

Living Things

Microhabitats and adaptation

Lesson at a glance

Open with the picture of a damp log beside a sunny stone wall and ask why different creatures might choose different small places. Teach microhabitat, adaptation and suited-to-a-habitat, then groups predict finds for log, grass and wall. Outside (or at indoor trays on a wet day), they hunt with magnifiers, soft brushes, pots for a close look and the group ID sheet, recording habitat, creature and one feature on the Investigation Journal page. Back inside they draft two evidence-based matches, sort three creatures they did not find on the board, and close on what the class evidence showed.

Learning objectives

- Record which living things are found in different school-ground microhabitats
- Match at least two adaptations to the microhabitat they suit
- Explain why a living thing is suited to where it lives using evidence from the hunt

Before the bell: prep

Day before: print one minibeast ID sheet per group; gather soft brushes, pots and magnifiers; pre-mark three close microhabitats (log/stone, grass or hedge base, wall). Coats ready by the door. Wet day: three labelled indoor trays (damp leaf litter and bark under a cloth; soil with grass roots; a dry stone or brick), gathered from the grounds that morning.

Materials

Item	Qty	Per	Source	Low-cost substitute
hand magnifiers	1	pupil	school kit	share one magnifier between two, or use careful naked-eye looking
minibeast ID sheets (woodlouse, earthworm, garden spider, snail, ant, centipede, ground beetle, slug)	1	group	provided printable	one shared class ID poster on a clipboard
clipboards	1	group	classroom	stiff cardboard and a bulldog clip
small clear collection pots with lids	2	group	school kit	clean yoghurt pots with lids, air holes added by an adult
soft artists' paintbrushes for gentle handling	1	group	classroom	a dry leaf used as a scoop; fingers only if hands are washed after
Investigation Journal page	1	pupil	classroom	ruled paper with the same parts drawn by the pupil: a prediction, a table of finds and two matches
only on a wet day: three shallow trays to bring the three microhabitats indoors	3	class	classroom	three paper plates or shoebox lids instead of trays

Safety watch-point

Fixed outdoor boundary; lift logs from the edge and replace them; soft brush or pot only, never pinch; no stinging insects in pots; wash hands on return; every living thing goes back.

Teaching moves

- **Getting Started:** In one or two sentences frame the course as ask–predict–gather evidence–explain, then point to the log-and-wall picture on the board. Take three or four quick ideas on the key question; do not correct wrong guesses yet: the hunt will test them.
- **Microhabitats and adaptations:** Keep only the log-versus-wall comparison, three short term lines and one check question on the board. Steer any “it likes it” answer toward conditions (damp/dry, dark/light, shelter) and the body feature that matches. Hold the ID sheet back until the hunt starts.
- **What do we expect to find?:** Agree the three real microhabitats your grounds have. Model once: I wonder... I predict... I will check.... Each pupil writes one prediction on the first lines of the journal page. Deliver the safety brief clearly before anyone leaves the room.
- **Minibeast hunt across microhabitats:** Hand ID sheets at the door. The pots are for a close look: brush the minibeast in, lid on, look through the side with the magnifier, then let it go where it was found. Budget about five minutes per station; you circulate with spare pots and the spare sheet. Watch for gentle log lift-and-replace, brush/pot handling, and habitat-plus-feature notes: empty stations and signs of life (trails, casts, webs) still count as data.
- **Who lives where, and why?:** Whole-class share first: one find per microhabitat on the board as habitat | creature | feature. Then four minutes for groups to draft two matches, each with an evidence phrase (damp, dark, shell, slime). Prompt stalled groups with woodlouse-under-log or snail-on-wall.
- **Tighten your journal page:** Three-minute self-check only, not a rewrite. Circulating, push three ticks: empty stations written as data; “because it likes it” replaced; two matches using damp/dry, dark/light or shelter. Offer the stem: We found ... under the log. It is suited there because...
- **Three we did not find:** Drive the sorting activity on the board yourself. Read only each adaptation aloud (centipede, springtail, pill woodlouse). Do not re-sort hunt finds. Let the class argue; the pill woodlouse’s thicker shell is the useful pivot that adaptation, not family, decides the place.
- **What the evidence showed:** Write the class’s strongest real match into the board blank. Revoice two pupil examples separating observation from inference. Reflect display-only on what surprised them and what a second hunt would check, then wash hands and return kit.

What it should show

Expect woodlice, slugs and centipedes under damp logs; earthworms in moist soil/grass roots; snails, ants, beetles or spiders on walls, grass or edges. Sunny dry walls often yield few or none: that absence is valid evidence. Odd results usually mean a log left open too long (creatures fled) or a creature pinched rather than brushed into a pot.



Lesson 1

Misconceptions & interventions

- **“It lives there because it likes it.”** Ask what the place is like (damp or dry, dark or light, hidden or open), then point at one body feature on the ID sheet that matches those conditions.
- **“Bigger creatures live in bigger places.”** Hold up the board tally: moisture, shelter and food decide more than size. An earthworm needs moist soil; a tiny springtail still needs constant damp.
- **Pupils skip empty stations or treat ‘nothing found’ as a failed hunt.** Model writing ‘none seen on wall’ as useful data, then ask what that absence suggests about conditions there.

Differentiation

Emerging	Developing	Proficient
• Tick creature name and microhabitat only, then add one feature word from the ID sheet (shell, slime, many legs). • Work the first station with the teacher table before joining their group.	• Add a second creature at one microhabitat and a short ‘why suited’ phrase using damp/dark/shelter. • Use the stem: We found ... so we think ... because...	• Draft a fuller evidence match and critique a weak ‘likes it’ reason from the class share. • On the sorting-tree, argue why the pill woodlouse could sit drier than the woodlice found under the log.

Cross-curricular hook

English oral language: rehearse evidence stems (We found... so we think... because...) before the whole-class share.

