

S3 Biology Reproduction and animal life cycles previous knowledge and need to know sheet

1. All living organisms are able to produce offspring.
2. A species is a group of organisms who can interbreed to produce fertile offspring
3. Mammals produces offspring sexually
4. Sexual reproduction leads to a great variety within a species.
5. The mammal sex cells are called the egg and sperm
6. Eggs are made in the ovaries, sperm are made in the testes
7. Fertilisation is the fusion of sperm and egg and occurs in the fallopian tube
8. The newly fertilised egg is called a zygote
9. The zygote travels to the uterus where it settles on the uterus wall and develops into the baby.
10. During development the baby receives oxygen and food from the maternal blood via the placenta. In reverse the baby gives back waste and carbon dioxide back to the mother.
11. The baby is connected to the placenta via the umbilical cord.
12. Baby development can be altered by smoking and alcohol consumption
13. Plants also reproduce sexually and produce the male sex cell pollen in the anthers and the female ovule in the ovary
14. In plant sexual reproduction ensures variety so that if a disease spread, some of the offspring may be able to survive. It also allows the plant to colonise new habitats, therefore increasing survival rates.
15. Know that the structures of the flower consist of the petals, stigma, anther (stamen) nectary, style, ovary, sepal
16. Pollination is when pollen (carried by the wind or insect) lands on the stigma
17. The pollen grows a pollen tube down the style and into the ovary where it attaches to the ovule.
18. The male sex cell is released and fuses with the female sex cell in the ovule.
19. The embryo plant is contained in a seed.
20. Germination is when the embryo plant contained in the seed begins to grow
21. Germination requires water, oxygen and a suitable temperature, but NOT light. This lends itself well to the germination experiment.
22. Plants can also reproduce by asexual reproduction
23. Asexual reproduction produces clones which are genetically identical to the parent and always produced through asexual reproduction.
24. Potato plants reproduce by producing tubers, whilst strawberries and spider plants reproduce by producing runners.
25. Asexual reproduction allows plants to grow quickly, not requiring a seed stage as the mother plant gives the young plant all the food and water it requires. It also ensures the young plant grows in a favourable habitat. However, asexual reproduction produces no variety and therefore a species could be wiped out by a single disease. Also due to the close proximity of the parent plant to the offspring, competition for light, water and space may arise.