

SCIENCE DOCUMENTARY RESPONSE SHEETS

20 Guided Notes & Critical Thinking Activities

Paired with Free YouTube & Streaming Documentaries

Biology • Earth Science • Physics • Chemistry • Ecology • Space

Earth Science

Physics

Chemistry

Ecology

Teacher Notes & Access Guide

How to Use This Resource

These response sheets are designed to keep students engaged and accountable while watching science documentaries. Each sheet is paired with a specific, freely available documentary (primarily found on YouTube or free streaming platforms). Print the sheet, play the video, and let students work through the guided notes and critical thinking questions.

Documentary Access & Links

While these documentaries are currently free on platforms like YouTube, web links can change or go down. I have included the exact title and channel name for each video so you can easily search for it. I highly recommend downloading the video beforehand or testing the link on your school's network to bypass any firewall or ad issues. A quick search of the title in YouTube will almost always yield the correct video.

Differentiation

For students who need more support, read the guided notes aloud before the video starts so they know what to listen for. For advanced students, use the included Extension Thinking Question Set at the back of this packet to push their analytical skills further.

What Darwin Never Knew

Documentary Access: YouTube (Search: NOVA What Darwin Never Knew)

Part 1: Guided Notes (During Viewing)

Listen carefully and fill in the blanks or answer the prompts as you watch.

1. Charles Darwin published his book "On the Origin of Species" in the year _____.

2. The voyage of the HMS Beagle lasted for _____ years.

3. Darwin noticed that the finches on the Galapagos Islands had different shaped _____ depending on their food source.

Part 2: Critical Thinking (After Viewing)

Answer the following questions in complete sentences.

1. How did the discovery of DNA provide the missing piece to Darwin's theory of evolution that he didn't have during his lifetime?

2. Explain how a mutation in a single gene can lead to a major physical change in an organism, as shown in the documentary's examples.

The Hidden Life of the Cell

Documentary Access: YouTube (Search: BBC The Hidden Life of the Cell)

Part 1: Guided Notes (During Viewing)

Listen carefully and fill in the blanks or answer the prompts as you watch.

1. The cell membrane is made up of a _____.

2. Mitochondria act as the _____ of the cell.

3. White blood cells hunt for _____ to destroy them.

Part 2: Critical Thinking (After Viewing)

Answer the following questions in complete sentences.

1. Describe the process a virus uses to enter a cell and hijack its machinery.

2. Why is the cell membrane described as selectively permeable, and why is this crucial for cell survival?

CRISPR: The Gene Revolution

Documentary Access: YouTube (Search: PBS Frontline CRISPR or NOVA Gene Revolution)

Part 1: Guided Notes (During Viewing)

Listen carefully and fill in the blanks or answer the prompts as you watch.

1. CRISPR stands for Clustered Regularly Interspaced Short _____ Repeats.

2. The CAS9 protein acts like molecular _____ to cut DNA.

3. One potential use of CRISPR is to eliminate _____ diseases.

Part 2: Critical Thinking (After Viewing)

Answer the following questions in complete sentences.

1. What are the ethical concerns surrounding "designer babies" and editing the human genome?

2. How did scientists discover that bacteria naturally use CRISPR as an immune defense system?

The Biology of Aging

Documentary Access: YouTube (Search: NOVA The Biology of Aging)

Part 1: Guided Notes (During Viewing)

Listen carefully and fill in the blanks or answer the prompts as you watch.

1. Telomeres are the protective _____ at the ends of chromosomes.

2. Every time a cell divides, telomeres get _____.

3. Free radicals cause _____ stress in the body.

Part 2: Critical Thinking (After Viewing)

Answer the following questions in complete sentences.

1. Explain the relationship between telomere length and the aging process.

2. Do you think scientists will eventually be able to "cure" aging? Defend your answer based on the science presented.
