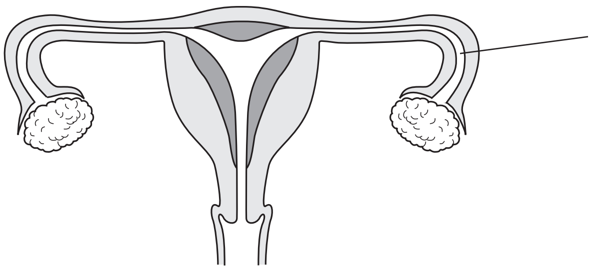
1 The diagram shows the human female reproductive system.



Sometimes a woman may be unable to have a baby because the tube at X becomes blocked.

Which processes are prevented?

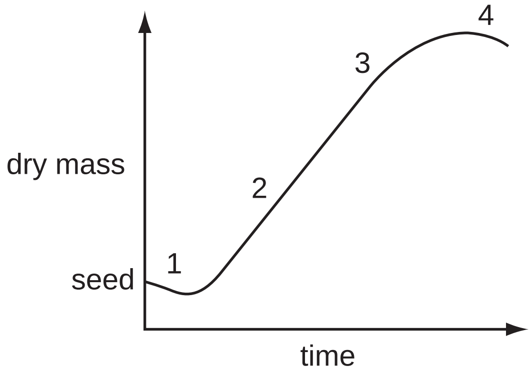
	fertilisation	implantation	ovulation
A	✓	✓	✓
B	✓	✓	✗
C	✗	✓	✓
D	✓	✗	✓

key

✓ = prevented

✗ = not prevented

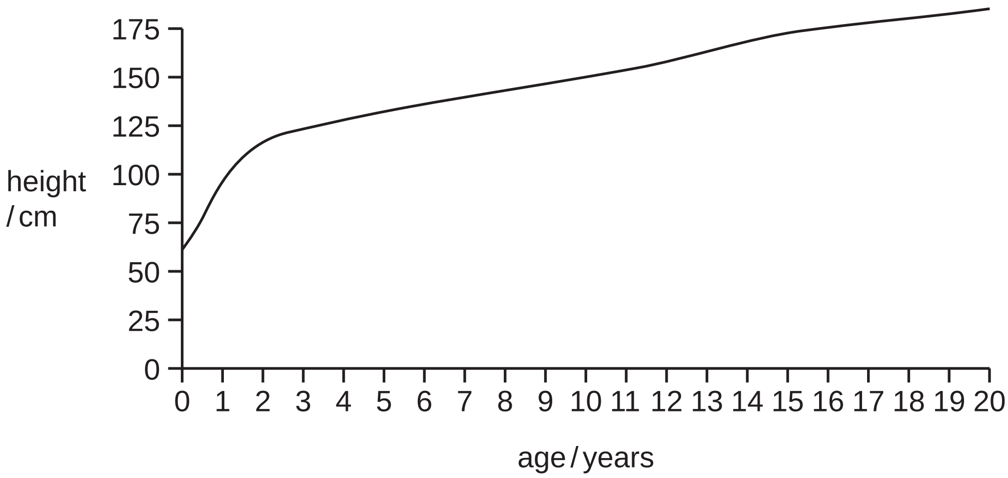
2 The graph shows the growth curve of a plant.



At which two stages is growth **not** occurring?

A 1 and 4 **B** 2 and 3 **C** 3 and 4 **D** 1 and 2

3 The diagram shows a typical human growth curve from birth to 20 years.



During which years is the growth rate greatest?

A 0 – 2 years

B 8 – 10 years

C 12 – 14 years

D 18 – 20 years

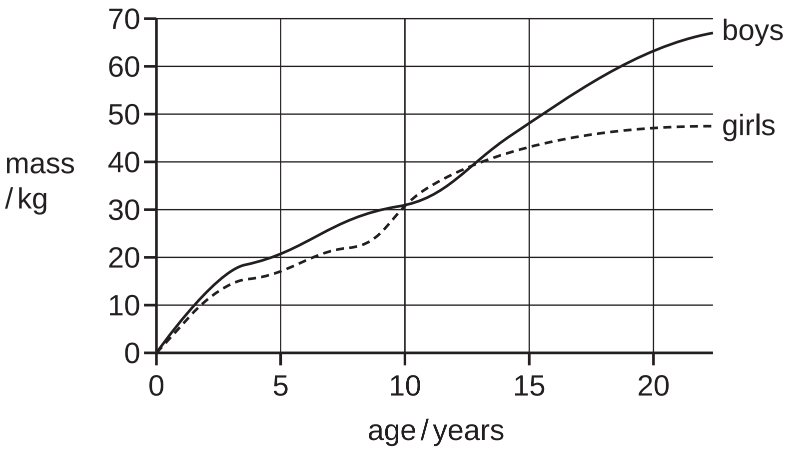
4 Which row shows how one type of gamete is transported so that fertilisation can occur in a flowering plant?

	type of gamete	how transported
A	female	in a pollen grain
B	female	in a seed
C	male	in a pollen grain
D	male	in a seed

5 In which conditions will seeds germinate?

	temperature / °C	the only gas present	water
A	20	carbon dioxide	water present
B	20	oxygen	water present
C	0	carbon dioxide	water absent
D	0	oxygen	water absent

6 The graph shows the growth curves for boys and girls.



What is the approximate average growth rate of boys between 10 and 15 years old?

A 3.5 kg per year

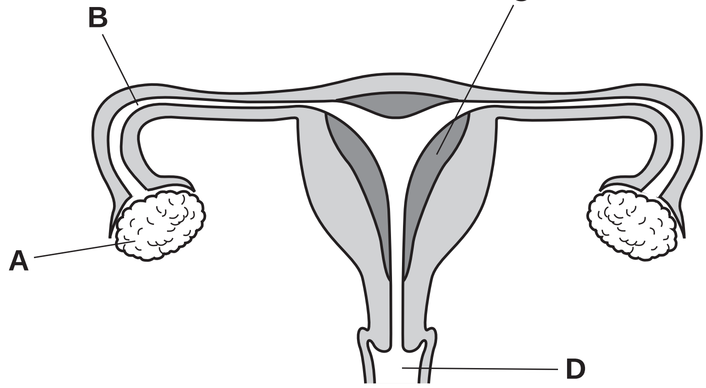
B 18 kg per year

C 32 kg per year

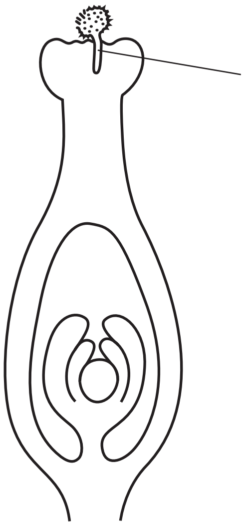
D 50 kg per year

7 The diagram shows the female reproductive system.

Where does implantation normally occur?



8 The diagram shows a vertical section through the carpel of a flower that has been pollinated.



What is the correct order of structures through which the pollen tube must grow in order to bring about fertilisation?

	first	→		last
A	micropyle	stigma	style	ovary wall
B	ovary wall	micropyle	stigma	style
C	stigma	style	ovary wall	micropyle
D	style	ovary wall	micropyle	stigma

9 Which environmental condition is **not** needed for the germination of seeds?

A carbon dioxide

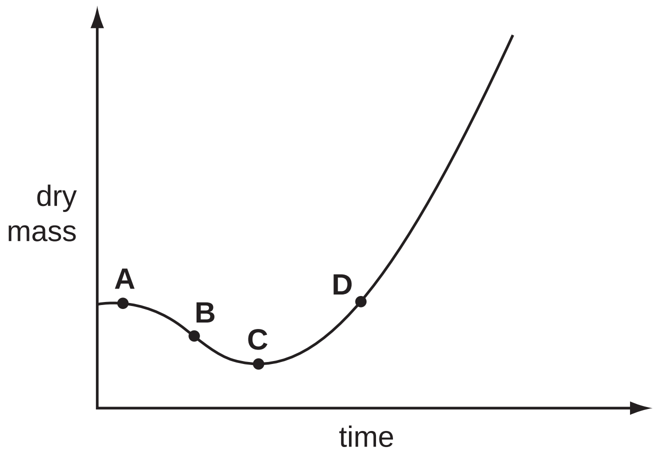
B oxygen

C warmth

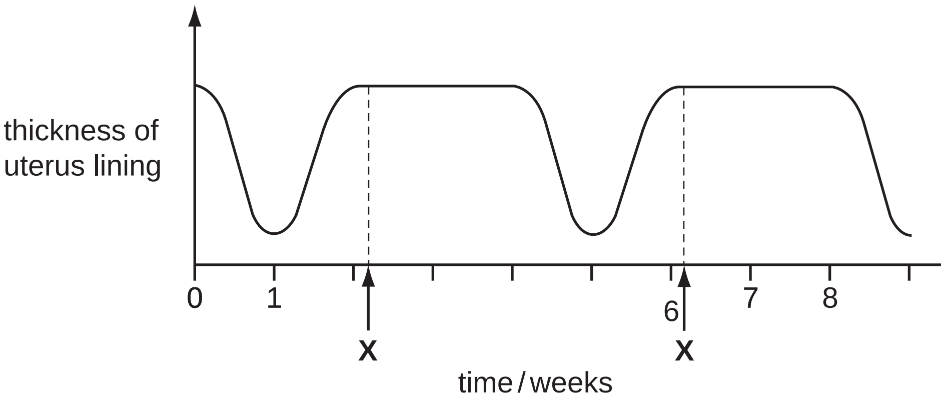
D water

10 The graph shows how dry mass of a plant changes with time.

Where on the graph is growth occurring?



11 The graph shows changes in the thickness of the uterus lining of a woman.



What happens each time at **X**?

A fertilisation

B implantation

C menstruation

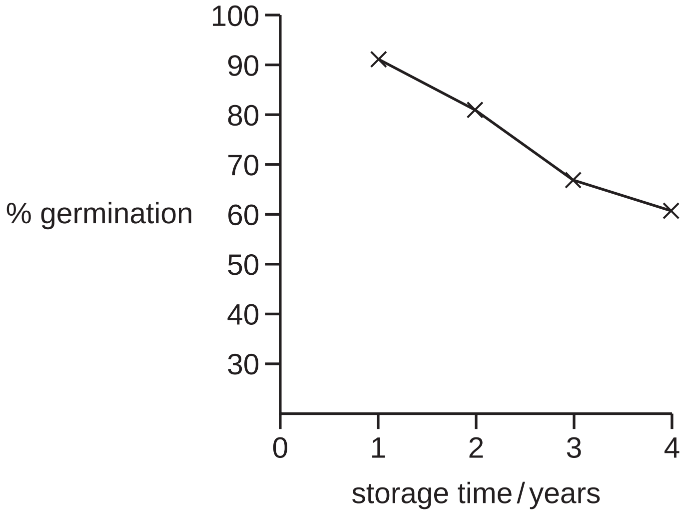
D ovulation

12 The table lists some processes which take place during reproduction in flowering plants and mammals.

Which row is correct?

	fertilisation needed	implantation needed	pollination needed
A	flowering plants and mammals	mammals only	flowering plants only
B	flowering plants and mammals	flowering plants and mammals	mammals only
C	mammals only	mammals only	flowering plants only
D	flowering plants and mammals	mammals only	flowering plants and mammals

13 The graph shows the effect of storage time on the germination of some seeds.



What can be concluded from this graph?

A Older seeds do not germinate.

B Older seeds germinate better than younger seeds.

C Younger seeds always germinate.

D Younger seeds germinate better than older seeds.

14 Which method of birth control is based on knowing the stage a woman is at in her menstrual cycle?

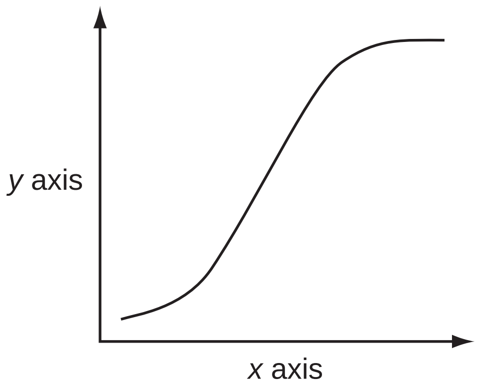
A chemical

B mechanical

C natural

D surgical

15 The graph shows the growth of a child into an adult.



What should be the labels on the axes?

	x axis	*y* axis
A	age	date
B	age	mass
C	mass	age
D	mass	time

16 What special dietary advice should be given to a pregnant woman?

A Eat less fibre (roughage).

B Eat less protein.

C Eat plenty of fat.

D Eat plenty of iron.

17 A natural method of birth control assumes that sperms live for three days after intercourse, ovulation occurs between days 13-15 of the menstrual cycle and released ova live for 36 hours.

On which day of the cycle should intercourse **not** result in pregnancy?

A day 7 **B** day 10 **C** day 12 **D** day 16

18 In addition to a suitable temperature, what else is necessary for seed germination?

A carbon dioxide and sunlight

B mineral ions only

C sunlight only

D water and oxygen

19 Which process is an example of development?

A a cell absorbing water and increasing in size

B a cell dividing by mitosis

C a root tip cell becoming a phloem cell

D a sperm cell fertilising an egg cell

20 Which combination of structural features is found in a wind-pollinated flower?

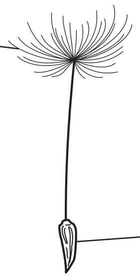
A anthers inside flower, smooth pollen, no scent

B coloured petals, sticky pollen, strong scent

C large flowers, nectaries present, light pollen

D no petals, anthers outside flower, no nectaries

21 The diagram shows a dandelion fruit attached to a parachute of hairs.



The following results were obtained during an experiment to investigate the time taken for the fruits of four different dandelions to fall to the ground.

dandelion	diameter of parachute / cm	time taken to fall / s
1	0.4	1.5
2	0.7	2.5
3	1.0	4.0
4	1.2	4.5

Which conclusion can be drawn from these results?

A As parachute diameter decreases, time taken to fall decreases.

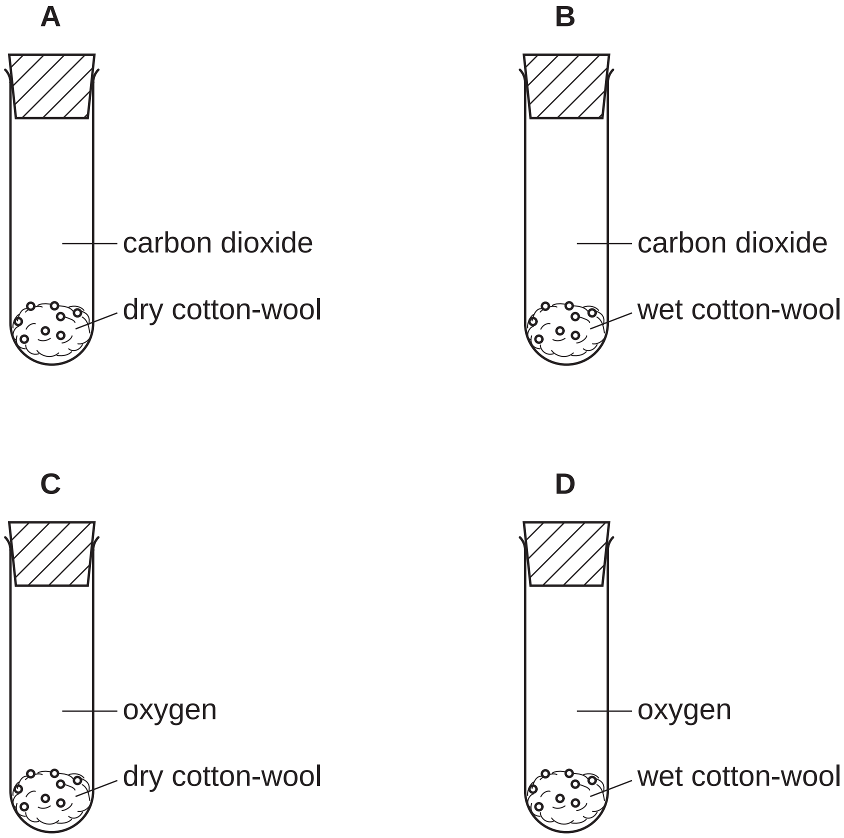
B Fruit 4 fell fastest and fruit 1 fell slowest.

C Dandelion fruits are well adapted for animal dispersal.

D Fruit size affects the time taken for the fruit to fall.

22 An experiment is set up at 20°C to investigate some conditions necessary for the germination of seeds.

In which apparatus will germination occur?

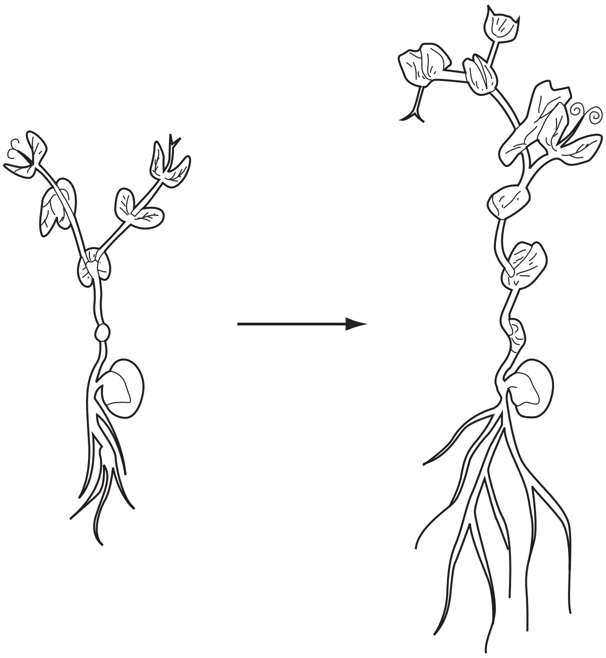


23 A natural method of birth control assumes that sperms live for three days after intercourse, ovulation occurs between days 13-15 of the menstrual cycle and released ova live for 36 hours.

On which day of the cycle should intercourse **not** result in pregnancy?

A day 7 **B** day 10 **C** day 12 **D** day 16

24 The diagram shows the early growth of a green plant.



What is occurring?

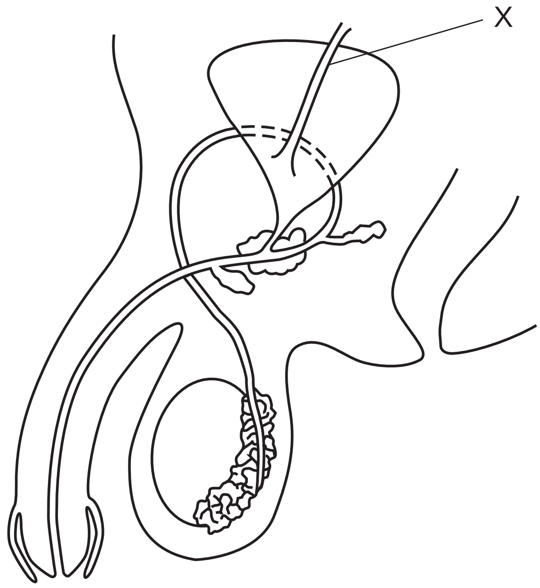
	mitosis	deve
A	✓	✓
B	✓	✗
C	✗	✓
D	✗	✗

key

✓ = occurs

✗ = does not occur

25 The diagram shows the male reproductive system.



What is the tube labelled X?

A rectum

B sperm duct (vas deferens)

C ureter

D urethra

26 Which is **not** growth of an organism?

A increase in dry mass

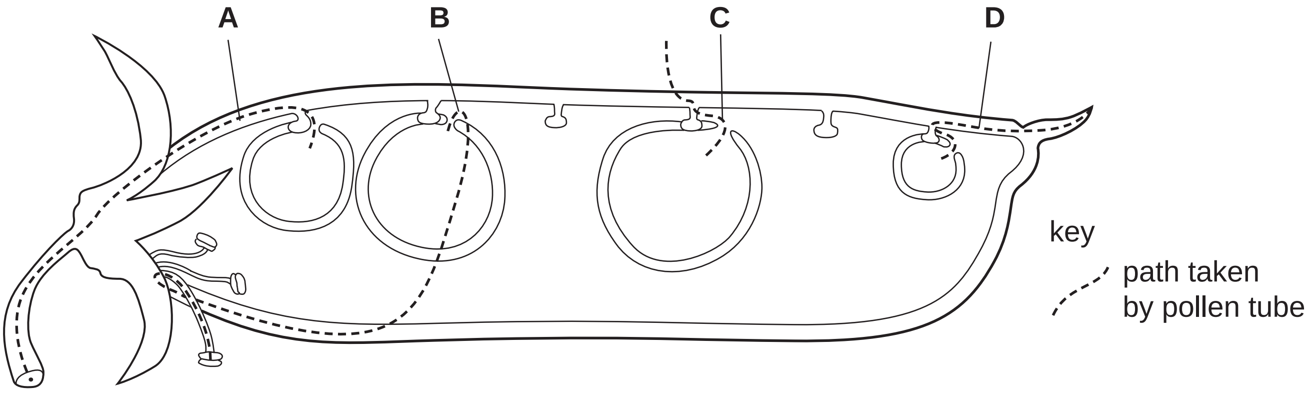
B increase in the number of cells

C permanent increase in size

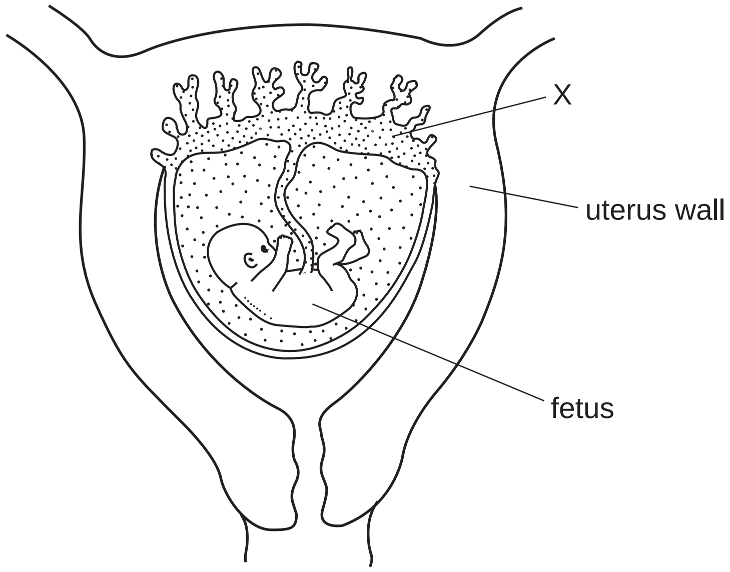
D swelling by absorbing water

27 The diagram shows a pod from a pea plant.

Which line correctly shows the path that was taken by a pollen tube to an ovule?



28 The diagram shows a developing human fetus within the uterus.



What is a main function of X?

A passing faeces to the mother

B passing oxygen to the fetus

C passing the mother's blood to the fetus

D protecting the fetus from knocks

29 Which process does **not** involve an increase in dry mass?

A a bacterium getting larger before it divides

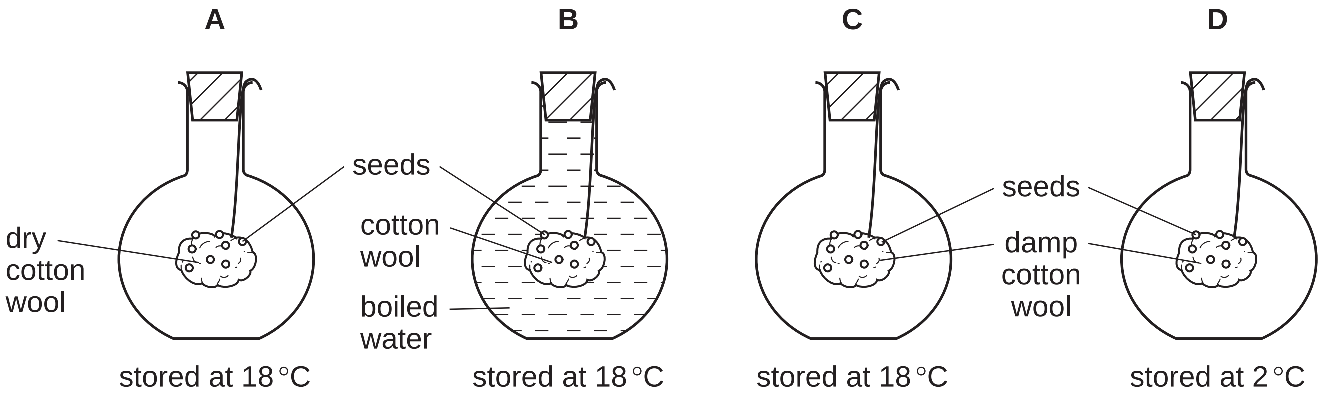
B a fetus developing inside the uterus

C a green shoot growing towards light

D a seed germinating under the ground

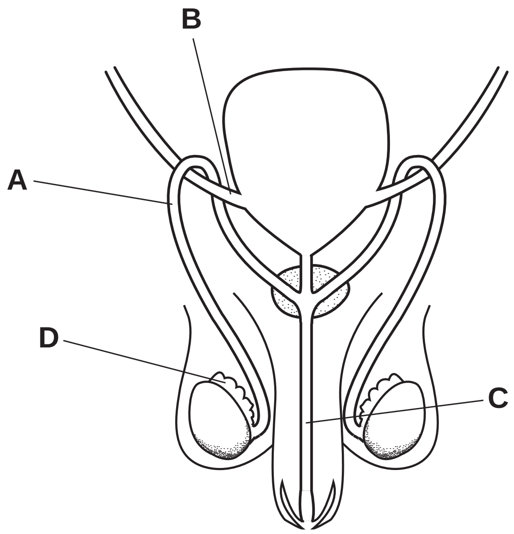
30 The diagram shows four flasks which were set up to investigate the conditions needed for germination.

In which experiment will the seeds germinate most quickly?



31 The diagram shows some parts of the male reproductive system.

Which part is cut during a vasectomy?



32 The calendar shows the menstrual cycle of a woman in September 2008.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

key

= ovulation

= menstruation

Why could fertilisation **not** take place if sperms are released into the vagina on 8th September?

A Sperms are washed out of the female uterus by the menstrual flow.

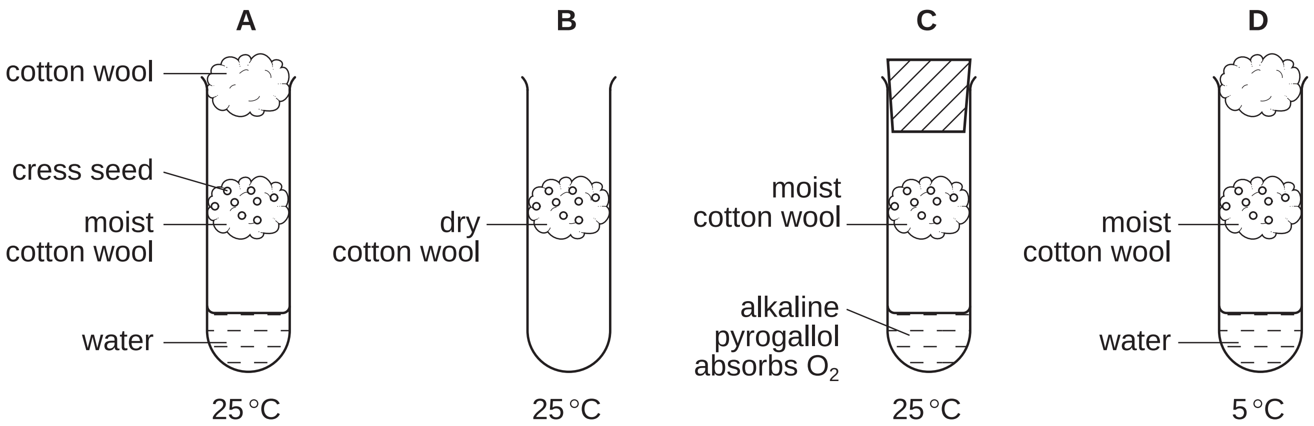
B Sperms can survive in the female reproductive system only for 3 or 4 days.

C Sperms must be released after ovulation for fertilisation to take place.

D The uterus lining is washed out of the female body during menstruation.

33 In an experiment to investigate the effects of various environmental factors on germination, four boiling tubes were set up as shown.

In which tube would the seeds germinate most quickly?



34 The graph shows how the height of a child changes with age.

When is the child's growth rate fastest?

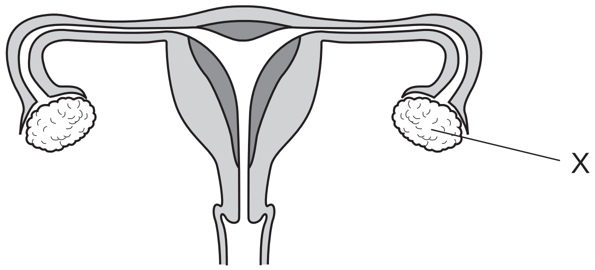
A 0-1 years

B 3-8 years

C 14-15 years

D 16-17 years

35 The diagram shows the female reproductive system.



What is the function of the part labelled X?

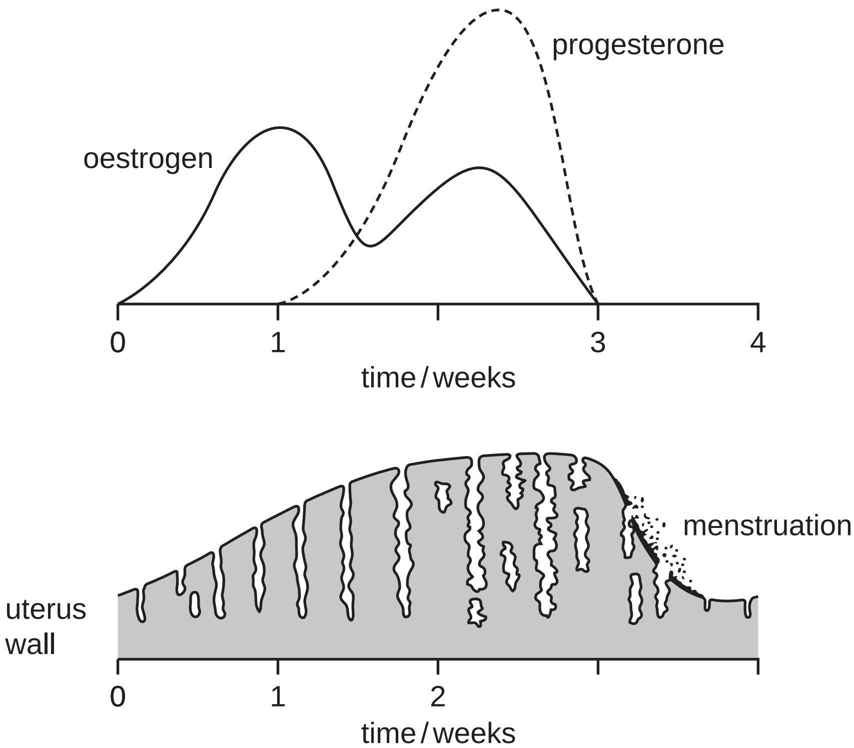
A gamete production and hormone secretion

B gamete production only

C hormone secretion only

D zygote production and hormone secretion

36 The diagram shows the changes which take place during a woman's menstrual cycle.



What is occurring at the time of ovulation?

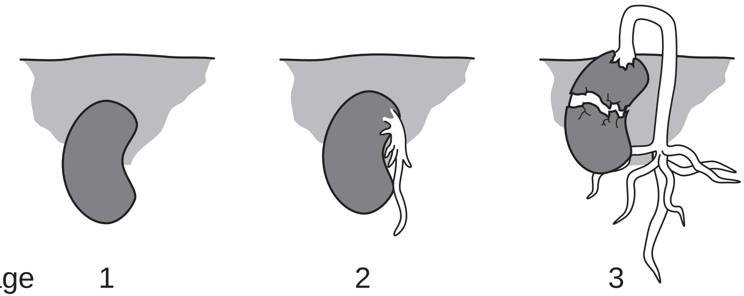
A a fall in the levels of oestrogen and progesterone

B a fall in the level of progesterone only

C a rise in the levels of oestrogen and progesterone

D a rise in the level of oestrogen only

37 The diagram shows some of the stages in the germination of a seed. The figures show the total mass at each stage.



stage	1	2	3
mass / g	0.6	4.7	5.9

Which process causes the increase in mass between stage 1 and stage 2?

A absorption of water

B enzyme action on starch

C photosynthesis

D respiration

38 How does the rhythm method of family planning work?

A A physical barrier stops sperms reaching the egg.

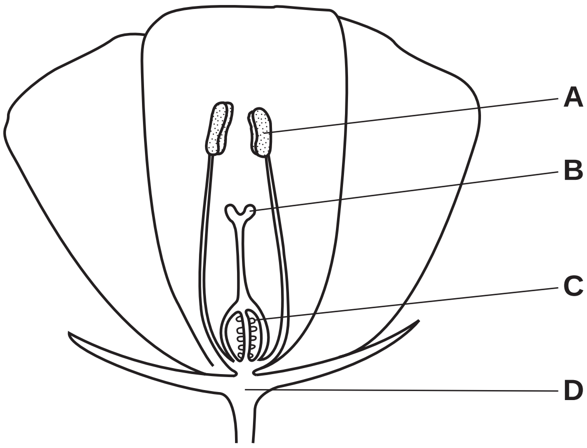
B Implantation is prevented.

C Intercourse is avoided near the time of ovulation.

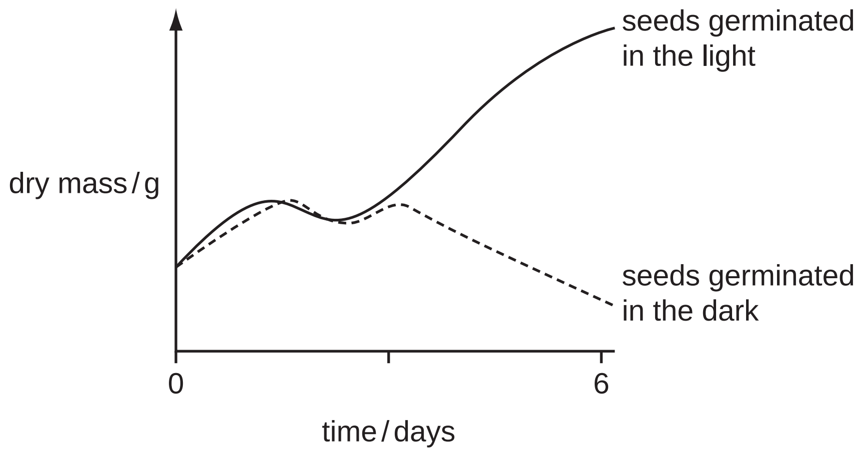
D Ovulation is prevented.

39 The diagram shows a flower in section.

Where will fertilisation occur?



40 The graph shows the changes in the dry masses of two similar samples of seeds from the start of germination.



What causes the change in dry mass after day 3 of the seeds germinated in the light?

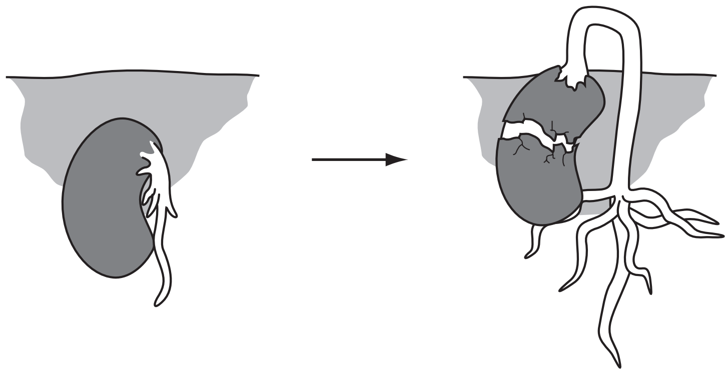
A All the stored food has been used up.

B A lot of water has been absorbed.

C Photosynthesis has begun.

D The respiration rate has increased.

41 The diagram shows a bean seed when planted and the same seed two days later.



Which conditions are necessary for these changes to occur?

	suitable temperature	presence of water	presence of carbon dioxide	presence of oxygen
A	✓	✓	✓	✗
B	✓	✓	✗	✓
C	✓	✗	✓	✓
D	✗	✓	✓	✓

42 What crosses the placenta from fetal blood to maternal blood in larger quantities than from maternal blood to fetal blood?

A amino acids

B carbon dioxide

C glucose

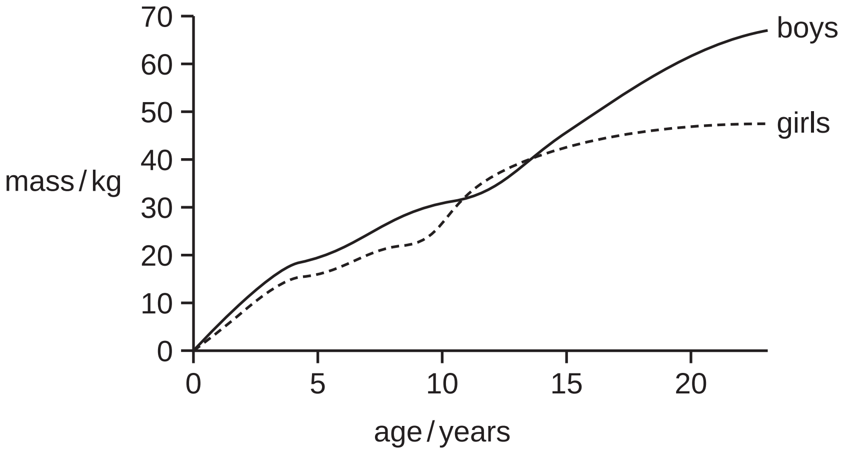
D oxygen

43 Fruits can be dispersed by animals or by wind. The table contains descriptions of four fruits.

Which fruit will be dispersed by wind?

fruit	description
A	fleshy and scented
B	light weight and has a wing
C	sticky and has hooks
D	sweet tasting and brightly coloured

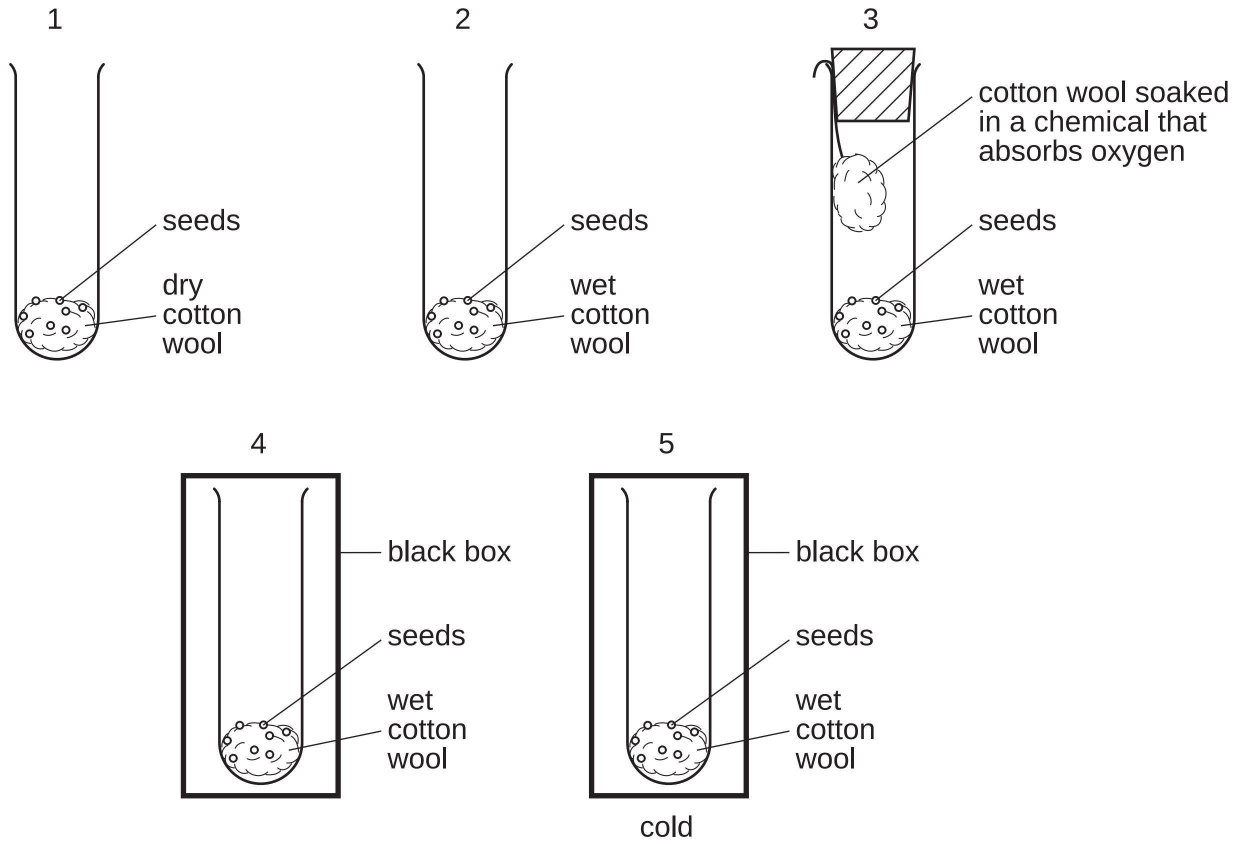
44 The graph shows the relationship between age and weight for boys and girls.



At what age does the graph show that girls are heavier than boys?

A 3 **B** 7 **C** 12 **D** 15

45 The experiment shown in the diagram was set up to see what conditions are needed for seeds to germinate. Except for tube number 5, all tubes are kept at room temperature.



In which tubes are the seeds most likely to germinate?

A 1 and 3 **B** 1 and 5 **C** 2 and 4 **D** 3 and 4

46 Some couples who do not want to have babies avoid sexual intercourse for certain days in the woman's menstrual cycle.

Which kind of birth control is this?

A chemical

B mechanical

C natural

D surgical

47 Seed dispersal, fertilisation, seed germination and pollination are processes in plant reproduction.

What is the correct sequence for events after pollination?

A dispersal → fertilisation → germination

B dispersal → germination → fertilisation

C fertilisation → dispersal → germination

D germination → fertilisation → dispersal

48 What is **not** normally essential for germination?

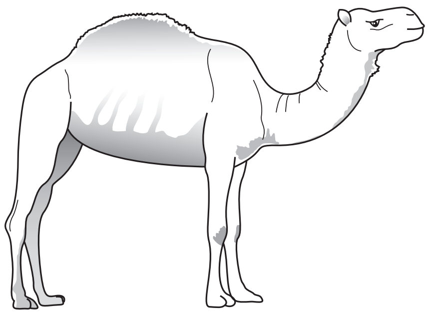
A enzymes

B light

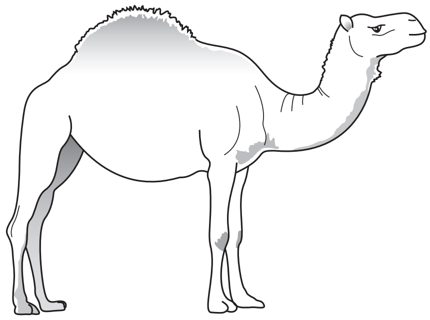
C oxygen

D warmth

49 The diagrams show a camel before and after drinking a large volume of water.



before



after

Which statement is correct?

A Growth has occurred because the animal has increased in volume.

B Growth has occurred because the animal has increased in mass.

C Growth has not occurred because the animal's height is unaltered.

D Growth has not occurred because the dry mass has not increased.

50 Which shows where eggs and sperms are made?

	eggs	sperms
A	fallopian tube (oviduct)	sperm duct
B	ovary	testis
C	ovary	urethra
D	uterus	testis