

PRE-QUESTIONNAIRE

General questions

1. **Gender:** What is your gender?
 - ☐ Man
 - ☐ Woman
 - ☐ Other
2. **Age:** What is your age?
 - ☐ —
3. **Education:** What is the highest obtained degree of education
 - ☐ less than high school
 - ☐ high school or equivalent
 - ☐ bachelor's degree
 - ☐ master's degree
 - ☐ doctorate

News Reading Behavior

4. **Frequency:** How often do you read the news?
 - ☐ Many times a day
 - ☐ Once a day
 - ☐ Occasionally
5. **Reading time:** How many time a day do you spent reading the news?
 - ☐ 0-5 minutes
 - ☐ 5-10 minutes
 - ☐ 10+ minutes
6. **Location/Context:** Where people read the news
 - ☐ at home
 - ☐ at work
 - ☐ in public
7. **Reading style:** How do you read news articles?
 - ☐ Detailed reading
 - ☐ Skimming (reading rapidly in order to get a general overview of the material)
 - ☐ Scanning (reading rapidly in order to find specific facts)
8. **Preferred media type:** What is your preferred media type when assessing news?
 - ☐ Textual
 - ☐ Audio
 - ☐ Visual

Verbal reasoning test

Text 1

Chlorophyll is a green pigment found in the chloroplasts of plants, algae and some bacteria. Biologically, chlorophyll is one of the most important molecules in the world's ecosystem due to being essential to photosynthesis, allowing plants to absorb light. With the aid of chlorophyll, plants use light to synthesise glucose from water and carbon dioxide, releasing oxygen as a by-product of photosynthesis. Without chlorophyll, autotrophic primary producers such as plants could not synthesise glucose or oxygen, which most living organisms need to respire. Chlorophyll most strongly absorbs the blue and red portion of the electromagnetic spectrum, while reflecting the green portion, giving chlorophyll its green color. Although this explains why chlorophyll appears green, the question is why isn't chlorophyll black? Black chlorophyll plants would be able to absorb light radiation more efficiently than green plants, allowing plants to use the entire light spectrum for photosynthesis,

instead of reflecting away the green portion. Currently, scientists are unsure of why chlorophyll evolved to be green, and biologists have yet to identify an evolutionary advantage of green chlorophyll over black.

9. Black plants are more evolutionarily successful than green plants [True, False, Cannot say]
10. Black Chlorophyll would not reflect green light [True, False, Cannot say]
11. Black chlorophyll would not absorb the blue and red light [True, False, Cannot say]

Organisms which have biological immortality, also known as negligible senescence, have been found to show stable or decreasing rates of mortality from cellular aging over time. Effectively, these organisms do not age, unlike humans and other non-biologically immortal species. Biological immortality does not imply that an organism cannot die, or is indestructible, simply that the organism cannot die of senescence. Animals that are said to be biologically immortal include certain species of Hydra, Flatworms and jellyfish. Biological immortality is achieved in many ways, of ten organisms have highly effective regenerative abilities, and other organisms will revert back to a state of immaturity after reproducing. In the case of Lobsters, not only do they show no negative effects of aging, but their fertility and size increase indefinitely over time. As a result, lobsters can grow to impressive sizes, weighing up to 20 kilograms. However, many of these biologically immortal organisms show high rates of mortality to injury, disease and predation, and therefore many are not able to take advantage of their biological immortality for long. Biological immortality research in animals may have potential implications for life extension technologies for human use, although this currently remains speculative.

12. Flatworms cannot die of old age. [True, False, Cannot say]
13. Jellyfish can regenerate lost tentacles. [True, False, Cannot say]
14. A lobster's fertility decreases over time. [True, False, Cannot say]

Prior knowledge

15. What do greenhouse gases do as part of the greenhouse effect?
 - Greenhouse gases absorb energy emitted by Earth.
 - Greenhouse gases reflect energy emitted by Earth.
 - Greenhouse gases reflect energy reflected by Earth.
 - Greenhouse gases absorb energy reflected by Earth.
 - I do not know.
16. Which of the following statements about air temperature change over the past million years is most accurate?
 - Air temperature change over the past million years is slightly due to natural processes and mostly due to human activities.
 - Air temperature change over the past million years is mostly due to natural processes and slightly due to human activities.
 - Air temperature change over the past million years is about equally due to natural processes and human activities.
 - Air temperature change over the past million years has not occurred whether due to natural processes or human activities.
 - I do not know
17. Which of the following will occur if the amount of ice floating in the ocean decreases?
 - More sunlight will be reflected back into space and Earth's temperature will decrease.
 - Less sunlight will be reflected back into space and Earth's temperature will increase.
 - More sunlight will be reflected back into space and Earth's temperature will increase.
 - Less sunlight will be reflected back into space and Earth's temperature will decrease.

- I do not know.

18. How has the amount of carbon dioxide in the atmosphere changed since the start of the Industrial Revolution 150 years ago?

- The amount of carbon dioxide has remained the same.
- The amount of carbon dioxide has decreased.
- The amount of carbon dioxide has increased.
- I do not know.

19. Which is the best description of the differences between climate and weather?

- Climate does not change over time, and weather does change over time.
- Climate changes over time, and weather does not change over time.
- Climate changes over long periods of time, and weather changes over short periods of time.
- Climate changes over short periods of time, and weather changes over long periods of time.
- I do not know.

POST-QUESTIONNAIRE

Verbal reasoning test

Pangea was a supercontinent that formed 300 million years ago, assembling all of the earth's continents into a single landmass. Pangea was subsequently surrounded by a single global ocean, combining all of today's modern oceans, named Panthalassa. Fossil evidence for the existence of Pangea would suggest that numerous, identical species existed around this time across multiple continents, suggesting that these species were not isolated by habitat fragmentation. Throughout the earth's history, the formation of supercontinents has happened at total of six times in the geological past, with the first supercontinent forming an estimated 3.6 billion years ago. There some academic debate as to whether the modern continents of Africa, Asia and Europe (of referred to as Afro-Eurasia) qualify as a super continent. Africa is joined to the continuous continents of Europe and Asia via the Isthmus of Suez, a narrow strip of land connecting the two landmasses. However, since Afro-Eurasia does not contain the Americas, Antarctica or Australia, Geologists are reluctant to name Afro-Eurasia a true supercontinent.

1. Afro-Eurasia is the largest landmass of all time. [True, False, Cannot say]
2. Pangea was the largest landmass of all time. [True, False, Cannot say]
3. Fossils have provided evidence for the previous existence of Pangea. [True, False, Cannot say]

Objectivism is a philosophy developed by the Russian-American philosopher and author Ayn Rand. Rand's philosophy can be categorised as strongly materialistic, epistemologically skeptical and focused on rationality / objective thought. Most notably however, objectivism advocates strong individualism, personal liberty and broadly libertarian values. Rand was a leading figure in the advocacy of laissez-faire capitalism and argued that a capitalist economy is the only form of economy which enables personal freedom and rewards achievement. One of the most controversial aspects of Objectivist philosophy is the distain for Altruism, stating that self-sacrifice is not compatible with individual freedom or liberty, and therefore not in anyone's interest. Critics of Objectivism state that Rand's work does not qualify as a philosophy; rather instead it is an ideological movement. Due to Rand's anti-academic style and criticism of various philosophers, politicians, and intellectuals, Objectivism remained out of the mainstream until Rand's death in 1982. However, objectivism and Rand's novels began to enter mainstream after her death, and have become popular with various libertarian politicians, political parties and social movements in the US.

4. Rand's philosophy and novels were not popular before her death [True, False, Cannot say]
5. Objectivism has become popular with some US politician [True, False, Cannot say]
6. Rand states that capitalism is necessary for freedom to exist [True, False, Cannot say]

Prior knowledge

7. What do greenhouse gases do as part of the greenhouse effect
 - a. Greenhouse gases absorb energy emitted by Earth.
 - b. Greenhouse gases reflect energy emitted by Earth.
 - c. Greenhouse gases reflect energy reflected by Earth.
 - d. Greenhouse gases absorb energy reflected by Earth.
 - e. I do not know.
8. Which of the following statements about air temperature change over the past million years is most accurate?
 - a. Air temperature change over the past million years is slightly due to natural processes and mostly due to human activities.
 - b. Air temperature change over the past million years is mostly due to natural processes and slightly due to human activities.
 - c. Air temperature change over the past million years is about equally due to natural processes and human activities.
 - d. Air temperature change over the past million years has not occurred whether due to natural processes or human activities.
 - e. I do not know.
9. Which of the following will occur if the amount of ice floating in the ocean decreases?
 - a. More sunlight will be reflected back into space and Earth's temperature will decrease.
 - b. Less sunlight will be reflected back into space and Earth's temperature will increase.
 - c. More sunlight will be reflected back into space and Earth's temperature will increase.
 - d. Less sunlight will be reflected back into space and Earth's temperature will decrease.
 - e. I do not know.
10. How has the amount of carbon dioxide in the atmosphere changed since the start of the Industrial Revolution 150 years ago?
 - a. The amount of carbon dioxide has remained the same.
 - b. The amount of carbon dioxide has decreased.
 - c. The amount of carbon dioxide has increased.
 - d. I do not know.
11. Which is the best description of the differences between climate and weather?
 - a. Climate does not change over time, and weather does change over time.
 - b. Climate changes over time, and weather does not change over time.
 - c. Climate changes over long periods of time, and weather changes over short periods of time.
 - d. Climate changes over short periods of time, and weather changes over long periods of time.
 - e. I do not know.

Open questions

12. Can you explain what your overall strategy was in selecting certain sources?
13. Knowing how the complexity was distributed among the sources, how did that help you in choosing sources.
14. Can you explain what your reason was to select the first article?
15. Can you explain what your reason was to stop the experiment?
16. Did you had a moment where you thought the source were to simple? And how did you respond to this?
17. Did you had a moment where you thought the source were to complex? And how did you respond to this?