

General cross-curricular ideas for links to ARKive's [www.arkive.org](http://www.arkive.org) species and habitats

MATHS

- Use species images to create pictorial animal number sequences: elephant, chick, gorilla, gorilla, elephant ----- What's next?
- Frog hops: Patterns in addition Find 3 numbers jumps that add up to 20 jumping across a pond. How many different combinations can be found?
- Multiplication of the number of legs, spots, stripes, eyes in the dark on a range of species.
- Division: Share out food for animals in their habitats or nature reserves.
- Investigate shapes, size and measurement through looking at species body parts.
- Calculate the area of animals, their habitats or their homes using squared paper.
- Measure the width of wingspans.
- Measure the length of snakes.
- Using species images to identify patterns and symmetry in the natural world. Investigate making own symmetrical patterns using squared paper. Suggested examples: Large blue butterfly, heath fritillary, large white, dark crimson underwing, belted beauty, narrow-bordered bee-hawk moth, red admiral, peppered moth.
- Number: How many legs/spots do the minibeasts in the images have? (Addition, multiplication, subtraction)

- Measurement: size, length, area of minibeasts body parts.

#### Handling data:

- Collect, represent and interpret data about species in response to set questions such as: Which bird has the largest wingspan? How many species from each group (mammals, birds, etc) come from Australasia?
- Shapes of homes – hexagons, geometric shapes.
- Directional instructions: Movement around a map of an animals home, e.g. badger burrow, ant nest maze of tunnels. Guide the badger to its babies in the nest chamber or the ants to the fungus garden.
- Geometric patterns like those used in a beehive. Experiment with making and designing their own.

#### ENGLISH

- After watching videos of species, list adjectives to describe their movement. Suggested examples: Black grouse, great crested grebe, Pipistrelle bat, Bali starling, coelacanth, Hector's dolphin, Verreaux's sifaka, common frog, queen conch, gannet, river lamprey.
- Students could narrate films seen on ARKive [www.arkive.org](http://www.arkive.org) or create scripts and storyboards to make their own natural history film.

- Children are estate agents and must write their own classified advert that describes a chosen animal's home.
- How animals and their homes depicted in fictional stories, e.g. The Wind in the Willows or Brambley Hedge. Characters are in natural homes but they include 'human' objects like armchairs. Identify natural and non-natural habitats from the story. Discuss the personification of the habitats/homes in the story and the differences and similarities between the animal's natural habitat and the one described in the book.
- Design and write about a favourite species natural home and what 'human' objects might be found there in an imaginary story. Think about the natural characteristics of the species and what gadgets or furniture they might have in their home. E.g. harvest mouse - sewing machine, greater bilby – electric fan, otter – fishing rod.
- Write descriptions of animals or habitat settings for creative writing.
- Read fictional stories about creatures and their homes.
- Write senses poems about a particular habitat, describing sights, smells, and sounds.
- Design a nature trail or information booklet for someone to take with them on a walk around a habitat. Provide information in drawings, cartoons, writing, and printouts of images. Include safety rules, species to look out for, and information about them, helpful hints of places to look.
- Investigating common sayings about insects, e.g. 'As busy as a bee', 'a bee in your bonnet', 'you've got ants in your pants' Make up other sayings for different insects depending on their attributes.
- What would it be like if you were the same size as a minibeast? What would things look like? Write a story about the day you shrunk to the size of an ant.
- Write and perform a play about the lifecycle of a minibeast: Use 'Grow – up' game in the games section (red admiral) for information.
- Using species fact files, find out what different of minibeasts eat. Create disgusting recipes and menus of the foods they prefer for a minibeast

restaurant. Suggested examples: Spider hunting wasp, hornet robberfly, dotted beefly, southern wood ant, medicinal leech, blue ground beetle, acorn weevil, earthworm, woodlouse, honey bee, garden snail, water boatman, emperor dragonfly.

- The Ugly Bug Ball: Research chosen minibeast from species fact files on ARKive [www.arkive.org](http://www.arkive.org). Using drama/dance as stimulus for story writing, character descriptions, cartoon strips of the balls hilarious entertainment, menus for the balls banqueting table, writing recipes for different dishes and invitations... the list of possibilities is endless!
- Scenario: Children are in the role of a minibeast and they must move, look like and act just like their minibeast would. They have been invited to the Ugly Bug Ball where they must perform to the Queen Bee showing their physical adaptations and skills, or their behaviour as entertainment/ helping with the smooth running of the whole event.
- The ball begins with the ceremonious entry of the Queen Bee, followed by a follow-the-leader procession of minibeasts around and around the room. The class forms a circle with the Queen Bee in the centre.
- The insect entertainers then follow, e.g. Daddy Long Legs, balancing a variety of shapes on hands and feet; a long-jump competition featuring the greatest grasshopper in the world; a snail or flea race; a spider spinning, stepping and balancing on the high wire; the tap-dancing beetle who responds spontaneously to appropriate drum rhythms or music; an ant army which forms lines and circles between and around each act, following its leader, marching, running and on tiptoe. Other ants are at work searching for food, carrying loads, making a food mound.

## PSHE

- Look at the role of exercise and movement to give us healthy bodies
- Chart the ways we move throughout our lives. How does it change? When we were younger? As we get older?
- Investigate other ways that humans move about using transportation.

- Look at the foods we eat: Where do they come from? How do we fit into a food chain? What other species eat the same things as we do?
- Healthy eating: What is in a balanced diet? Devise healthy eating menus, plates of food for a healthy meal. What nutrients do different foods give to our bodies?
- Link from science: Discussion around breaks in a food chain or web and the interdependence of species within an ecosystem. How would the disappearance of people in our school system affect everyone else at school? E.g. the cooks, caretakers, teachers, librarians, children, secretary, lollypop lady. At what point would the school stop functioning? Link to roles each person has to play, emphasising that all are valuable.

## DT

- Design and make moving animal toys that move like a chosen animal using a particular mechanism, e.g. cam, lever, pneumatics. Decorate with species image printouts.
- Design and make animal homes for a specific creature in a specific habitat. Look at shelter and structure and model using construction kits to test stability and strength. Then select appropriate materials for the particular habitat with which to construct the home, e.g. if wet, then waterproof materials may be needed.
- Gruesome grub recipes: Minibeast cakes/biscuits.
- Build a bug: Build and construct a minibeast using levers for its wings, head, and tail movement. Use construction kits to build prototypes of minibeasts before modelling out of chosen media. Print out species images to use in model making. Suggested examples: Mole cricket, southern damselfly, violet click beetle, queen conch, sand hopper, large marsh grasshopper, pond skater, large blue butterfly.

## PHYSICS



- Use video clips from ARKive [www.arkive.org](http://www.arkive.org) to calculate speed, distance and acceleration.

## ART

- Use different natural home materials to make a collage.
- Observational drawings of a habitat or species from ARKive [www.arkive.org](http://www.arkive.org) e.g. plan view of a rock pool.

## PE

- Watch species moving footage on locomotion to study how to make better use of muscles and movement.
- Create a group dance, imitating movements of different species. Moving in different ways using different body parts and ways of travelling on 2, 3, 4 body parts. Suggested examples: Sand hopper, bottlenose dolphin, spotted handfish, Verreaux's sifaka, chimpanzees, great crested newt, tiger, robin, coot (feet-fighting).

## MUSIC

- Exploring sounds that suggest the movement of animals e.g. rainmaker for slithering snake.

- Develop rhythms for animal movements: Tap out with fingers and perform on chosen instruments. Suggested examples: Greater spotted woodpecker, herring gull, Indo-pacific hump-backed dolphin, Verreaux's sifaka, orang-utan, cheetah, Japanese crane, mahogany glider, black rhino, gharial.
- Using moving footage to listen to the sounds of different minibeasts. Suggested examples: New forest cicadas, common field grasshopper, shrill carder bee and large garden bumblebee.
- Imitating movements or the sounds of insects, using musical instruments. Suggested examples: violet click beetle, medicinal leech, golden hoverfly, common garden snail, and house spider.
- Use 'Grow – up' game in the games section of ARKive education [www.arkiveeducation.org](http://www.arkiveeducation.org) as a source of information for red admiral butterfly. Compose a sound story about the lifecycle of a minibeast, e.g. a butterfly. Different sounds for stages and events.

### General investigation of the photos

- What does this photo tell you? What can you deduce from it?
- Discuss the differences and similarities between photos on a specific theme, e.g. movement, babies, eating, appearance.
- Connecting photos: How many different connections can you find between a group of photos?
- Describing photos: One child describes what is in a photo and their partner must draw from their description.



- Questioning photos: Mount the photo and children write questions around it: What are the hares doing? Are they fighting? Can the photo answer the questions or is extra research needed using the information on ARKive [www.arkive.org](http://www.arkive.org) ?
- Write captions or speech bubbles for the photos.
- Adjectives: Children are given a list of adjectives and a selection of photos. They must apply the most suitable adjectives to each picture and justify their choices.
- Choose three photos out of a selection, one they like best, one they don't like, one which surprises them and discuss/write about their reasons.