

The Secret Life of Mosses

Gamete plant (Gametophyte)

1. Is the moss gamete plant diploid (one set of chromosomes/cell) or haploid (two sets of chromosomes/cell)?
2. Name the various parts of a moss gamete plant. Can you give the functions of each?
4. Where would you look in order to find reproductive structures containing eggs and those containing sperm?
5. How would you distinguish a male from a female reproductive structure in a moss gamete plant?

Fertilisation

6. Can you describe what a moss sperm looks like and how it moves? In what ways does it resemble animal sperm?
7. Moss sperm can only swim a short distance, yet often reach female plants some distance away. Can you explain how this is accomplished?
8. Once at the tip of a female plant, how do the sperm locate the female reproductive structure and the egg?
9. Sperm and eggs are produced by reduction division or meiosis in animals. Is this the case in mosses? Can you explain your answer? Clue: The cells of a moss gamete plant contain one set of chromosomes.

The embryo

10. Does the moss embryo remain inside the female reproductive structure? Explain.
11. Describe the growth and appearance of the moss embryo.
12. What is the source of nourishment for the developing moss embryo?

Spore plant (Sporophyte)

13. Where would you look in order to find a moss spore plant (sporophyte)? How does its appearance differ from that of the gamete plant (gametophyte) ?
14. What is the capsule? What type of cell division do the fertile cells of the capsule undergo in order to form spores?
15. What is a spore? How are spores released from the capsule?
16. How are spores dispersed to new locations?

The new gamete plant (gametophyte)

17. If a spore lands on a moist surface, it germinates. What is meant by "germination"?
18. Can you describe changes that a young moss gamete plant undergoes to reach its final, mature form?