

Exercise walk-through

16.6

Sexually transmitted infections

IGCSE Biology

Clones, and what a seed still needs

Genetically identical

The **offspring** have exactly the same **genes** as the parent – they are clones, so no variation arises.

Why that is useful

One parent, no pollinator, and a fast spread when conditions suit. It is the strategy of a plant that is already succeeding where it stands.

Why it is risky

No variation means one disease, or one change in conditions, can take the whole population.

Germination

A **seed** will only **germinate** when it has water, **oxygen** and a suitable **temperature** – light is not on that list.

Cross-pollination buys **variation**, and pays for it by depending on **pollinators** or wind.

Sexual reproduction, and what crosses the placenta

the advantage

variation means some offspring may survive if the environment changes

the cost

it needs two parents, and it is slower than asexual reproduction

the placenta

where dissolved **nutrients, gases and wastes** are exchanged between the mother's blood and the fetus's

the blood does not mix

the two circulations stay separate; only dissolved substances cross

amniotic fluid

surrounds the fetus, protecting it from shock and keeping the temperature steady

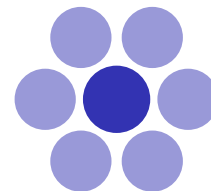
(Supplement)

some **pathogens** and **toxins** – alcohol, nicotine, rubella, HIV – can **cross the placenta and harm the fetus**

The placenta is a selective exchange surface, not a filter. Naming what it lets through *and* what harms the fetus is the marked pair.

Check yourself

- 1 Which reproduction gives variation?
- 2 Which flower part makes pollen?
- 3 How is a sperm cell adapted to move?
- 4 On about which day is an egg released?



Answers 1. sexual reproduction 2. the anther 3. it has a tail (flagellum) 4. about day 14

Exercises 2.1-2.2

2.1 Define a sexually transmitted infection. [1]

2.2 State the type of pathogen that causes HIV. [1]

Exercises 2.1-2.2

2.1 Define a sexually transmitted infection.

[1]

2.1

- an STI is an infection **spread through sexual contact**

2.2 State the type of pathogen that causes HIV.

[1]

2.2

- HIV is caused by a **virus**

Exercise 3.1

3.1 HIV is spread by:

[1]

☐

A coughing and sneezing

B infected body fluids

C touching surfaces

D insect bites only

Exercise 3.1

3.1 HIV is spread by:

[1]

☐

A coughing and sneezing

B infected body fluids

C touching surfaces

D insect bites only

3.1 B

- HIV is spread in **infected body fluids**
- A, C and D are not how HIV is passed on

Exercise 3.2 (a)

3.2 HIV can lead to AIDS.

(a) State what happens to the immune system in AIDS.

[1]

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[1]

(a)

- in AIDS the **immune system stops working properly**

Exercise 3.2 (b)

3.2 HIV can lead to AIDS.

(b) State two ways to control the spread of HIV.

[2]

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3.2 HIV can lead to AIDS.

(b) State two ways to control the spread of HIV.

[2]

(b)

- any **two** of: use **condoms** / fewer partners / test and treat / do not share needles