D4.2 Stability and change

What the Cell · DP Biology · worksheet · SL statements D4.2.1–10

Name _____ **Date** _____ **Total** _____ / 42

About 40 minutes, or one section at a time. You will need a calculator. The number of marks shows how many separate points to make.

Section A: Recall

7 marks

1 **List** three requirements for ecosystem stability. D4.2.2 **[3]**

2 **Define** keystone species. D4.2.4 **[1]**

3 **State** what BOD measures. D4.2.7 **[1]**

4 **Name** two pollutants that undergo biomagnification. D4.2.8 **[1]**

5 **State** the size that separates microplastics from macroplastics. D4.2.9 **[1]**

Section B: Understanding

15 marks

6 **Explain** how deforestation of the Amazon could lead to a tipping point. D4.2.3 **[4]**

7 **Outline** two factors that affect how sustainable a farm is. D4.2.6 **[2]**

8 **Explain** how leaching of fertilizers can lead to the death of fish. D4.2.7 **[4]**

9 **Explain** why plastic pollution harms marine animals. D4.2.9 **[3]**

10 **Outline** two methods used in rewilding. D4.2.10 **[2]**

Section C: Working with data

14 marks

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

11 D4.2.8

Trophic level	Mercury / µg per g of tissue
Plankton	0.01
Small fish	0.10
Tuna	0.80
Dolphin	5.00

a **Calculate** how many times greater the concentration is in dolphins than in plankton. **[1]**

b **Explain** the trend. **[3]**

c **Suggest** why people are advised to limit the amount of large predatory fish that they eat. **[1]**

12 D4.2.5

Year	2000	2005	2010	2015	2020
Stock of a fish / thousand tonnes	800	620	440	300	360
Catch / thousand tonnes	200	190	180	40	40

a **Describe** the trend in stock. **[2]**

b **Deduce**, with a reason, whether the catch in 2000–2010 was sustainable. **[2]**

c **Explain** the change in stock after 2015. **[2]**

d **State** one further piece of data needed to assess this stock. **[1]**

e **Suggest** two management measures that could speed up recovery. **[2]**

Section D: Longer answer

6 marks

13 **Discuss** how human activities can threaten the stability of an ecosystem, and how they could be reduced. D4.2.2–10 **[6]**