



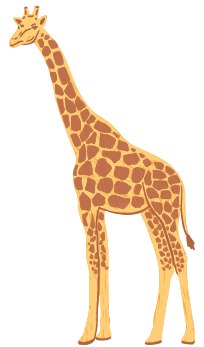
# BIOLOGY MOCK INTERVIEW PACK

Our Interview packs typically contain up to 30 questions for students to work through in their own time outside of lessons. This is a small sample of the pack available for Biology

## WHY DO GIRAFFES HAVE LONG NECKS?

### Hints:

- The common textbook answer is about feeding—but is that the only possible explanation?
- Think about male vs. female giraffes—does anything differ about how they use their necks?
- Could there be a role in intraspecific competition?



## GOOD ANSWER

The classic explanation is that long necks evolved so giraffes could reach food high up in trees that other herbivores couldn't access. Talking about natural selection in this context and how that has over time led to giraffes having long necks would be a good starting point for an answer.

## OFFER WINNING ANSWER

You would also want to think about other evolutionary advantages for this as it is normally a combination of factors that leads to a certain trait becoming more common in a population. More recent research suggests that sexual selection might be an important factor. Male giraffes engage in "necking" battles—swinging their necks and heads at each other to compete for mates. Longer, stronger necks give an advantage in these contests. So, while feeding might be part of the story, sexual selection could have played a key role in driving the evolution of longer necks.

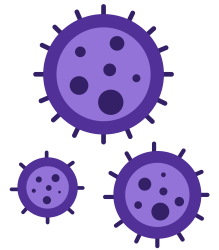


# BIOLOGY MOCK INTERVIEW PACK

**IF YOU FOUND A NEW ORGANISM IN A DEEP SEA VENT, HOW WOULD YOU CLASSIFY IT?**

**Hints:**

- What are the main domains of life you'd consider?
- What cellular features would you look for?
- How could you identify metabolic pathways unique to extremophiles?



## GOOD ANSWER

A good answer would look at the features the organism would have in order to classify it. You would try to determine whether it has a nucleus—if it does, it's a eukaryote; if not, it's likely a prokaryote (either a bacterium or archaeon). You could also look at cell wall structure, lipid composition of the membrane, and how it transcribes and translates genetic material—archaea differ from bacteria in these areas.

## OFFER WINNING ANSWER

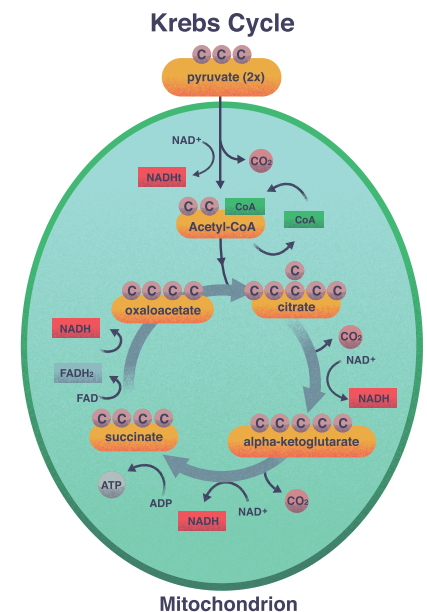
A good answer would look at the features the organism would have in order to classify it. You would try to determine whether it has a nucleus—if it does, it's a eukaryote; if not, it's likely a prokaryote (either a bacterium or archaeon). You could also look at cell wall structure, lipid composition of the membrane, and how it transcribes and translates genetic material—archaea differ from bacteria in these areas.

# BIOLOGY MOCK INTERVIEW PACK

A MOUSE HAS A MUTATION THAT CAUSES IT TO LACK A PARTICULAR ENZYME IN THE KREBS CYCLE. WHAT MIGHT HAPPEN TO THE MOUSE?

## Hints:

- What does the Krebs cycle produce that is critical for life?
- Think about energy—how does a cell cope when aerobic respiration is impaired?
- Would this affect all cells equally?



## GOOD ANSWER

A good answer would explore just the specific issues this would cause within the Krebs cycle and may struggle to link to what this would mean in the bigger picture for the mouse as they have just learnt the krebs cycle for exams rather than thinking about what each stage means. The Krebs cycle produces NADH and FADH<sub>2</sub>, which feed into oxidative phosphorylation to generate ATP. Without a key enzyme, the cycle would stall, severely reducing ATP output from aerobic respiration.

## OFFER WINNING ANSWER

A stronger answer would be able to link this to the bigger picture of the mouse specifically and the side effects it would face. The mouse would rely more on glycolysis and anaerobic pathways, which are far less efficient. Tissues with high energy demands—like muscle and brain—would be most affected. The mouse might show symptoms like fatigue, neurological issues, or even early death if the mutation is severe.