SPRING 2022 ENV STUDY GUIDE 1

* Required

1. Email *

2. Write your first and last name * 2 points

3. We watched a video in class in which scientists did an experiment with radioactive labeled nitrogen to grow plants. They then planted new plants in the decomposition of the old plant. What did this experiment show in this picture of the leaf? 3 points



LIVEWORKSHEETS

4. How does the composition of bacteria relate to the composition of living systems? 3 points

5. In a paragraph with an introduction and a conclusion, discuss the importance bacteria play in the environment. You must summarize a total of 5 specific points. (15 points) 15 points

6. WHERE DO WE FIND NITROGEN IN LIVING THINGS? 2 points

7. We read an article that compared immunity between city dwelling vs rural living people. What was the conclusion 4 points

8. How can this quote be applied to environmental problems facing the world? 4 points

The world will not evolve past its current state of crisis by using the same thinking that created the situation.

—ALBERT EINSTEIN

9. Excess nitrogen in water from fertilizer runoff can lead to which phenomenon? 2 points

LIVEWORKSHEETS

10. What are the consequences of eutrophication within a water body? 2 points

11. Explain the role bacteria have in the nitrogen cycle 2 points

12. What are decomposers important for in soil? 2 points

13. What type of bacteria obtain their energy from sulfur, iron, nitrogen, hydrogen? 2 points

14. How can seabirds act as important drivers in the nitrogen and phosphorus cycles? 3 points

Seabird colonies as important global drivers in the nitrogen and phosphorus cycles

15. What must happen FIRST before plants can become established? 2 points

16. How can bacteria in the soil influence plant growth? 2 points

LIVEWORKSHEETS

17. What does a Winogradskly column demonstrate? 2 points

18. How are green bacteria similar to plants? 2 points

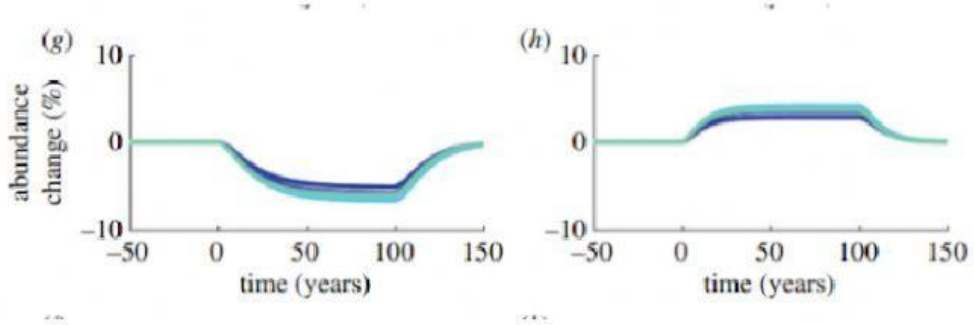
19. The Winogradsky column we made was placed outside in sunlight to encourage the growth of what type of bacterial species? 2 points

20. One change we saw to our column was the appearance of orange/brown/reddish colors. (1) Identify what type of bacteria this may been, (2) Where in the bottle did we see these (3) provide an explanation why these type of bacteria may be favorable: 7 points

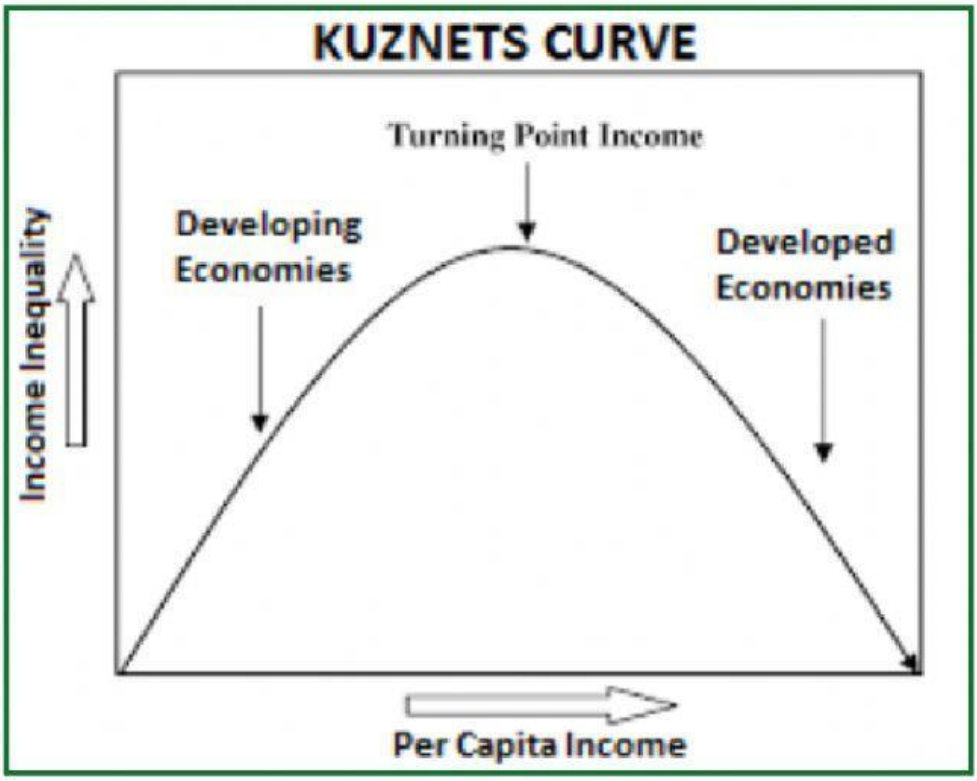
21. What did photosynthetic cyanobacteria do do several billion years ago? 7 points

LIVEWORKSHEETS

22. We studied a scientific analysis that compared the effect of climate change on cold skew and hot skewed populations. The graphs below show the effect on these populations when the ability to disperse into new habitats is considered. The left graph is cold skew, the right is warm skewed. Discuss what these graphs demonstrate with regard to which species can survive. 3 points



23. What does the Kuznet's Curve indicate? 2 points



LIVEWORKSHEETS