

Module 5: Heredity

Worksheet 1: Reproduction

————— Multiple Choice —————

1. What term is used to refer to organisms, such as flatworms, that have both male and female reproductive structures present?
 - (a) Asexual
 - (b) Hermaphrodite
 - (c) Parthenogenesis
 - (d) Binary Fission
2. Which of the following options accurately identifies the location where gametes are created in an animal?
 - (a) Males: Testicles, Females: Ovum
 - (b) Males: Sperm, Females: Ovum
 - (c) Males: Sperm, Females: Ovary
 - (d) Males: Testicles, Females: Ovary
3. Which of the following processes are NOT a method of asexual reproduction utilised by plants?
 - (a) Runners
 - (b) Rhizomes
 - (c) Fertilisation
 - (d) Suckers
4. Which of the following options does NOT correctly describe cross pollination?
 - (a) Increases genetic variation
 - (b) Allows for greater evolutionary fitness
 - (c) Does not utilise vectors
 - (d) Affects the gene pool

5. Which of the below answers correctly identifies the collective name and structures of the male reproductive part of a flower?
- (a) Stamen: Stigma, Style, Anther
 - (b) Carpel: Anther, Filament, Stigma
 - (c) Stamen: Anther and Filament
 - (d) Carpel: Stamen, Style
6. Frogs reproduce via a process known as amplexus. After the male clamps his arms around the female, both male and female gametes are deposited into the water in close proximity to one another.



What type of reproduction is being shown here?

- (a) Internal fertilisation
 - (b) Asexual fertilisation
 - (c) Seed dispersal
 - (d) External fertilisation
7. The below diagram demonstrates a type of reproduction utilised by ginger a type of plant.



What type of reproduction is being shown here?

- (a) Apomixis
- (b) Runners
- (c) Fertilisation
- (d) Rhizomes

Short Answer Questions

1. Distinguish between asexual and sexual reproduction. (1 mark)

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2.

(a) Define internal fertilisation. (1 mark)

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(b) Define external fertilisation. (1 mark)

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(c) Compare and contrast internal and external fertilisation. (4 marks)

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3. Contrast the advantages and disadvantages of using asexual or sexual reproduction in plants. (4 marks)

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4. A plant has germinated in an empty field where the dirt is poorly nourished and there are no other plants of the same species in the surrounding environment.

Would the plant opt to reproduce sexually or asexually? Explain why. (4 marks)

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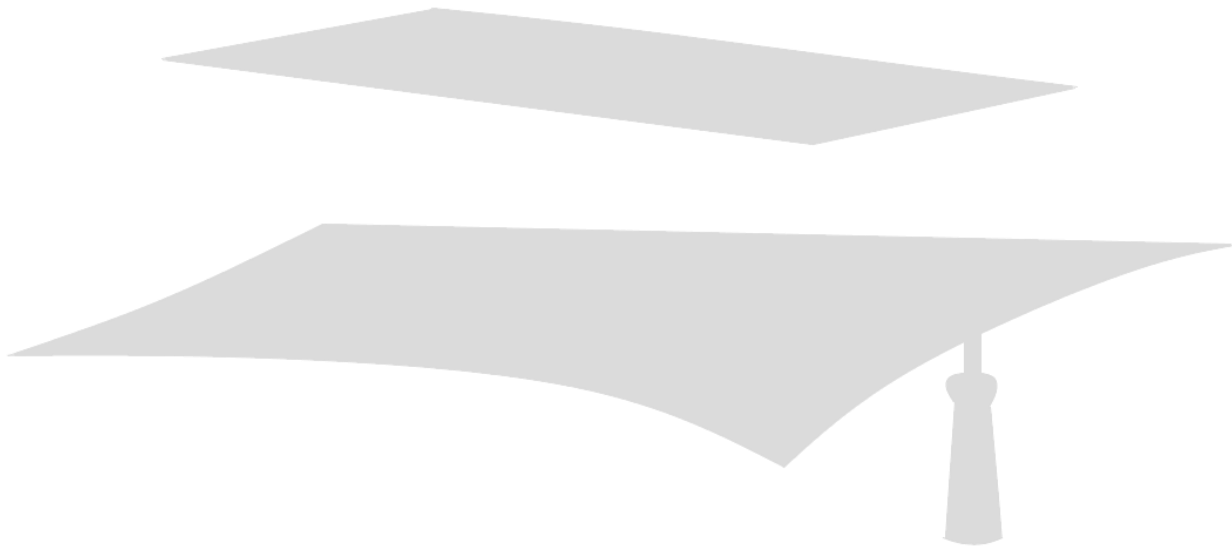
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————— **Extended Response** —————

1. Draw a diagram of a flower that would use animals as a vector to pollinate. Label the structures that contribute to this function. (5 marks)



2. Draw a diagram of a seed that would be effective in dispersal by wind. Identify features on your diagram that would make it suitable for this purpose. (3 marks)

3. Plants use a wide variety of seed dispersal techniques to ensure the continuity of their species. One such example is *Casuarina equisetifolia* which utilises light and aerodynamically favourable seeds to take advantage of wind as a vector for seed dispersal.

Identify THREE mechanisms, other than wind, that plant utilise to disperse their seeds and describe the physical characteristics that make this possible. Include examples in your response. (6 marks)

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