

# Get Cracking!

## Dinosaur eggs



Dinosaurs hatched from eggs laid by their mothers, just like birds and reptiles. They were not born directly from their mothers, like human babies are. The first dinosaur eggs were found in France in 1869; many more were found in China's Gobi Desert in 1922. Since then, scientists have been discovering dinosaur eggs all over the world. Though many eggs have been found, they rarely contain fossilized embryos (babies).

Dinosaur eggs vary in size and shape, from small and spherical, like a ping-pong ball, to large and ovoid, like a football. The biggest eggs found so far appear to come from a *Hypselosaurus*; they are 30 cm (12 in.) long by 25 cm (10 in.) wide and would have contained about 2 litres (half a gallon) of egg white and yolk! Dinosaurs laid eggs on the ground in clutches or nests, which were little more than dug-out hollows.



Like a chicken's egg, dinosaur eggs contained a membrane (called the amnion) just inside the shell. The membrane kept the embryo moist, while the hard shell

protected the baby inside. Some dinosaurs cared for their eggs; others simply laid them and then abandoned them. But how did sauropod giants, such as *Mamenchisaurus*, lay its eggs without breaking them? Even if it squatted, it would have had to drop the eggs roughly 2.5 metres (8 feet) – almost the height of your bedroom ceiling! Some scientists think that female sauropods may have had an egg-laying tube, similar to modern-day turtles, that extended to the ground and gently laid down the eggs.

**LEVEL: K- 1**

**OBJECTIVE:** Students will learn the basics about dinosaur eggs.

**APPLICATION OF SCIENCE:**

- Identify similarities and differences among animal species.
- Describe the appearance and behaviour of a variety of animals.

**LEARNING OUTCOMES:**

- Compare the life cycle of an animal hatched from an egg with one born from its mother's womb.

**EXERCISE:** (group or class exercise)

The teacher should, when describing where dinosaur eggs have been found, locate these countries on a map for the students to see.

To better explain to the class about size and shape of dinosaur eggs it is suggested that props be used. These could included:

- Chicken eggs
- Duck or Goose eggs
- Ping pong or golf balls
- football

As a group, list all the animals that are born from an egg. Discuss how a newborn emerging from its mother's womb is different from a hatchling emerging from an egg.

**EXTENSION:** Craft

**Dinosaur Eggs**

**What you will need:**

- One balloon for each dinosaur egg.
- Newspaper or brown paper bags, cut or torn into strips.
- Flour glue (see instructions below).
- Paints, markers, glitter, etc.

To make the flour glue (you might need to get help from your teacher or parent):

- Measure and bring to a boil 4 cups of water.
- Combine 1 cup of flour and 1 cup of water, mixing well (the mixture should be rather thin).
- Add the flour-water mixture to the boiling water.
- Stir well, reduce the heat and simmer for 3–4 minutes.
- Remove from heat. When cool, the glue is ready to use.

**To make the dinosaur egg:**

- Prepare paper by tearing bags or newspaper into strips 2–3 cm wide.
- Blow up your balloon.
- Coat the strips of paper in the glue mixture and spread them over the balloon.
- Keep your paper as neat and smooth as you can.
- Cover the balloon evenly with strips of paper, and let dry (for at least 12 hours).
- Repeat this step, completely covering the balloon again with paper, then letting it dry.
- When the second covering is dry, your balloon egg is ready to decorate.
- You can use paint, markers, even glitter. Remember, no one knows what colours and markings adorned dinosaur eggs. Birds eggs can be white, brown, blue, spotted, blotchy, etc., etc.

**Options or alternatives:**

- Before you blow up your balloon, place a small toy dinosaur in it; then, when you have created your egg, hatch your dinosaur. Break open the egg and let the dinosaur out!