D4.2 Stability and change (HL)

What the Cell · DP Biology · worksheet · HL statements D4.2.11–14

Name _____ **Date** _____ **Total** _____ / 30

About 30 minutes, or one section at a time. The number of marks shows how many separate points to make.

Section A: Recall

6 marks

1 **Define** ecological succession. D4.2.11 **[1]**

2 **Distinguish** between primary and secondary succession. D4.2.11 **[2]**

3 **State** one example of a pioneer organism. D4.2.12 **[1]**

4 **Define** climax community. D4.2.14 **[1]**

5 **State** one human activity that arrests succession. D4.2.14 **[1]**

Section B: Understanding

11 marks

6 **Explain** how pioneer species make it possible for other species to grow. D4.2.12 **[3]**

7 **Outline** four changes that happen in a community during primary succession. D4.2.12 **[4]**

8 **Describe** one example of cyclical succession. D4.2.13 **[2]**

9 **Explain** how grazing by livestock prevents a forest from developing. D4.2.14 **[2]**

Section C: Working with evidence

9 marks

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

10 D4.2.12

Plots on lava flows of known age on a volcanic island were surveyed.

Age of lava / years	0	10	50	100	300
Number of plant species	0	6	22	35	40
Soil depth / cm	0	0.5	4	15	40
Height of tallest plant / m	0	0.1	1.5	8	25

a **Describe** the change in the number of plant species with age of lava. **[2]**

b **Calculate** the mean rate of soil formation between 50 and 100 years. Give the units. **[2]**

c **Explain** the relationship between soil depth and the height of the tallest plant. **[2]**

d **Predict** the number of plant species on lava 1000 years old. **[1]**

e **Suggest** how goats introduced at year 50 would have changed the later results. **[2]**

Section D: Longer answer

4 marks

11 **Outline** the effects of draining a wetland on its community. D4.2.14 **[4]**