

**Objectives**

- To investigate life cycles.
- To review the life cycle of a frog.
- To order the life cycles of a butterfly and a chicken.

**Resources**

Chicken incubator kit or images of chickens and eggs; images of frogspawn, tadpoles, froglets, frogs; images of butterfly life cycle; images of chicken life cycle; interactive activity 'Life cycles' on the CD-ROM

**Speaking scientifically**

life cycle, adult frog, frogspawn, tadpole, froglet, gills, tail, leg, adult chicken, egg, chick, egg tooth

## Lesson 3: Chicken or egg?

### Introduction

Some educational suppliers can provide incubator tanks, eggs and heaters to schools so that children can observe chicks hatching out in their classroom. Alternatively, you could display some images of an adult chicken and an egg. Ask the children the age-old question: *Which came first, the chicken or the egg?* Invite the children to make suggestions, before explaining that it isn't easy to agree on an answer. Tell the children that by the end of the lesson, they will see why there is no straightforward solution.

### Whole-class work

**1.** Remind the children about the jumbled images of stages in a frog's life cycle that they looked at during the autumn term (as part of the session on amphibian structure in autumn 2, week 5, lesson 3). Display these out of order and encourage the children to tell you the correct order. Lay the images out in a line as the children direct you and when you have got to the adult frog stage, ask the children what happens next. Encourage them to recognise that it is the adult frogs that lay the frogspawn, from which the tadpoles emerge to grow into new adult frogs. Gradually slide the pieces around to form a circle. Remind the children that this arrangement is called a 'life cycle' because it carries on with new adults laying eggs and young frogs growing from tadpoles every year.

**2.** Ask the children to help you make a life-cycle picture for a butterfly. Display jumbled images of eggs, caterpillars, chrysalides and butterflies and talk about each stage, sliding the images into a circle at the children's direction.

### Paired work

**3.** Provide pairs of children with images of stages from a chicken's life and ask them to work together to put these into a circle to show the chicken's life cycle. Tell them to glue these onto card and label each stage: 'adult chicken', 'egg', 'chick with egg tooth' and 'young chicken'.

### Whole-class work

**4.** Compare pairs' ideas and ask the children if they are any closer to answering the question: *Which came first, the chicken or the egg?* Encourage them to explain that this is impossible to answer because they are both part of the chicken's life cycle and one couldn't happen without the other. Work together through the interactive activity 'Life cycles' on the CD-ROM.

### Science in the wider world

Female chickens (hens) lay eggs which contain a yolk that will provide the developing chick with food until it is ready to hatch out, usually after 21 days. The yolk floats in the egg white, which protects it and provides liquid for the chick. When ready to hatch, the chick uses an egg tooth to peck holes in the shell, but this will fall off after a few days, as the chick no longer needs it. Chickens reach full maturity when they are around 20 weeks old when, as pullets, they can start to lay eggs. They can live for about 10 years.

### Review

Children could be assessed on how accurately they can describe the life cycles of frogs and butterflies as well as ordering the life cycle of a chicken.