D4.1 Natural selection

What the Cell · DP Biology · note-taking sheet · SL statements D4.1.1–8

Name _____ **Date** _____

How to use this sheet: go through the slides and videos with it, then close them and write from memory. Use your own words and add page numbers from the book (pp. 779–789) where you want more detail.

Guiding questions. What can change allele frequencies in a population? What part does reproduction play in natural selection?

D4.1.1 Natural selection

Write the steps of natural selection in order.

D4.1.2 Variation

Source	What it contributes
Mutation	
Crossing over	
Random orientation	
Random fertilization	

D4.1.3–4 Pressures

Why does overproduction lead to competition? Give two examples of limited resources, and define carrying capacity.

Give two abiotic selection pressures. What does density-independent mean?

D4.1.5–6 Fitness and heritability

Define fitness. Use the peppered moth to explain selection.

Why can acquired traits not evolve? Give an example.

D4.1.7–8 Sexual selection and guppies

Why can costly, exaggerated traits persist?

Pond	Trend in spots	Explanation
No predators		
Dangerous predators		

Before you finish

Tick the ones you can explain without notes. Circle anything to ask about.

- ☐ Steps of selection
- ☐ Sources of variation
- ☐ Overproduction
- ☐ Abiotic pressures
- ☐ Fitness
- ☐ Heritability
- ☐ Sexual selection
- ☐ Guppies