

Science – Year 5/6A Autumn 1

Living Things and Their Habitats

Illustrating Life Cycles

Session 4

Resource Pack

Matching mammals and young



Badger

Cub



Deer

Fawn



Fox

Cub

Kit

Pup



Hare

Leveret



Hedgehog

**Piglet
Hoglet
Pup**



Mole

Pup



Mouse

**Pup
Pinkie
Kitten**



Otter

**Whelp
Pup**



Rabbit

Kitten



Rat

**Pup
Pinkie
Kitten**



Squirrel

**Pup
Kit
Kitten**

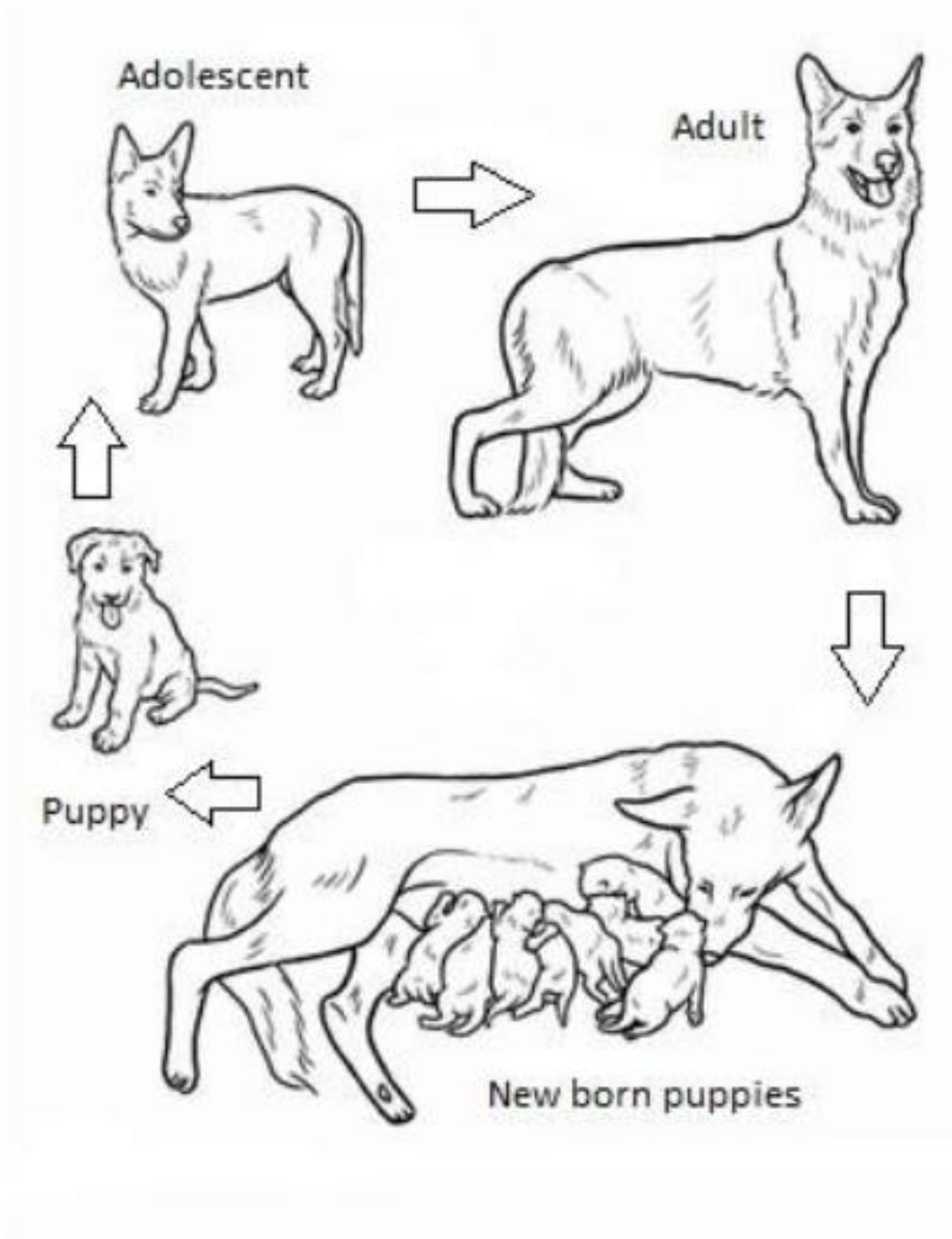


Weasel

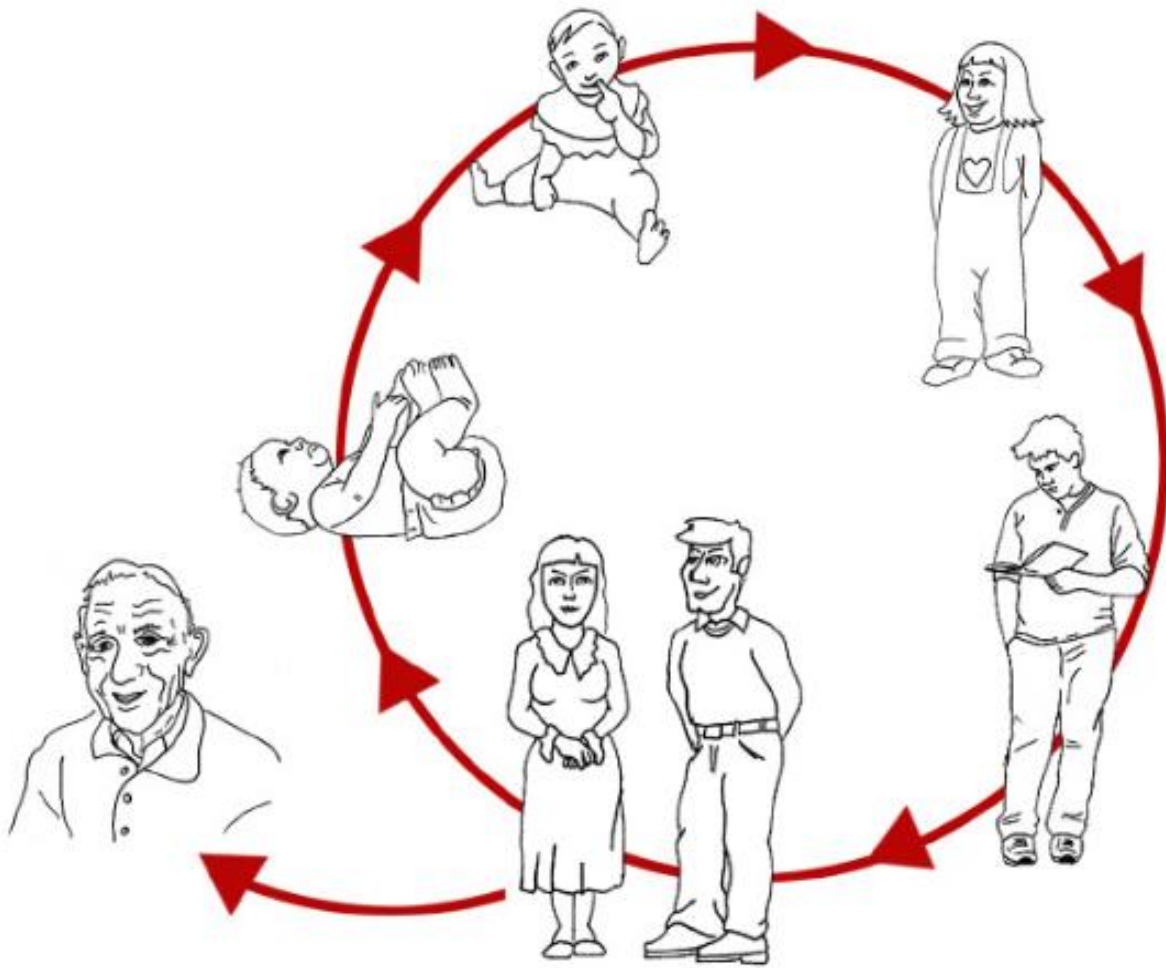
Kit

Mammalian and bird life cycles

Life Cycle of a Dog



Human Life Cycle



Key Facts Sheets

Mammals

These are warm-blooded animals that normally have hair (fur) on their bodies. They have live births (not eggs, in general – exceptions will be explored in the next session). Explain that mammals have a fairly simple life cycle and reproduce using sexual reproduction – once male (sperm) and female (egg) gametes come together through internal fertilisation, a foetus forms which remains in the mother's uterus for a gestation period (note that this varies from less than a month for a mouse to almost two years for an elephant).

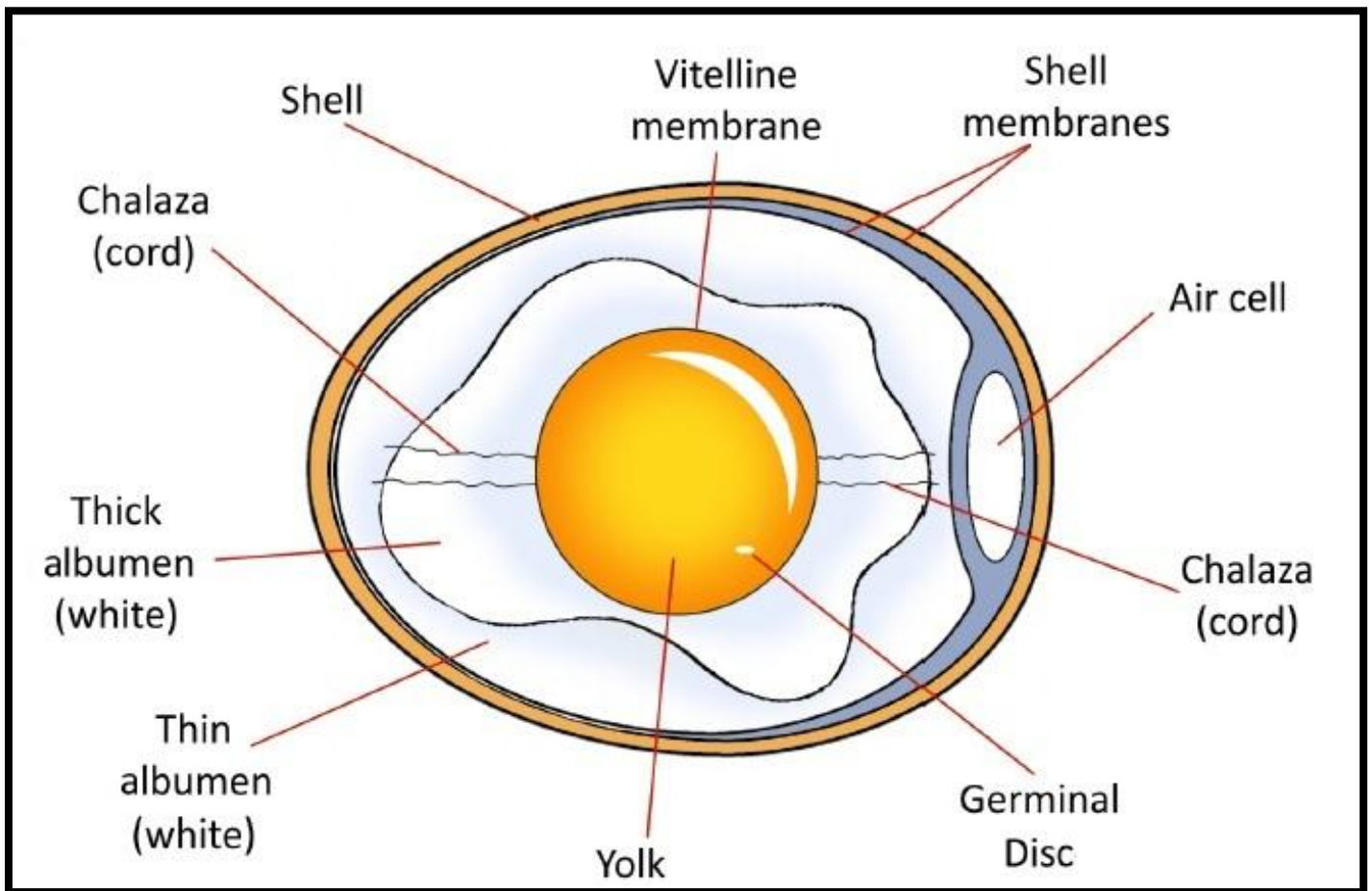
Birds

Birds are characterised by feathers, toothless beaked jaws and lightweight strong skeletons, and they all lay hard-shelled eggs. If an egg has been fertilised before it was laid (internal fertilisation) the germinal disc gradually grows into a chick using the nutrients stored in the yolk. The white protects the egg and the cords hold the yolk in place. The air cell/sac allows the bird to breathe just before it breaks out of its shell. There are tiny pores in the egg shell which allow air to enter.

Migration in swallows

Swallows breed in the northern hemisphere (including Britain) but fly south in winter, crossing the dangerous Sahara Desert, to reach South Africa. They then return to their breeding grounds the following spring. Other birds might migrate only within Britain, e.g. thrushes from Scotland migrating down to southern England. Migration is usually driven by the non-availability of food, which is often the result of climate and habitat changes during different seasons. Birds usually migrate in flocks.

The Structure of an Egg



Bird life cycle challenge

Cut out each statement and place around the room. Challenge children to view them all, sketch an image for each, and create a life cycle that references each statement.

Parents often continue feeding their young for several days after they have fledged, while their wing feathers and muscles develop further.

When it is ready to fly from the nest the bird is called a fledgling.

The hatchling is dependent on its parents for shelter, food and hygiene (nestling).

The baby bird (chick) hatches out using its egg tooth (a structure on the beak which drops off a few days later).

The parent birds usually take it in turns to sit on the eggs to protect them and keep them warm (incubation).

Fertilisation takes place before the egg is laid when a male and female bird come together.

The embryo develops inside the egg, which the mother lays in a nest.

Once it is fully grown, an adult bird is ready to mate.

Hatch and Rear Chicks in the Classroom

Set up your own hatchery over a period of two weeks, using the equipment and expertise of a company such as Living Eggs: <http://www.livingeggs.co.uk/hatch-a-chick/what-we-do/>

There may also be a local organisation that provides similar experiences located near you. The chicks are then rehomed by the organisations concerned.

<http://www.livingeggs.co.uk/hatch-a-chick/what-we-do/>

<http://www.stophamgardenpoultry.co.uk/incubator-hire/pricing>

<http://www.thehappychickcompany.co.uk/chick-hatching-at-schools.html>

<http://www.homegrownandraised.co.uk/chickfac.php> Northamptonshire and Cambridgeshire

Follow the incubation, hatching and rearing of chicks online:

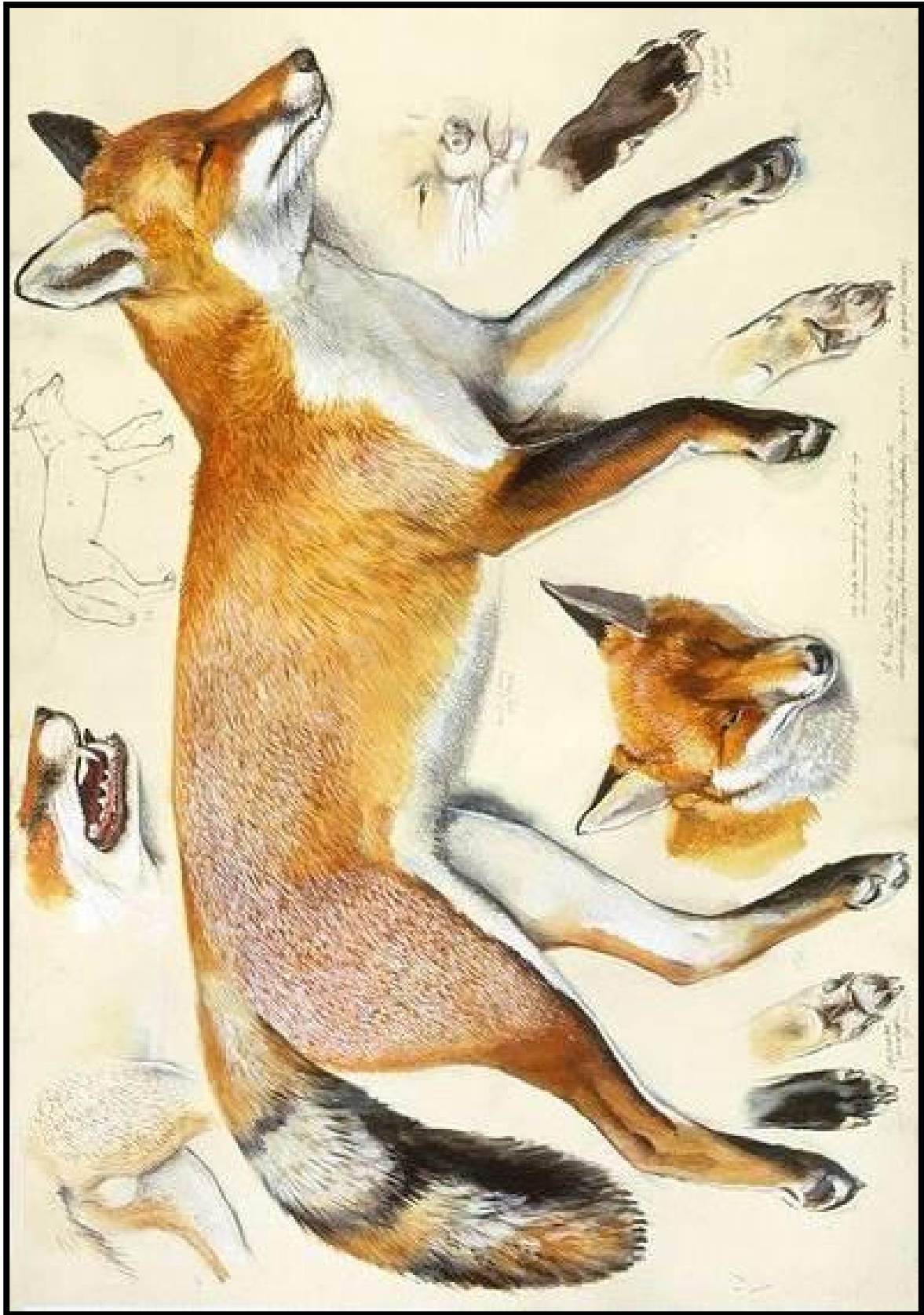
<http://www.relaxedfarming.co.uk/> – watch chicks being hatched & reared online – diary, photos and videos

Videos of chicks hatching:

<http://www.primarygames.com/holidays/easter/videos/chick-hatching-from-egg/>

<http://www.msichicago.org/online-science/videos/video-detail/activities/the-hatchery/>

Bird and mammalian illustration examples



<http://www.thecharlestunnicliffesociety.co.uk/measureddrawings.html>



Hatchery extension task

Get chn to think about the kind of information that needs to be noted to help scientists understand a life cycle and whether observing the process once is sufficient.

Get chn in pairs to come up with a list of possible limitations to the scientific process of observing and recording bird life cycles (influence of watcher, things noted by one scientist might not be noted by another, we understand life cycles through patterns so need to watch the same cycles more than once, but also other similar creatures).

Guidelines for zoological illustrations

Things to research and incorporate into your illustrations:

- The life cycle of the mammal or bird, including reproduction
- Specific stages of development (e.g. egg or foetus)
- Any specialist names for the mammal or bird at specific stages (e.g. chick)
- Gestation period and the age at which the mammal or bird leaves its parents
- The age that the mammal or bird becomes adult and how long they live on average

Focus on accuracy and texture in your drawings and consider carefully how you lay out the drawings so that you can annotate them.

Guidelines for zoological illustrations

Things to research and incorporate into your illustrations:

- The life cycle of the mammal or bird, including reproduction
- Specific stages of development (e.g. egg or foetus)
- Any specialist names for the mammal or bird at specific stages (e.g. chick)
- Gestation period and the age at which the mammal or bird leaves its parents
- The age that the mammal or bird becomes adult and how long they live on average

Focus on accuracy and texture in your drawings and consider carefully how you lay out the drawings so that you can annotate them.