



Living Things and Their Habitats! Year 6 Science at Home

You can help! Your child is learning how the physical conditions of a habitat — temperature, rainfall, sunlight and soil — affect whether living things can grow and survive. The environment around you shows this every day!

Why are we learning this? Habitats and Country up here

Up here in the north, the connection between physical conditions and living things is vivid and dramatic. In the wet season, the floodplains burst with life — birds, frogs, insects and plants respond to the rain and warmth. In the dry season, many animals move, shelter or become dormant as conditions change. First Nations peoples have always understood these connections deeply — knowing that changes to the land (like clearing or altered water flow) affect which plants and animals can survive there.

My child will learn to:

✓ Identify physical conditions

Name the physical conditions in a habitat — temperature, sunlight, rainfall, soil type, salinity.

✓ Link conditions to survival

Explain how these conditions affect the growth and survival of plants and animals.

✓ Predict effects of change

Think about what would happen to living things if physical conditions changed.

✓ Connect to human impact

Understand how human activity can change physical conditions and affect habitats.

Big ideas to know:

Physical conditions

The physical conditions of a habitat include temperature, amount of sunlight, rainfall, soil type and salinity (salt levels). These conditions determine which plants and animals can live there.

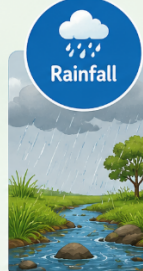
Too much or too little

Living things need conditions to be just right. Too much heat can kill plants. Too much salt in water kills freshwater fish. Too little rain causes drought and death.

Human impact

When humans change physical conditions — clearing land, polluting water, adding light at night, changing water flow — this can affect which living things survive and which disappear.

Physical Conditions Affect Living Things

Temperature	Sunlight	Rainfall	Soil type	Salinity
				
Too hot or cold makes it hard for animals and plants to survive.	Plants need light to make food and grow.	Water is needed for plants to grow and for animals to drink.	Different plants need different soils to grow well.	Salt levels affect where and how plants and animals can survive.
 cactus penguin	 sunflower grass	 tree kangaroo	 bush (tropical soil) spinifex grass (sandy soil)	 mangrove mullet



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How physical conditions affect living things

Condition	Too much causes...	Too little causes...	Example up here
Temperature	Heat stress, drought, death for cold-adapted species	Freezing — not common here but matters in alpine areas	Flying foxes die in extreme heat events; coral bleaches in warm seas
Sunlight	Plants may burn; nocturnal animals disturbed by artificial light	Plants cannot photosynthesise — they die without light	Seagrass needs clear water to survive; mangroves die if shaded
Rainfall	Flooding destroys nests and burrows; saltwater intrudes	Drought — waterholes dry up, plants die, animals move or die	Floodplains fill with life in the wet; dry up in the dry season
Soil type	Nutrient saturation can kill some plants	Poor sandy soil cannot support many plants	Different plants grow in sand, clay, loam or rocky ground
Salinity	Kills freshwater plants and animals from salt intrusion	Very low salt limits marine animals survival	Saltwater crocs in tidal rivers; freshwater crocs in low-salt billabongs

Think Like a Scientist — Habitat Investigator

Choose a plant in your yard or a nearby area. Every day for a week, observe it. Does it get enough sunlight? Is the soil moist or dry? Are there insects on it? Draw what you notice.

Ask: "What does this plant need to grow? Is it getting enough of each condition? What would happen if we moved it to a shadier or drier spot?" Predict and then (if possible) test it!

You will need: (Materials)

- Two identical seedlings or bean seeds
- Two pots or cups with soil
- Water
- Ruler
- Paper and pencil or phone camera
- Magnifying glass (optional)

What to investigate:

1. Sunlight — measure how many hours of sun your plant gets each day
2. Water — feel the soil: moist, damp or dry? Does it need watering?
3. Temperature — is the plant in full sun (hot) or shade (cooler)?
4. Insects and animals — what visits the plant? Are they helping it?
5. Changes — photograph it each day. How does it change over the week?

Questions to ask your child

1. What conditions does that animal or plant need to survive?
2. What would happen to the frogs if the waterhole dried up permanently?
3. How do animals up here survive the extreme heat of the build-up?
4. Why do some plants grow well in the wet season but struggle in the dry?
5. What would happen to coral reefs if ocean temperatures kept rising?
6. How do First Nations peoples know when environmental conditions on Country are changing?
7. What could our community do to protect a local habitat?

Grow two identical seedlings — put one in bright sun and one in shade, but water them the same amount. Watch what happens over two weeks. You are running a real scientific experiment about physical conditions!

Key words to know:

Physical conditions	The non-living factors in a habitat — temperature, sunlight, rainfall, soil, salinity
Habitat	The natural environment where a plant or animal lives
Salinity	The amount of salt dissolved in water
Photosynthesis	The process plants use to make food from sunlight, water and carbon dioxide
Survive	To stay alive despite challenging conditions
Dormant	In a resting state with slowed growth — some animals and plants are dormant in tough conditions
Human impact	Changes to habitats caused by human activity — clearing, pollution, lighting, water changes

Key words to look up

Physical conditions · Habitat · Salinity · Photosynthesis · Survive · Dormant · Human impact

What school will check

Your child needs to investigate the physical conditions of a habitat and analyse how the growth and survival of living things is affected by changing physical conditions.

Try it at home!

Grow two bean seeds — one watered daily, one watered every 3 days. Same sun, same soil, different water. Observe for 2 weeks. Which grows better? What does this show about physical conditions?