

PENGUIN ADAPTATIONS IN ACTION

Student Packet — King Penguins & Rockhopper Penguins

Grades 7–8 | Riverbanks Zoo Video Activity

ESSENTIAL QUESTION

How do the traits of King and Rockhopper penguins help them survive and reproduce in a shared, changing environment?

Name: _____ Class / Period: _____

Part A — Before You Watch

With a partner, predict: what problems does a penguin need to solve to survive in a cold, resource-limited environment?

Part B — Video Observation Log

While you watch, record at least 6 specific behaviors. Note which species (King or Rockhopper) and what you think the behavior helps it accomplish.

Behavior I Saw	Which Penguin?	What It Might Help It Do

Part C — Comparing Adaptations

Fill in at least one example of a structural, behavioral, and physiological adaptation for each species.

Type of Adaptation	King Penguin	Rockhopper Penguin
Structural (body part / physical feature)		
Behavioral (something it does)		
Physiological (internal body process)		

Analysis Questions

1. King penguin colonies can be very large, with many individuals relying on the same fish and krill within swimming range. Using evidence from the video, explain how limited food resources could affect the size of a penguin population. [\[7-LS2-1\]](#)

2. King and Rockhopper penguins share overlapping sub-antarctic habitats. Predict how their different traits — such as diving depth, body size, or nesting style — might reduce direct competition between the two species. [\[7-LS2-2\]](#)

3. Choose one adaptation from your chart. Explain how genetic factors (an inherited trait) and environmental factors (something about the habitat) both play a role in that adaptation being helpful. [\[8-LS1-5\]](#)

Part D — Grade 8 Extension: The Math of Natural Selection

Imagine a population of 100 Rockhopper penguins. In Year 1, 40 have a trait that helps them dive more efficiently. Over several generations, that trait becomes more common because penguins with it survive and reproduce more successfully.

Generation	% of Population with Trait	Number of Penguins (out of 100)
Year 1	40%	40
Year 5	55%	
Year 10	70%	
Year 15	85%	

4. Fill in the missing number of penguins for each year. Then describe the trend in the trait over time, and explain what environmental pressure might be causing this trait to become more common. *[8-LS4-6]*

Wrap-Up Reflection

Revisit the Essential Question: How do the traits of King and Rockhopper penguins help them survive and reproduce in a shared, changing environment?

In 2–3 sentences, answer: What is one adaptation that most surprised you, and why does it give that penguin species an advantage?
