

Edexcel Biology IGCSE

3.a - Reproduction

Flashcards

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What is the difference between asexual reproduction and sexual reproduction?



What is the difference between asexual reproduction and sexual reproduction?

- Asexual reproduction involves mitosis to produce genetically identical copies
- Sexual reproduction involves the combination of sperm and egg cells to create a zygote



What is the difference between a zygote and an embryo?



What is the difference between a zygote and an embryo?

The zygote is the diploid cell formed from the fusion of a sperm and egg cell, it becomes an embryo after it begins to divide.



Give one advantage and one disadvantage of sexual reproduction



Give one advantage and one disadvantage of sexual reproduction

Advantage - It introduces variation.

Disadvantage - It is slower and produces a limited amount of offspring.



Give one advantage and one disadvantage of asexual reproduction



Give one advantage and one disadvantage of asexual reproduction

Advantage - It produces lots of offspring quickly

Disadvantage - It does not introduce variation and so all offspring are susceptible to the same environmental pressures as the parents.



State 3 features of insect pollinated plants



State 3 features of insect pollinated plants

- Bright coloured flowers
- Sweet netcar
- Sticky pollen



State 3 features of wind pollinated plants



State 3 features of wind pollinated plants

- No bright colours
- Stigma exposed to the air
- Light pollen



Describe the process of fertilisation in plants



Describe the process of fertilisation in plants

- Pollen grain lands on the stigma
- Pollen tube begins to grow from the pollen grain into the ovary
- Pollen grain travels down the pollen tube and fertilizes the egg
- Fruit and seeds form from the egg



How can seeds grow before they can photosynthesise?



How can seeds grow before they can photosynthesise?

They use energy stores of starch



Give one natural example of plant cloning



Give one natural example of plant cloning

Plant runners from strawberries and spider plants.



Give one artificial example of plant cloning



Give one artificial example of plant cloning

Tissue cuttings placed in a growth medium.



What does oestrogen do?



What does oestrogen do?

Oestrogen causes the uterus lining to thicken.



Where is oestrogen secreted from?



Where is oestrogen secreted from?

The ovaries



What hormone does oestrogen inhibit?



What hormone does oestrogen inhibit?

Oestrogen inhibits follicle stimulating hormone (FSH).



What does progesterone do?



What does progesterone do?

Progesterone maintains the womb lining.



Where is progesterone secreted from?



Where is progesterone secreted from?

The ovaries



What hormone does progesterone inhibit?



What hormone does progesterone inhibit?

Progesterone inhibits follicle stimulating hormone (FSH).



What does follicle stimulating hormone
(FSH) do?
(Higher)



What does follicle stimulating hormone (FSH) do?
(Higher)

FSH stimulates the follicle to mature and release oestrogen.



What does luteinising hormone (LH) do? (Higher)



What does luteinising hormone (LH) do? (Higher)

A surge in LH causes the release of an egg from a follicle (ovulation).



Where is FSH secreted from? (Higher)



Where is FSH secreted from? (Higher)

The anterior pituitary gland



Where is LH secreted from? (Higher)



Where is LH secreted from? (Higher)

The anterior pituitary gland



Where are eggs produced?



Where are eggs produced?

In the ovaries



How are egg cells adapted to their function?



How are egg cells adapted to their function?

- They are very large cells
- They contain a large cytoplasm for the lots of divisions they undergo
- They have a haploid nucleus



How are sperm cells adapted to their function?



How are sperm cells adapted to their function?

- Acrosome contains enzymes so the sperm can penetrate the egg
- Haploid nucleus
- Tail so that it can swim to the egg
- Lots of mitochondria for energy



What is the purpose of amniotic fluid?



What is the purpose of amniotic fluid?

To protect the developing fetus



What is the purpose of the placenta?



What is the purpose of the placenta?

To allow nutrients and oxygen to pass from the mother to the fetus during development.



What role does oestrogen play during puberty?



What role does oestrogen play during puberty?

- Increases breast size
- Triggers the development of the uterus
- It causes eggs to mature during the menstrual cycle



What role does testosterone play during puberty?



What role does testosterone play during puberty?

- Triggers growth and development of the penis and testes
- Causes the voice to deepen
- Triggers the growth of pubic hair
- Increases muscle mass

