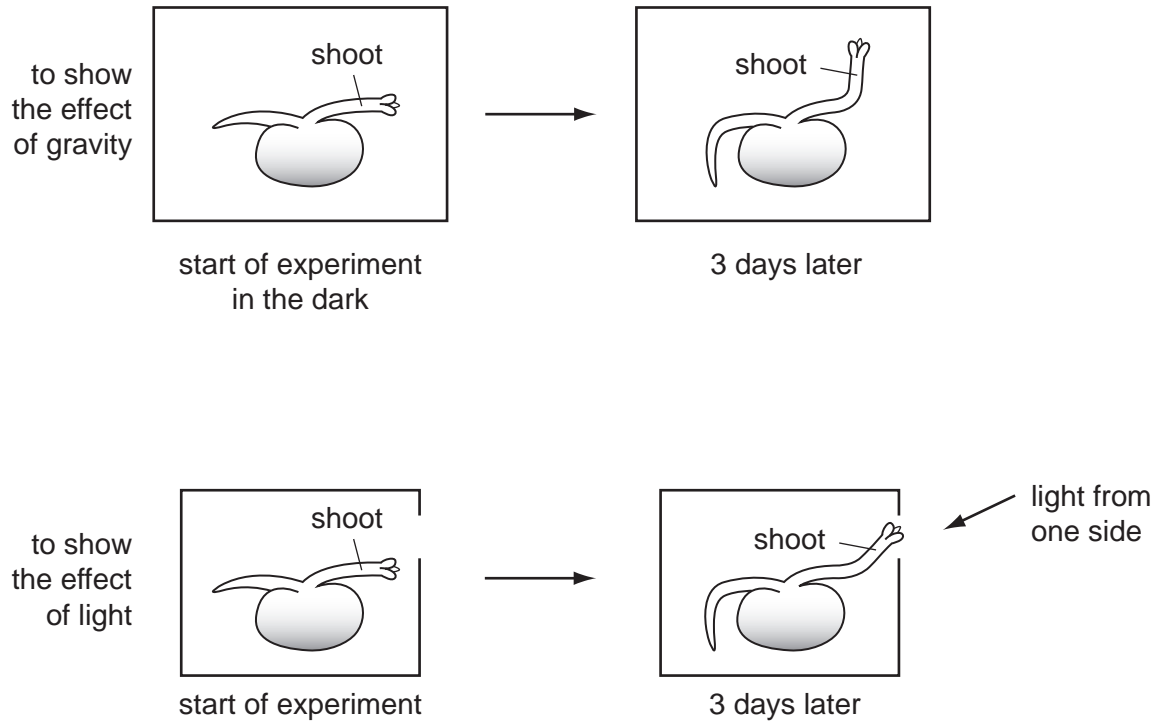
24 The diagram shows the muscles which control the size of the pupil in an eye.



How do the muscles make the pupil larger?

	circular muscles	radial muscles
<b>A</b>	contract	contract
<b>B</b>	contract	relax
<b>C</b>	relax	contract
<b>D</b>	relax	relax

25 The diagram shows seedlings in an experiment on the tropic response of shoots to gravity and light.



How has the shoot responded?

	to gravity	to light
<b>A</b>	✓	✓
<b>B</b>	✓	x
<b>C</b>	x	✓
<b>D</b>	x	x

key  
 ✓ = tropic response shown  
 x = no tropic response shown