Homework Check: Video vs Article

Comparing "Why the Bat Doesn't Get Sick" (Nipah Video) & Helmholtz Article

Task 1: Vocabulary Warm-up

Choose the best definition for each term. This vocabulary was covered in our previous lesson on survival strategies.

1. **molecular hijacking** means:
   A) Moving quickly to escape danger
   B) Exploiting the host's cellular machinery for self-benefit
   C) Working together with other organisms
   D) Producing toxic substances to deter attackers

2. A **constitutively active response** is:
   A) A permanent, always-on state of activity
   B) A reaction that is only triggered when needed
   C) A response that happens too late
   D) A mechanism that switches itself off

3. **Mucosal surfaces** are:
   A) Hard protective barriers around cells
   B) Blood vessels that transport interferons
   C) Moist linings that serve as viral entry points
   D) Structures that produce antibodies

4. A **self-amplifying mechanism**:
   A) Weakens over time
   B) Only works in laboratory conditions
   C) Requires external energy to continue
   D) Reinforces and strengthens itself once activated

Task 2: Where Did You Learn This?

Read each statement carefully. For each one, click the button to show where you learned this information. Look for key vocabulary (reservoir, spillover, organoids, baseline antiviral activity, self-amplifying, inflammatory).

1. Bats are natural hosts for some of the world's most dangerous viruses, including coronaviruses, Marburg virus, and Nipah virus.
☐ VIDEO ☐ ARTICLE ☐ BOTH ☐ NEITHER

2. Scientists created organoids from the respiratory and intestinal tissue of Egyptian fruit bats to study viral infection.
☐ VIDEO ☐ ARTICLE ☐ BOTH ☐ NEITHER

3. Bats are natural reservoirs of viruses that cause severe or fatal disease in humans.
☐ VIDEO ☐ ARTICLE ☐ BOTH ☐ NEITHER

4. In Bangladesh, people often get infected by drinking raw date palm sap contaminated with bat saliva and urine.
☐ VIDEO ☐ ARTICLE ☐ BOTH ☐ NEITHER

5. Bat cells showed significantly higher baseline antiviral activity than human cells even before infection.
☐ VIDEO ☐ ARTICLE ☐ BOTH ☐ NEITHER

6. Understanding bat immunity could lead to new therapies for human viral diseases.
☐ VIDEO ☐ ARTICLE ☐ BOTH ☐ NEITHER

7. The bat interferon system uses a self-amplifying mechanism that reinforces itself once activated.
☐ VIDEO ☐ ARTICLE ☐ BOTH ☐ NEITHER

8. Nipah virus has been on the WHO blueprint list of priority pathogens since 2017 due to its pandemic potential.
☐ VIDEO ☐ ARTICLE ☐ BOTH ☐ NEITHER

9. The COVID-19 pandemic started with molecular hijacking mechanisms that overwhelmed human cellular defences.
☐ VIDEO ☐ ARTICLE ☐ BOTH ☐ NEITHER

Task 3: Understanding Through Paraphrasing

Choose the best answer. Pay attention to different ways the same ideas can be expressed.

1. The video states that "the virus and the bat have over millions of years reached a kind of equilibrium." This means:

A) The virus no longer replicates inside bat cells.
B) Both species have co-evolved to coexist without harming each other.
C) Bats have developed complete immunity to the virus.
D) The virus has become weaker over time.

2. According to the article, bat cells "activated their interferon pathways almost immediately." The video describes this as:
A) a triggered hard and fast reaction to infection.
B) a constitutively active interferon response.
C) a permanent low-level antiviral state.
D) a calibrated response that avoids overreaction.

3. The article mentions that understanding bat immunity could lead to new therapies. This suggests:
A) bats could be used as living medicine.
B) human cells could be genetically modified to match bat cells.
C) scientists might develop treatments based on bat immune strategies.
D) organoids could replace traditional vaccines.

Task 4: Choose the Correct Word
Choose the word that best fits the sentence based on what you learned from both sources. Cross out the incorrect option.

1. Pteropus fruit bats serve as the natural ***[reserve / reservoir]*** for Nipah virus.

2. The virus ***[circulates / circles]*** continuously in bat populations without causing disease.

3. When the virus jumps to humans, this ***[spillway / spillover]*** event often results in severe disease.

4. Bat cells maintain a ***[constitutively / consecutively]*** active interferon response.

5. The bat's immune response is ***[calculated / calibrated]*** to avoid damaging overreaction.

6. Infected bats continue to ***[shed / share]*** virus particles into the environment.