Lesson 1

living-things

Microhabitats and adaptation

Lesson at a glance

Open with two contrast photos — damp space under a log versus the sunny shed 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 tray/photo stations), they hunt with magnifiers, pots 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 unfound creatures on the sorting-tree interactive, 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. Indoor backup: three labelled trays (damp litter under cloth; soil with grass roots; dry brick) or one laminated photo pack per group.

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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 three habitat headings drawn by the pupil
photos or a clear view of a log microhabitat and a wall microhabitat for the hook	1	class	classroom	a quick teacher sketch of log versus wall on the board
three labelled indoor microhabitat trays (log/litter, grass/soil, wall/hard surface) for wet-day route	3	class	classroom	three desk spots with photo cards only (no soil or litter)
laminated minibeast photo evidence packs (log, grass and wall finds)	1	group	classroom	one shared class photo set on the IWB with the same three microhabitat labels

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 show the log-versus-wall photos on the IWB. Take three or four quick ideas on the key question; do not correct wrong guesses yet — they become tomorrow's test material.
- **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.... Groups jot or say one prediction per place. Deliver the safety brief clearly before anyone leaves the room.
- **Minibeast hunt across microhabitats:** Hand ID sheets at the door. 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-tree interactive yourself in explore mode. 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.

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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.