

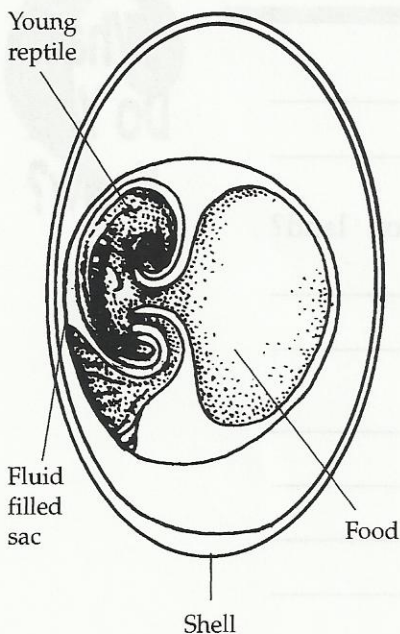
Key Words

- reptiles:** vertebrates with scaly skin that lay their eggs on land
- amniotic egg:** reptile egg that has a fluid-filled sac enclosed by a protective shell

KEY IDEAS

Reptiles were the first vertebrates to live completely out of the water. They have special characteristics that allow them to live on land. Reptiles include snakes, lizards, crocodiles, and turtles.

Fig. 36-1 Amniotic egg



Dinosaurs were giant reptiles that lived on the earth from about 200 million years ago until about 65 million years ago. Dinosaurs ranged from the size of a chicken to the giant Brachiosaurus, which was 25 meters long and weighed 50 tons. Scientists are not sure why dinosaurs became extinct. Some believe that the climate became too dry and cold for the dinosaur to survive. However, some reptiles similar to the dinosaur were able to survive. These animals evolved into today's reptiles.

Reptiles (REHP-teyelz) are vertebrates with scaly skin that lay their eggs on land. The first vertebrates to live completely on land were reptiles. On land they had little competition from other animals for food and territory.

Characteristics of Reptiles. Many of the traits of reptiles are adaptations to their life on land. Unlike amphibians, reptiles do not need water to reproduce. Reptiles reproduce by internal fertilization. Recall that internal fertilization means that the sperm fertilizes the egg inside the female's body. Internal fertilization does not require water to carry the sperm to the egg.

Reptiles have amniotic eggs, which they lay on land. The **amniotic egg** (am-nee-AHT-ihk ehg) has a fluid-filled sac enclosed in a protective shell, as shown in Fig. 36-1. This leathery, flexible shell prevents the developing young from drying out.

Reptiles have skin that keeps them from drying out. Unlike the soft, thin skin of amphibians, reptiles have thick skin covered with scales. The scales make the skin both hard and waterproof.

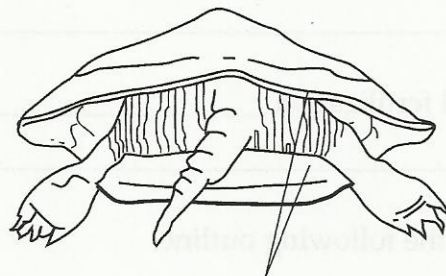
Like amphibians, most reptiles have two pairs of limbs and are ectotherms. They also have well-developed organ systems and a three-chambered heart.

- ✓ 1. What are three characteristics of reptiles that allow them to live completely on land? _____

Classification of Reptiles. Modern reptiles can be classified into four main groups. The smallest group has only one species—the tuatara. This reptile has a long tail and a scaly crest that runs down its back and neck. All tuataras in the wild live on an island off the coast of New Zealand.

Turtles and tortoises belong to another group of reptiles. Turtles generally live in the water. Tortoises most often live on land. Both turtles and tortoises have a two-part shell that they use for protection from predators. A turtle shell is shown in Fig. 36-2. Turtles do not have teeth. Instead, they have hard beaks with which they eat both plants and animals.

Fig. 36-2 Turtle shell



Two-part shell

Another group of reptiles contains alligators and crocodiles. Both alligators and crocodiles have strong tails to help them swim. Strong jaws and teeth help them capture and eat food. These reptiles spend most of their time in the water, where they hunt for food. Because they are ectothermic, they spend their time on land sunning themselves to keep warm. They also go on the land to lay their eggs.

Snakes and lizards make up the fourth group of reptiles. Snakes are reptiles with long, thin bodies and no limbs. They have a large number of ribs and a very long backbone. The greatest difference between snakes and lizards is that lizards have two pairs of legs. Both snakes and lizards live in a variety of environments and eat many different kinds of food. Some kinds of snakes and lizards have poisonous venom, which they inject into their prey.

**TAKE
ANOTHER
LOOK**

Fig. 36-3 shows similarities and differences between amphibians and reptiles.

Fig. 36-3

Characteristics	Reptiles	Amphibians
Habitat	On land or in water	On land or in water
Fertilization	Internal	External
Eggs	Amniotic egg laid on land	Eggs laid in water
Skin protection	Scales	Mucus glands
Body temperature	Ectothermic	Ectothermic
Limbs	Two pairs	Two pairs
Heart	Three chambers	Three chambers

Check Your Understanding

Write a sentence explaining the connection between each pair of words.

2. reptile, amniotic egg _____

3. reptile, internal fertilization _____

Fill in the blanks in the following outline.

- I. Reptiles are (4) _____ that lay their eggs on (5) _____.
 - A. Reptiles reproduce by (6) _____ fertilization.
 - B. Reptiles have a special kind of egg called an (7) _____ egg.
 - C. Reptiles have thick scales that keep their skin from (8) _____.
- II. Reptiles can be classified into (9) _____ main groups.
 - A. Only one species of (10) _____ is still alive today.
 - B. (11) _____ and (12) _____ have protective shells.
 - C. (13) _____ and (14) _____ have strong jaws with large teeth.
 - D. (15) _____ have legs and tails, (16) _____ do not.



17. What is the main difference between a snake and a lizard?

18. Identify three different kinds of reptiles. Explain how they differ from one another.

19. Describe three ways that reptiles and amphibians are similar. Describe three ways they are different.
