

## **SCALES**

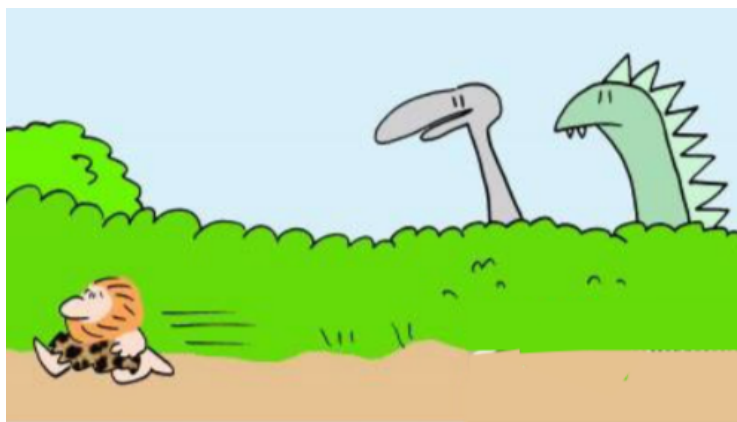
1. What types of scales are there in biological processes of ecology? For each scale you mentioned above, give an example.
2. Describe how biodiversity can change in these different scales (mentioning patterns not mechanisms).

## **BIOMES**

3. There are more than five terrestrial biomes on Earth. Is it possible to have the same type of terrestrial biome in different regions of the globe? Why?
4. "The fastest way to go from Equator to Arctic Circle is to climb a mountain". Explain what that phrase means.

## **THE CONSTRAINTS OF TEMPERATURES**

5.



"Those warm-blooded will never last - they are too hyperactive"

Being a warm-blooded provide a longer activity window. Describe a disadvantage of being a warm-blooded.

6. What group of vertebrate you would not expect to find in the Arctic Circle? Why?

### **THE FLOW ENERGY IN ECOLOGICAL SYSTEMS**

7. What are the sources of energy of autotrophs? Will this energy increase or decrease through the heterotrophs?
8. There are some thresholds for the photosynthetic rates. Which are they?

### **C3 vs C4 vs CAM**

9. There are two main reactions by plants. What are the compounds taken up and released in each of them?
10. What make C4 and CAM plants more efficient under potentially stressful environmental conditions?

### **EVOLUTION VIA NATURAL SELECTION**

11. Natural selection can act in three distinct ways in the frequency of a phenotype in a population. Describe each of them.
12. Explain how mutation influences evolution.