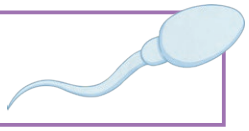
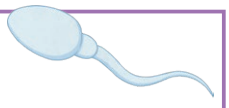
Reproduction

1. Explain the difference between sexual and asexual reproduction.

2. Give four ways the sperm cell is adapted to carry out its function.





3. What are the gametes in...

plants? _____ _____

animals? _____ _____

4. What are the advantages of sexual reproduction?

5. What are the advantages of asexual reproduction?

6. How does the type of reproduction change in the lifecycle of the malarial parasite?

7. When fungi reproduce asexually, they release _____ into the environment.
   Why do they carry out sexual reproduction?

8. Explain why most plant reproduction is sexual.

9. Describe the ways that the following plants reproduce asexually.

strawberry plants: _____

daffodils: _____

Mitosis	Meiosis

Reproduction Answers

1. Explain the difference between sexual and asexual reproduction.

Sexual reproduction involves two parents; asexual reproduction only involves one. Sexual reproduction involves gametes which are produced by meiosis. They fuse together in fertilisation. Asexual reproduction does not involve gametes. The daughter cells are produced by mitosis. In sexual reproduction the genetic information is mixed which leads to variation in the offspring. In asexual reproduction there is no mixing of genetic information and the offspring are clones of the parents.

2. Give four ways the sperm cell is adapted to carry out its function.

1. **The large nucleus contains the genetic information to pass on.**
2. **A long tail helps the sperm to move through the female reproductive system to reach the egg.**
3. **There are lots of mitochondria to transfer the energy needed for the tail to work.**
4. **The acrosome stores enzymes that allow the sperm to break through the egg membrane.**

3. What are the gametes in...

plants? **pollen and egg cells** animals? **sperm and egg cells**

4. What are the advantages of sexual reproduction?

Sexual reproduction produces variation in the offspring. This results in a survival advantage by natural selection if the environment changes. Natural selection can be sped up for human benefit by selective breeding.

5. What are the advantages of asexual reproduction?

Only one parent is needed which is more time and energy efficient as you do not need to find a mate. It is also faster than sexual reproduction. Many identical offspring can be produced when conditions are favourable.

6. How does the type of reproduction change in the lifecycle of the malarial parasite?

It reproduces sexually, by mitosis, when it is in the human blood and liver. In the mosquito, sexual forms burst out of the red blood cells and fuse. They then produce asexual forms by meiosis. These infect the next human.

7. When fungi reproduce asexually, they release please insert **spores** into the environment.
   Why do they carry out sexual reproduction?

When the conditions are not favourable, they reproduce sexually to introduce variation to the offspring. This will allow them to respond to changes to the environment by natural selection.

8. Explain why most plant reproduction is sexual.

Sexual reproduction introduces variation to the offspring which allows them to respond to changes in the environment by natural selection.

9. Describe the ways that the following plants reproduce asexually.

strawberry plants: **Runners that grow identical plants.**

daffodils: **Bulbs divide to form identical new plants.**

10. Complete the table to show the differences between mitosis and meiosis.

Mitosis	Meiosis
Produces two daughter cells.	**Produces four daughter cells.**
Daughter cells are genetically identical.	**Daughter cells are not genetically identical.**
The cell divides once.	**The cell divides twice.**
The chromosome number of the daughter cells is the same as the parent cells.	**The chromosome number is reduced by half.**
Used for growth and repair, and asexual reproduction.	**Produces gametes.**