

# Life Invaded The Land (p. 264 – 268)

Which came 1<sup>st</sup>,  
the chicken or  
the egg?

## I. The Ozone Layer

1. During early Earth history, life in seas were protected from ultraviolet radiation.

Circle One :

True

False

2. What organism was responsible for creating oxygen in the atmosphere?

Cyanobacteria

→ O<sub>2</sub> reacted to form O<sub>3</sub>

3. Why was the development of the ozone layer important for evolution on Earth?

Blocked ultraviolet radiation from land habitats

## II. Plants & Fungi On Land

1. What were advantages and disadvantages of plants and fungi that enabled them to develop on land?

Plants

Advantages : Energy from photosynthesis

Disadvantages : Cannot survive on bare rock

Fungi

Advantages : Can absorb minerals from bare rock

Disadvantages : Not photosynthetic

2. Define the term mutualism.

Mutualism – relationship between two species in which both species benefit

3. How did the development of *mycorrhizae* allow organisms to inhabit land ecosystems?

Symbiosis between plants + fungi enabled life to develop on bare rock

## III. Arthropods

1. Define the term arthropod.

Arthropod – animal with hard outer skeleton, segmented body, + paired, jointed limbs

2. List four examples of arthropods.

1. Crabs 2. Insects 3. Spiders 4. Scorpion

3. Arthropods were the first land-dwelling animals on Earth.

Circle One :

True

False

4. What adaptation enabled insects to be the most plentiful & diverse animals on Earth?

Flight

1<sup>st</sup> arthropod?

320 million years ago

Earth covered in large forests

Food + habitat for arthropods

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**IV. Vertebrates****1. Define the term vertebrate.**

Vertebrate – animal with a backbone  
(Fishes, Amphibians, Reptiles, Birds, Mammals)

**2. What was the first type of vertebrate animal on Earth?**

Jawless Fishes (530 mya); Jawed Fishes (430 mya)

**3. Define the term amphibians.**

Amphibians – smooth-skinned, four-legged animals  
(frogs, toads, salamanders)

**4. When did the first amphibians evolve on Earth?**

370 mya

**5. List two reasons why amphibians were the first land animals on Earth.**

1. Moist breathing sacs (lungs)
2. Strong bone supports (Legs, Reinforced Head → walk)

**6. When did the first reptiles evolve on Earth?**

340 mya

**7. List four examples of reptiles.**

1. Snakes
2. Lizards
3. Turtles
4. Crocodiles

**8. List two reasons why reptiles became well-suited for dry land.**

1. Waterproof Skin
2. Amniotic Egg → (water proofed)

**9. During which period did dinosaurs and mammals first evolve on Earth?**

Triassic Period

**10. When did the first birds appear on Earth?**

Jurassic Period

**11. What organism did birds evolve from?**

dinosaurs

**12. Why did birds and mammals dominate Earth after the Cretaceous Extinction?**

No longer a dry environment → No reptile advantage!!  
(Time of periodic Ice Ages)

**13. Define the term continental drift.**

Continental Drift – movement of Earth's landmasses over Earth's surface through geologic time

**14. Extinctions, <sup>and</sup> but not continental drift, affected evolution on Earth.**

Circle One :

True

False

Pangaea → Permian Extinction

Immature  
↳ water  
Adult  
↳ land

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Dinosaurs

1. Fast Runners
2. Warm-blooded
3. Nurtured Young
4. Herd Lifestyles

Inaccurate  
movie  
title?