

- 1 The birthweights of 75 rats were measured and recorded within different birthweight ranges.

The number of rats in each birthweight range is recorded in the table.

birthweight / g	number of rats
5.5 — 5.9	8
6.0 — 6.4	11
6.5 — 6.9	13
7.0 — 7.4	18
7.5 — 7.9	15
8.0 — 8.4	8
8.5 — 8.9	2

State the most common birthweight range in the table.

..... [1]

[Total: 1]

- 2 Suggest a type of biological molecule that could be used as an energy store in an egg cell.

..... [1]

[Total: 1]

- 3** If an embryo implants in the uterus, the embryo secretes a hormone known as hCG that stimulates the reproductive organs of the woman to continue to secrete progesterone.

Describe what happens after fertilisation until the time that the embryo secretes hCG.

This image shows a full page of white paper with ten horizontal dashed lines, typical of primary school handwriting practice paper. The lines are evenly spaced and extend across the entire width of the page. There is no text or other markings on the paper.

[Total: 5]

- 4** Clomiphene citrate is a fertility drug that has been available for over 50 years. It is used as part of a treatment cycle to help women become pregnant. Often this involves artificial insemination (AI).

Describe how a treatment cycle involving fertility drugs **and** AI would be carried out.

[illegible]

[Total: 3]

- 5 The menstrual cycle is one of the changes that happens to girls during puberty.

Describe the changes that occur in boys during puberty.

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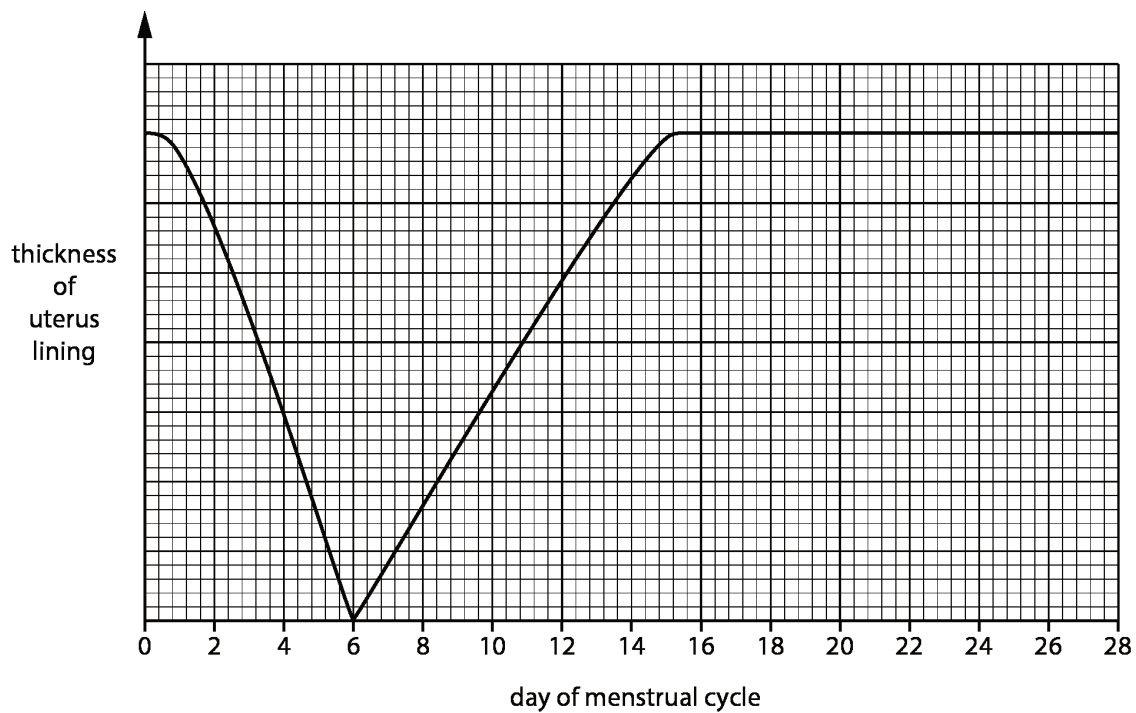
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[3]

[Total: 3]

- 6 The graph shows the changes to the thickness of the lining of the uterus during the menstrual cycle.



- (a) Describe the changes to the thickness of the lining of the uterus during the menstrual cycle as shown on the graph.

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[3]

- (b) State the days, shown on the graph, on which the lining of the uterus is broken down and lost.

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[1]

- (c) Draw an **X** on the graph to show when ovulation occurs.

[1]

[Total: 5]

- 7 Puberty leads to the development of secondary sexual characteristics.

It is controlled by hormones released from endocrine glands.

State the name of the hormone that leads to the development of secondary sexual characteristics in girls.

..... [1]

[Total: 1]

- 8 Puberty leads to the development of secondary sexual characteristics.

It is controlled by hormones released from endocrine glands.

The list shows some secondary sexual characteristics that develop in puberty in humans.

breasts grow growth of pubic hair
growth of underarm hair menstruation begins
pelvis widens

Complete the table to show which characteristics develop in girls only and which develop in both boys and girls.

girls only	both boys and girls

[3]

[Total: 3]

- 9 The human reproductive system is involved in sexual reproduction.

Compare **asexual** reproduction with **sexual** reproduction.

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[3]

[Total: 3]

- 10 Plants can reproduce asexually or sexually.

The table compares asexual and sexual reproduction.

Place ticks (✓) in the boxes to show the correct features of asexual and sexual reproduction.

features of reproduction	asexual reproduction	sexual reproduction
involves gametes		
makes more of the same kind of organism		
produces genetically identical offspring		
involves fertilisation		

[4]

[Total: 4]

11 Which best describes sexual reproduction?

	number of parents	offspring
A	one	genetically different from parent
B	one	genetically identical to parent
C	two	genetically different from parents
D	two	genetically identical to parents

[1]

[Total: 1]

12 Which statement about sexual reproduction is correct?

- A** Gametes are produced by mitosis only.
- B** Gametes fuse together to form a zygote.
- C** Genetically identical nuclei are produced.
- D** It occurs in animals, but not in plants.

[1]

[Total: 1]