Amazing Animal Kingdom

Use this key to check answers and read the explanations.

1. Which of these animals is a mammal, despite living its whole life in water?
   - A. Dolphin
   - B. Shark
   - C. Trout
   - D. Octopus

   Correct answer: A. Dolphin
   Dolphins breathe air and nurse their young; they are not fish.

2. A polar bear's thick fur and fat primarily help it do what?
   - A. Move more quickly over ice
   - B. Detect prey at long distances
   - C. Retain body heat
   - D. Grip slippery rocks

   Correct answer: C. Retain body heat
   Insulation reduces heat loss in the Arctic environment.

3. Which stage comes between a caterpillar and an adult butterfly?
   - A. Egg
   - B. Pupa
   - C. Tadpole
   - D. Nymph

   Correct answer: B. Pupa
   During the pupal stage, the caterpillar's body transforms into the adult butterfly.

4. Which bird has flippers adapted for swimming rather than flight?
   - A. Albatross
   - B. Puffin
   - C. Pelican
   - D. Penguin

   Correct answer: D. Penguin
   Penguins use stiff, flipper-like wings to propel themselves underwater.

5. A bat hunting insects in darkness often locates them using what?
   A. Infrared vision
   B. Echolocation
   C. Electrical sensing
   D. Ground vibrations
   Correct answer: B. Echolocation
   Reflected sound helps echolocating bats locate prey and obstacles.

6. Which environmental advantage can desert animals gain by being active at night?
   A. Lower temperatures reduce heat stress
   B. Moonlight provides more heat than sunlight
   C. Dry air supplies more drinking water
   D. Sand becomes a better source of food
   Correct answer: A. Lower temperatures reduce heat stress
   Nighttime activity can reduce exposure to extreme heat and water loss.

7. What would most directly happen if a pond lost all its photosynthetic producers?
   A. Predators would receive more energy from prey
   B. More light energy would enter the food web
   C. Herbivores would have more food available
   D. Less food energy would enter its food web
   Correct answer: D. Less food energy would enter its food web
   Producers convert light into chemical energy that supports other organisms.

8. An octopus has how many hearts?
   A. Two
   B. One
   C. Three
   D. Four
   Correct answer: C. Three
   Two hearts pump blood to the gills; a third supplies the rest of the body.

9. A cleaner fish eats parasites off a larger fish. Both benefit. What is this relationship called?
   A. Mutualism
   B. Parasitism
   C. Predation
   D. Competition
   Correct answer: A. Mutualism
   Mutualism benefits both species: food for the cleaner and parasite removal for its client.

10. Which mammal lays eggs?

A. Kangaroo
B. Wombat
C. Koala
D. Platypus

Correct answer: D. Platypus
The platypus is a monotreme, one of the few living egg-laying mammals.

11. Why can removing a keystone predator change an entire ecosystem?

A. It prevents plants from carrying out photosynthesis
B. It stops all decomposition in the ecosystem
C. Its effects on prey can cascade through the food web
D. It removes every source of food for herbivores

Correct answer: C. Its effects on prey can cascade through the food web
A trophic cascade occurs when changes at one feeding level affect others.

12. A harmless hoverfly resembles a stinging wasp. Which explanation best fits?

A. Müllerian mimicry
B. Batesian mimicry
C. Disruptive camouflage
D. Sexual selection

Correct answer: B. Batesian mimicry
In Batesian mimicry, a harmless species gains protection by resembling a defended one.

13. Which adaptation helps a sperm whale stay underwater much longer than a human?

A. Air drawn from bubbles around its body
B. Gills hidden beneath its blowhole
C. Continuous gas exchange through its skin
D. Large oxygen stores in blood and muscles

Correct answer: D. Large oxygen stores in blood and muscles
Diving mammals use oxygen stores and conserve oxygen during dives.

14. Which pair belongs to the same biological class?

A. Bat and whale
B. Shark and dolphin
C. Penguin and seal
D. Octopus and trout

Correct answer: A. Bat and whale
Bats and whales are both mammals, despite very different habitats and movement.

15. Bird wings and human arms have corresponding bones inherited from a shared ancestor. These structures are called what?

A. Vestigial in both species
B. Analogous only
C. Homologous
D. Identical in function

Correct answer: C. Homologous
Homologous structures share evolutionary ancestry even when their functions differ.