

Investigate Life cycles

Investigate Life cycles series contains six children's books – *Life cycles*, *Birds*, *Kangaroos*, *Frogs*, *Ladybirds* and *Alligators* – and an accompanying *Life cycles* CD-ROM.

Life Cycles overview book

Life cycles is an introductory book that lays the foundations for the detailed information contained in the books on specific animals: *Birds*, *Kangaroos*, *Frogs*, *Ladybirds* and *Alligators*.

It can be used in group work and, in conjunction with the CD-ROM, in shared work, to teach children key scientific concepts concerning animal life cycles. You can also use it to develop the literacy skills necessary for reading, writing and talking about non-fiction.

Birds, Kangaroos, Frogs, Ladybirds and Alligators

The books develop the concepts touched upon in the overview book, *Life Cycles* and are ideal for group work in developing children's scientific knowledge and vocabulary while teaching them non-fiction literacy skills.

CD-ROM

The CD-ROM is extremely versatile and contains video clips, commentaries, in-depth information and games. It is ideal for teaching and modelling concepts, non-fiction features, grammar and vocabulary contained in the overview book *Life cycles*. It can also be used alone or alongside the overview book to develop children's enjoyment, knowledge and understanding of life cycles.

Highly flexible, it is ideal as an extension of the pupil overview book since it contains further information, activities and in-depth answers to questions. It also contains a source of activities for less confident pupils, providing video clips, commentaries and games to stimulate interest while developing knowledge in the subject.

Teachers' notes

The following pages provide teachers' notes for leading guided reading sessions. They can be used in any order and cover work at word, sentence and text levels.

Investigate Life cycles teachers' notes

Key words

hatch, eggs, born, baby, adult, female, insects, grow, change

Activities for guided reading

- Look at the cover of *Life cycles* together and ask the children whether they can name the animals featured. Talk about why these animals have been chosen for the cover.
- Explain that this is a non-fiction book and gives information. Draw their attention to the contents page, glossary and index, which are features of non-fiction books. Flip through the pages of the book and explain that a non-fiction text is likely to be illustrated with photos rather than expressive artwork, and that drawings, if appropriate, are technical and used to explain specific concepts.
- Read through the contents page and ask the children what the numbers refer to.
- Identify the glossary. Find a word in bold type and model looking it up in the glossary.
- Identify the index and point out that it is in alphabetical order.
- After modelling reading pages 4–5, draw the children's attention to the words 'All', 'Some' and 'Other' (page 4). Explain that the text begins by providing general information ('All') and then goes into the particular ('Some', 'Other').
- Read the first sentence together on page 4 and ask the children what they notice about the way it begins (capital letter) and ends (full stop).
- Draw the children's attention to the phoneme 'ch' in 'change' on page 4. Can they find another word beginning with 'ch' on page 5? ('Chick')
- Read the captions together on page 5 and ask the children to identify their purpose.
- Cover the word 'is' in the sentence 'A puppy is born from its mother' (page 5). Invite the children to give the right verb form and to explain their answer.
- Look at the words 'baby' and 'babies' on page 6. Explain that words that have a consonant before the 'y' in the singular change to 'ies' in the plural. Can they list any other words that end in 'y' in the singular and 'ies' in the plural? ('Lady/ladies', 'city/cities', 'story/stories', 'nappy/nappies'.)
- Explain the purpose of a flow chart and the ways it can be presented by comparing the charts on page 11 and page 19. Discuss the purpose of the arrows linking the images and explain that labels rather than full sentences are adequate. Although the charts on page 11 and page 19 are different – a timeline and a circle – they present the same type of information.

Speaking and listening opportunities

- Ask the children to look at the pictures of the animals shown on the cover of *Life cycles* and to select one animal and discuss what they

know about it. What else would they like to know about the animal? What would the other children in the group like to include in this list? Model writing the list of suggestions.

- Invite the children in pairs to role play the action of one of the animals discussed in the text, and for the other children to guess what animal it is.

Follow-on writing opportunities

- Ask the children to draw a picture of one of the animals discussed in the book and to give it a simple caption.
- Write the words 'animals', 'baby', 'grow', 'change' and 'parent' on separate cards and tell the children to arrange them in alphabetical order.

Support for less confident learners

- Ask the children to draw a picture of their favourite animal.
- Look at pages 8–9 together. Read the headings of the animals in the chart on Page 9. Ask the children to find the appropriate image on the spread for each animal.
- Distribute cards with the words 'born', 'baby', 'bird' and 'bigger'. Now turn to the relevant pages – page 4 ('born'), page 8 ('baby'), page 12 ('bird') and page 14 ('bigger') – and ask the children to find each word.

Extension for more confident learners

- Using the words 'born', 'baby', 'bird' and 'bigger', each written on a card, ask the children to arrange them in alphabetical order.
- Challenge the children to find more words in the text that begin with 'b'.
- Encourage the children to compile a list of words for use in their own writing about their favourite animal.

Alligators teachers' notes

Key words

reptile, nest, hatch, eggs, female, grow

Activities for guided reading

- Before reading, ask the children to predict what the book is about.
- Challenge the children to find the contents page, a chapter heading, the glossary and index.
- Read the first sentence together on page 4 and ask the children what they notice about the way it begins (capital letter) and ends (full stop).
- Ask the children why the words 'reptile', 'nests', 'lay' and 'hatch' are in bold on page 4. Ask them whether they know the meaning of these words before turning to the glossary.
- How many syllables are there in the following words: 'babies', 'stay', 'water' and 'open'?
- Can they find an example of a caption and a label?
- Draw the children's attention to the word 'ground' and ask them for a list of words that have the consonant end cluster 'nd' (for example, 'find', 'bend', 'pond').
- Can the children list three words that rhyme with 'nest'?
- Ask the children to scan the text for the following words: 'nest', 'hatch', 'eggs' and 'grows'.
- After reading the book, ask the children to list one or two facts they now know about the baby alligator. For example, it has stripes, it swims on its mother's back, it is carried in its mother's mouth.
- Ask the children to make a list of other facts they would like to know about the alligator, for example its lifespan, habitat, prey, hunting habits.

Speaking and listening opportunities

- Invite discussion on the anatomy of an alligator. Why do the children suppose it has a long tail and short limbs? What part of its body does it use to hunt its prey? Encourage the children to justify their answers.
- Why, do the children suppose, the alligator has eyes that are set high on its head?
- Ask the children to explain the life cycle of an alligator in their own words.
- Let the children imagine that they are making and filming a TV documentary on alligators. Their task is to describe and show an alligator catching its prey. Give them time to work on a short script, and then one child presents the script and the other performs the actions.

Follow-on writing opportunities

- Encourage the children to draw an alligator and label different body parts.

- Challenge the children to write a caption to accompany the photo on page 15.
- Encourage the children to research three reptiles other than the alligator. Ask them to provide a caption for each animal and to label body parts.

Support for less confident learners

- Ask the children to research and then draw three other reptiles. Model writing a caption to identify each animal.

Extension for more confident learners

- Invite the children to compare reptiles and to set out their findings in the form of a simple chart. For example:

Turtle	Snake	Crocodile
hard shell	scales	scales
legs	no legs	legs
hatches from egg	hatches from egg	hatches from egg

Birds teachers' notes

Key words

female, hatch, chick, nest, eggs, lay, feather, grow

Activities for guided reading

- Hiding the title, look at the cover image together and ask the children to predict what the book is about.
- Ask the children to identify the non-fiction features that are present in this book.
- Draw the children's attention to the contents page. Read through the list of chapters and then ask them to find the chapter entitled 'Busy bird'.
- Before reading, draw the children's attention to the way a sentence begins with a capital letter and ends with a full stop.
- Can the children give a reason as to why on page 4, the word 'bird' begins with lowercase 'b' and the word 'Baby', line 3, begins with capital 'B'?
- Investigate words with the same sound but different spelling pattern by drawing the children's attention to the word 'lay'. Can the children think of other words with the /ai/ phoneme (for example, 'play', 'say', 'name', 'trainers' and 'rain')?
- Can the children find words that relate to the life cycle of a bird? (For example, 'nest', 'egg', 'hatch'.)
- Can the children think of words that rhyme with 'nest'?
- Ask the children to answer the question on page 12.

Speaking and listening opportunities

- Do the children know any words that they could use in their own writing to describe a bird?
- Can the children explain in their own words why the chicks' beaks are open on pages 16–17?
- Can the children identify what is in the female bird's beak on page 17? What other foods do birds eat?
- To check their comprehension, ask the children to explain the life cycle of a bird in their own words.

Follow-on writing opportunities

- Encourage the children to keep a log about the types of bird that can be observed from the playground.
- Ask the children to draw a bird and to label body parts.
- Invite the children to look closely at the picture on page 16 and to prepare a caption. Model writing their caption, emphasizing the need to begin with a capital letter and end with a full stop.

Support for less confident learners

- Ask the children to draw a bird, reminding them that it should have a beak, wings and feathers.

Extension for more confident learners

Ask the children to find an adjective to describe each of the following words: 'feather', 'wing', 'legs' and 'beak'.

Frogs teachers' notes

Key words

tadpoles, hatch, eggs, spawn, froglet, gills, lungs

Activities for guided reading

- Hide the title of the book and look at the cover image together. Ask the children to predict what the book is about.
- Challenge the children to find the contents page, a chapter heading, the glossary and index.
- How many syllables are there in the following words: 'frog', 'froglet', 'tadpole' and 'water'?
- Can they find an example of a caption and a label?
- Read the first sentence together on page 4 and ask the children what they notice about the way it begins (capital letter) and ends (full stop).
- Give the children two pieces of card, one with the word 'is' and the other with the word 'are'. Having covered the words 'is' in the first sentence and 'are' in the last sentence, ask the children to turn to page 10 and to hold up the right card for the missing verb. Can they find other examples of 'is' and 'are' in the text?
- Ask the children to go on a word hunt for CVC words, such as 'not' and 'can'.
- Look at the word 'frog' together. Then make a list of words that begin with the consonant cluster 'fr' (for example, 'free', 'from', 'fright', 'friend').
- Together, prepare a list of verbs that are used to describe a frog, which the children can use in their own writing (for example, 'hop', 'splash', 'croak', 'jump').
- Help the children to write a list of things they would like to find out about frogs.
- Challenge the children to find out what tadpoles eat.
- Ask the children to find information about the red-eyed tree frog illustrated on page 7 by looking up information books and websites.

Speaking and listening opportunities

- Ask the children to describe what a tadpole, froglet and frog look like.
- Ask the children why they think the tree frog is green, looking at the photo on page 5 as you do so.
- Can they describe what frogspawn looks like?
- Ask them to interpret, in their own words, the chart on page 7.

Follow-on writing opportunities

- Ask the children to make a list of questions that they would like to know about frogs.
- Prompt the children for ideas in planning a poster about frogs. Ask them what information they would like to include and write down their suggestions. Then draw a rough plan for a first draft showing where headings, paragraphs of text, illustrations and captions might go.

Support for less confident learners

- Invite the children to plan a poster on the life cycle of the frog, using information from the book. Encourage them to think about what they need to include and draw a rough plan for a first draft, showing where headings, paragraphs of text, illustrations and captions might go.

Extension for more confident learners

Invite the children to plan a strong opening sentence for their poster.

Kangaroos teachers' notes

Key words

joey, female, pouch, crawl, grow

Activities for guided reading

- Hide the title of the book and look at the cover image together, then ask the children to predict what the book is about.
- Challenge the children to find the contents page, a chapter heading, the glossary and index.
- How many syllables are there in the following words: 'kangaroo', 'joey', 'fur' and 'newborn'?
- Can they find an example of a caption and a label?
- Read the first sentence together on page 4 and ask the children what they notice about the way it begins (capital letter) and ends (full stop).
- Look at the flow chart on page 7 and explain the purpose of the arrows.
- Explain the purpose of a comma and full stop in a sentence when reading aloud. (To show the reader when to pause and take a breath.)
- After reading page 11 to the children, can they point to the following words: 'up', 'into', 'his' and 'and'?
- Write the following words on separate cards: 'pouch', 'baby', 'joey', 'fur' and 'koala'. Then ask the children to organise the words in alphabetical order.
- Draw the children's attention to the word 'grow' and together make a list of words that begin with the consonant cluster 'gr' (for example, 'green', 'great', 'grey', 'grateful' and 'grub').
- What words would the children use to describe a kangaroo?
- Challenge the children to use websites and information books to find answers to the following questions: where does the kangaroo live naturally and what does it eat?

Speaking and listening opportunities

- Ask the children to talk about why the kangaroo has big back legs and big back feet.
- Ask the children to explain the life cycle of a kangaroo in their own words.
- Challenge the children in pairs to explain, through mime and words, how a joey gets back into its mother's pouch, one child miming, the other talking.

Follow-on writing opportunities

- Ask the children to plan a piece of writing on kangaroos. Explain that they need to think about the information they want to include and how to present it. Using their suggestions, model sorting the information into different categories regarding, for example, what kangaroos look like, where they live, what they eat and how they grow up. These categories can then be used as the basis for headings such as features, habitat, food and life cycle.

Support for less confident learners

- Display a picture of a kangaroo as a prompt to build a word bank of descriptive words about the animal.

Extension for more confident learners

- Ask the children to sort the following words in alphabetical order: 'fur', 'female', 'find' and 'fit'.
- Ask the children to plan a piece of writing on koalas. Remind them that they need to find information and to sort it into categories from which they can draw the headings.

Ladybirds teachers' notes

Key words

insect, hatch, larva, pupa, eggs, wing, aphid

Activities for guided reading

- Hide the title of the book and look at the cover image together. Ask the children to predict what the book is about.
- What do the children know about ladybirds? Have they ever seen one?
- Challenge the children to find the contents page, a chapter heading, the glossary and index.
- Can they find an example of a caption and a label?
- Revise work on the glossary and index. Why is the word 'insects' set in bold on page 4?
- Look at the chart on page 7 and explain the purpose of the arrows.
- How should they find out whether the word 'insects' is written elsewhere in the text?
- Read the first paragraph on page 12 together. Then point out the question mark at the end of the sentence, 'Is that a ladybird?' Model reading the sentence so the children can hear the different inflexions in the voice.
- Ask the children to clap the number of syllables in the following words: 'ladybird', 'insect', 'garden' and 'spot'.
- Together, make a list of words that rhyme with 'pest'.
- Talk about compound words by asking the children to identify the component parts in 'ladybird'? Do the children know any other compound words, for example 'football', 'anteater', 'grasshopper' and 'pancake'?
- Check their comprehension by asking them how many legs a ladybird has.
- After they have read the book, ask them to draw a ladybird.

Speaking and listening opportunities

- Ask the children to describe what a ladybird looks like.
- Can they describe, in their own words, how to make a ladybird from scraps of coloured paper? Then get them to make their own model ladybirds.
- Read the text on page 13 together. Do the children understand the punctuation at the end of each sentence? Can they think of another command with which to address the ladybird?

Follow-on writing opportunities

- Ask the children to provide a caption to accompany their paper ladybird. Remind them to begin their writing with a capital letter and to end with a full stop.
- Turn to page 7 and ask the children to present the information contained in the linear flow chart, 'From egg to adult', as a cyclical chart.

Support for less confident learners

- Invite suggestions for a caption to accompany their paper ladybird. Model writing the caption, emphasising the need for a capital letter at the start of the sentence and a full stop at the end of the sentence.

Extension for more confident learners

- Ask the children to plan a sentence to accompany each label in their cyclical flow chart.