A4.1 Evolution and speciation (HL)

What the Cell · DP Biology · worksheet · HL statements A4.1.8–11

Name _____ **Date** _____ **Total** _____ / 20

About 20 minutes, or one section at a time. The number of marks shows how many separate points to make.

Section A: Recall

5 marks

1 **Define** allopatric speciation. A4.1.8 **[1]**

2 **Define** adaptive radiation. A4.1.9 **[1]**

3 **State** one behaviour that often prevents hybridization in animals. A4.1.10 **[1]**

4 **Define** polyploidy. A4.1.11 **[1]**

5 **State** the term for a polyploid that contains chromosome sets from two species. A4.1.11 **[1]**

Section B: Understanding

7 marks

6 **Compare** allopatric and sympatric speciation. A4.1.8 **[3]**

7 **Explain** how adaptive radiation increases biodiversity. A4.1.9 **[2]**

8 **Explain** how sterile hybrids stop alleles passing from one species to another. A4.1.10 **[2]**

Section C: Working with evidence

8 marks

All data in this section are invented for practice. The patterns are realistic.

9 A4.1.11

Three related plant species grow in the same marsh. Species C has features of both A and B.

Species	A	B	C
Chromosome number in body cells	22	22	44
Number of chromosomes in one basic set	11	11	11

a **Deduce** how many sets of chromosomes species C has. **[1]**

b **Explain** how species C could have formed from A and B. **[3]**

c **Explain** why species C is reproductively isolated from species A. **[2]**

d **State** why this kind of speciation is described as abrupt. **[1]**

e **Suggest** one advantage that species C might have over its parents. **[1]**

What the Cell. Original questions written for this course.