

A short scientific literacy quiz: (a very preliminary draft, not to be taken seriously)

1. You are watching a Fox News program reporting on a YouTube video that claims that Unidentified Aerial Phenomena are spaceships (aka UFOs) from another galaxy. Moreover, they have evidence that the UFO in the YouTube video left its home galaxy on its trip to Earth last Tuesday. Based on your understanding of scientific principles, you feel justified in rejecting this claim because...

- A. it was on Fox
- B. it would imply faster than light travel, which violates established scientific principles
- C. no, you would have to assume it is true until proven otherwise
- D. no idea how to answer

2. You find yourself in the holistic medicine section of your neighboring Whole Foods. You ask one of the people working there to recommend a good anti-allergy treatment, and they point you to the homeopathic remedy aisle, you ...

- A. you buy the most expensive one, since you assume that it is the best
- B. you buy the one whose efficacy claims have been reviewed by the FDA
- C. you buy the one recommended by your neighbor, since they got better after taking it
- D. you inform the recommender that current scientific understanding of molecular interactions mean that homeopathy is impossible
- E. no idea how to answer

3. A space ship from a planet orbiting another star in our galaxy lands in New Mexico, you are waiting for the aliens to appear; when they do you are surprised to find that they look exactly like Hadzabe, hunter-gatherers living in north-central Tanzania. You feel justified in concluding that this is some kind of elaborate hoax because ...

- A. the role of random events make it unlikely that evolution would produce the same outcome independently (on two different planets)
- B. it is not a hoax, but rather direct evidence that life on Earth originated elsewhere
- C. it is unlikely that nomadic people can produce the advanced technologies needed for space travel.
- D. no idea how to answer

4. A neighbor points you to a website that argues that the RNA-based SARS2-CoV-2 vaccines can produce mutations by inserting into human DNA. You state that you think this is unlikely because ...

- A. the reverse transcriptase enzyme that would be required is rarely present in human cells.
- B. RNAs occur only in the cytoplasm, not the nucleus where the DNA is located
- C. it could happen, since RNA is a nucleic acid, like DNA
- D. no idea how to answer

5. You are back at Whole Foods, and they claim that they have a zero-waste policy. You argue that they are talking jive because ... (select all that may apply)

- A. There are flying in pink salt from the Himalayas using CO2 emitting cargo planes and ships.
- B. The people who work there are biological systems, and all biological systems generate entropy
- C. Zero-waste processes are impossible, according to the laws of thermodynamics
- D. Not true, you are happy with environmental commitment.
- E. no idea how to answer