

Name: Key

Chapter 2 Review

Monday

1. What are the 2 types of energy? potential and kinetic
2. Explain the laws of thermodynamics:
1st Law: Energy is not created or destroyed
2nd Law: Energy is degraded as it is converted from one form to another
3. What does it mean to be a persistent chemical? stays in environment for a long time
4. Describe photosynthesis. Water + CO₂ + sunlight → sugar + oxygen
5. What are the 3 subatomic particles? protons, neutrons, and electrons
6. Which solutions are acidic? 1-6 Which solutions are basic? 8-14
7. What is synergy? Sum of 2 things is greater than individual effect
8. Earth is an open system for Energy and a closed system for Matter
9. Describe 3 natural disasters: How they are created and where we are most likely to find them:

Earthquakes - transform Strike-slip faults pressure builds up? then plates move & released	Tsunamis - Displace water - huge waves Earthquake underneath - subduction or transform fault	Volcanos - Subduction zone or hot spot Magma comes out of ground
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10. Define anthropogenic: human caused

- 1) Plastics are _____.
A) naturally occurring macromolecules
B) unstable and break down easily
C) moldable, petroleum-based hydrocarbons
D) assembled by enzymes in cells
E) synthetic proteins
- 2) Which of the following describes mass wasting?
A) deterioration of an atom because of radioactivity
B) the destruction of sedimentary rock by earthquakes
C) blockage of sunlight by volcanic ash
D) downslope movement of soil and rock due to gravity
E) agricultural damage resulting from a tsunami
- 3) River water held behind a dam is best described as a form of _____.
A) kinetic energy
B) potential energy
C) chemical energy
D) entropy
E) thermodynamics
- 4) The San Andreas Fault in California is an example of a(n) _____.
A) convergent plate boundary
B) transform plate boundary
C) divergent plate boundary
D) continental collision and uplift
E) tsunami
- 5) Earthquakes result from _____.
A) energy released from movement at plate boundaries and faults
B) surges of magma from the earth's core
C) global climate change
D) separation of layers within sedimentary rock
E) release of gases from the underlying mantle
- 6) The type of tectonic plate boundary at the Mid-Atlantic Ridge is referred to as a _____.
A) convergent boundary
B) divergent boundary
C) transform fault
D) subduction zone
E) seismic boundary

1. List the 4 pieces of data that provide evidence for evolution.

1. Natural Selection
2. Comparative Anatomy/DNA
3. Fossil Record
4. Mutations

2. Describe natural selection:

One organism w/ heritable traits is more likely to survive and reproduce to pass on those traits.

3. What is a mutation? Change in DNA base pairs Are they always bad?

No Why? Can cause a change that helps survive.

4. List the 5 conditions necessary for evolution:

1.
2.
3.
4.
5.

5. What is coevolution?

2 species evolve in response to each other

6. Explain hybridization and gene swapping. Give an example of each.

Hybridization	Gene swapping
Explain:	Explain:
Example:	Example:

7. Compare specialist and generalist species and provide an example of each.

Specialist	generalist
Explain: <u>Only 1 place</u>	Explain: <u>lots of places/easily adaptable</u>
Example: <u>Panda</u>	Example: <u>Raccoon</u>

8. What is extinction?

Loss of that species/No longer living on Earth

9. Human activities are decreasing biodiversity.

10. Identify and describe the 3 types of population dispersion patterns. Which one is the most common?

ID	Random	Uniform	Clumped
describe		Evenly spaced	- Most common - clustered around resources or in groups for safety

11. What is the formula for population growth rate?

$$(B - D) + (I - E) = \text{growth}$$

12. How do you calculate population doubling time?

$$\frac{70}{r} = DT$$

13. What is biotic potential? reproductive strategy

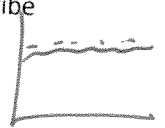



14. What is environmental resistance? limiting factors

15. What is carrying capacity (K)? max pop area can support Is carrying capacity fixed? No

16. Compare r-strategists and K-strategists:

r-strategists	K-strategists
- Don't care for young	- low Care for young
- lots of young	- few young
- Type III survivorship curve (early loss)	- Type I survivorship curve (late loss)

17. Identify and describe the 4 types of population curves. Give examples of organisms that would show each one.

ID	Stable	Cyclic	Irruptive	Logistic
Describe at K		Seasonal boom & bust 	overshoot & crash 	
Example	Tree	Deer	Bacteria/Insect	Bacteria/New species

18. List 2 density dependent population controls and 2 density independent population controls:

Density dependent	Density independent
- Disease - Predators	- Flood - Extrem. Temp. change

19. Draw and identify the 3 types of survivorship curves:

