

8. Ecology

Starter Quiz · 课前小测

AP Biology

Name: _____ Score: _____

1. A **stimulus** is...

- ☐ a change that an organism can detect and react to
- ☐ a type of cell
- ☐ a kind of food
- ☐ a gene

2. Where does the energy in most ecosystems originally come from?

- ☐ the Sun
- ☐ the soil
- ☐ rocks
- ☐ the wind

3. When resources are unlimited, a population shows **exponential growth**, which means it...

- ☐ grows faster and faster
- ☐ stays exactly the same
- ☐ shrinks steadily
- ☐ grows in a straight line

4. **Population density** measures...

- ☐ how many individuals live in a given area
- ☐ how heavy each individual is
- ☐ the number of species
- ☐ the total sunlight

5. A **community** in ecology is...

- ☐ all the populations of different species living together in an area
- ☐ a single species
- ☐ a type of cell
- ☐ a food molecule

6. An animal moving toward or away from a stimulus is showing a _____.

7. If a trophic level holds 10000 units of energy, roughly how many pass to the next level (about 10%)?

8. **Logistic growth** starts fast, then levels off at the carrying capacity — an S-shaped curve.

- ☐ True ☐ False

9. A factor like a harsh winter, whose effect does not change with crowding, is density-_____.

10. The interaction where one species hunts and eats another is called _____.

AP Biology

1. **a change that an organism can detect and react to**

A **stimulus** is a change in the environment (like light or heat) that triggers a **response**.

2. **the Sun**

Sunlight is captured by **producers** (plants) through photosynthesis, feeding the whole ecosystem.

3. **grows faster and faster**

Exponential growth speeds up as the population gets bigger — a J-shaped curve.

4. **how many individuals live in a given area**

Population density is the number of individuals per unit area or volume.

5. **all the populations of different species living together in an area**

A **community** is all the interacting populations of different species sharing an area.

6. **taxis**

A **taxis** is a directed movement of an animal toward or away from a stimulus.

7. **1000**

About **10%** passes up each step, so $10000 \times 0.1 = 1000$ units reach the next level.

8. **True**

Logistic growth is exponential at first, then flattens as resources run low near carrying capacity.

9. **independent**

A **density-independent** factor (weather, disaster) affects a population the same at any density.

10. **predation**

In **predation**, a predator hunts and eats its prey.