Subject: Science
Year 1: Making Connections- Scientific Enquiry
NC/PoS:

- identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
- identify and name a variety of common animals that are carnivores, herbivores and omnivores
- describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)

Prior Learning (what pupils already know and can do).
This unit revises and builds on learning from the Year 1 Kapow units covered this throughout the year.

End Goals (what pupils MUST know and remember)

- Know the typical weather associated with each season
- Know that animals have different features
- Know the difference between carnivores, herbivores and omnivores
- Know a carnivore feeds on other animals, examples are fox, shark, crocodile, frog, owl
- Know a herbivore feeds on plants, examples are cows, pigeon, tortoise, parrotfish
- Know an omnivore feeds on both animals and plants, examples are lizards, bears, yellow-legged frog, crow, goldfish

Key Vocabulary:
Amphibian, bird, carnivore, compare, diet, difference, fish, group, herbivore, mammal, material, object, omnivore, pattern, reptile, season, similarity, trunk

Session 1: Use Kapow Lesson 1: Do taller trees have wider trunks?
Recap and recall:

- The four seasons and the typical weather in each.
- Summer has the most daylight hours and winter has the fewest.
- The twelve months of the year.

LO: To observe changes across the seasons.
Working scientifically LO: To spot patterns in data.
Use the link: CBeebies Bedtime Stories – The Oak Tree by Julia Donaldson.
Focus on the following:

- **Page 5: what can you see that tells you it is spring?** (It is raining but sunny and a rainbow is present; flowers are beginning to grow.)
- **Pages 7–8: what can you see that tells you it is autumn?** (The oak tree's leaves are changing colour and beginning to fall.)
- **Pages 19–20: which season is this and how do you know?** (It is winter because it is snowing and the children are wearing warm clothes.)
- **Pages 21–22: which season is this and how do you know?** (It is summer because the children are having a picnic in the shade of the hot sun.)

Watch the Presentation: The oak tree and answer the following:

- **Name the plant parts you can see in the images.** (Seed, shoot, roots, stem, leaves, trunk and branches.)
- **Describe the stages of oak tree growth in the correct sequence.** (Acorn, shoot, leaves and roots, thicker trunk and more leaves and fully grown oak tree.)

If time allows do the tree measuring activity. If not, show the children string that you have used to measure a range of different trees and encourage the children to identify the following patterns:

- The colours indicate tree heights, from shortest to tallest.
- The string lengths represent the trees' widths.
- An increase in string length from the shortest to the tallest tree suggests a pattern.

- If the strings do not become longer each time, this suggests there is no pattern.

Session 2: Use Kapow Lesson 2: Comparing woodland animals
Recap and recall: **Which animal groups can you recall?** (Mammals, birds, reptiles, amphibians and fish.)
LO: To describe and compare the features of animals.
Continue to use 'The Oak Tree' by Julia Donaldson and ask:

- **Which animals can you see on the front cover?** (Pigs, foxes, squirrels, owls, dragonflies, frogs, mice and butterflies.)
- **Which animal group do these animals belong to?** (The pig, foxes, squirrels and mice are mammals; the owls and the blue tit are birds; the butterfly and the dragonfly are insects.)

Watch Presentation: Are all mammals the same?
Highlight that these five animals feature in the story.
Use resource 'Describing birds'. Ask them to write a sentence about what makes that bird unique beneath each image.
For example:

- **Barn owl:** it has a heart-shaped face; it has a large wing span.
- **Jay:** it has a screaming call; it eats acorns; it has bright blue patterns on its wings.
- **Woodpecker:** it makes a loud drumming sound on tree trunks.
- **Blackcap:** it has a beautiful birdcall.
- **Hooded crow:** it has grey and black feathers.

Vocabulary: bird, compare, difference, feature, mammal, research, similarity

Session 3: Use Kapow lesson 3: Measuring animal footprints
Recap and recall: Display the *Presentation: Animal muddle*. Reveal each animal image individually and ask the pupils to identify the incorrect body parts.
LO: To identify differences in animal features.
Working scientifically LO: To use a ruler to measure.
Read 'The Gruffalo' by Julia Donaldson and identify the main animals in the story. Explain that they will role-play as zoologists. Use *Presentation: Identifying footprints* to demonstrate how to measure a footprint.
Let the children measure the footprints on the resources provided and use the data collected to complete the table.
Vocabulary: amphibian, bird, compare, differences, fish, measure, mammal, reptile, similarities

Session 4: Use Kapow Lesson 4: Building an animal home
Recap and recall: watch *Pupil video: Properties of materials*

- **Name some different objects.** (Book, table or building brick.)
- **Name some different materials**. (Wood, plastic, fabric, glass, rock or metal.)
- **Name some properties of materials**. (Shiny, stretchy, strong, soft, see-through or hard.)
- **What does waterproof mean?** (Stops water getting through.)
- **What does absorbent mean?** (Soaks up and holds on to water.)

LO: To describe the properties of everyday materials.
Watch *Pupil video: Animal homes* and ask the following questions:

- **What materials do animals use to build their homes?** (Natural materials such as soil, sticks, branches, grasses, stones, leaves, seeds and mud.)
- **How do animals use these materials to make strong homes?** (Ants use twigs and small stones to make their nests strong; they build hills on top of their nests for protection; swans weave reeds and leaves together to make strong nests; beavers weave branches and twigs and use mud to hold their lodges together.)

Arrange the class into groups of three and take them into the outdoor space to build their animal homes with natural materials.
When the structures are complete, gather the class around each animal home for waterproof testing. For each group, follow these steps:

- Ask the group to predict whether their animal home will be waterproof.
- Place an animal figure inside.
- Carefully pour a small cup of water over the top.
- Lead the class in counting to ten.
- Ask one of the group members to take the animal figure out and state whether it is wet or dry.
- Prompt the class to call out, "Waterproof!" or, "Not waterproof!"

Suggest pouring different amounts of force or from different heights during the waterproof tests to illustrate further the importance of the test being the same (fair) for all groups.
Vocabulary: material, natural, object, predict, property, test, waterproof

Session 5:
Use Kapow lesson 5: Are birds carnivores, herbivores or omnivores?
Recap and recall: Display the *Presentation: Agree or disagree?* and ask the class to discuss the statement. Take feedback and remind the children that animals can grouped into carnivores, herbivores or omnivores.
LO: To identify animals that are carnivores, herbivores and omnivores.
Display the *Presentation: Bumblebeast pie*. Introduce the class to the fictional woodland character, the Bumblebeast. Read out the recipe for his favourite food; Bumblebeast pie. Establish through questioning that he is an omnivore because he eats animals and plants.
Challenge the pupils to write a short recipe suitable for a fictional woodland animal, like the Bumblebeast. The pairs should decide if their recipe will be for a carnivore, herbivore or omnivore using the following guidance:

- **Carnivore recipe:** including animal ingredients only.
- **Herbivore recipe:** including plant ingredients only.
- **Omnivore recipe:** including both animal and plant ingredients.

Initiate a class discussion about whether birds eat animals, plants or both. Prompt the children to recall their own observations, such as seagulls scavenging, blackbirds hunting worms or feeding ducks at the pond. Use *Presentation: What do birds eat?* asking the pupils to predict birds' diets from images and descriptions and identifying them as carnivores, herbivores or omnivores.

Vocabulary: omnivore, herbivore, carnivore, group, hunt, diet

Link to career:
Zoologist, Zookeeper

Scientists who have helped develop understanding in this field: Carl Linnaeus