



Changing Earth's Surface! Year 5 Science at Home

You can help! Your child is learning how Earth's surface slowly and sometimes rapidly changes. The landscape around you shows these processes happening right now!

Why are we learning this? Erosion and the land up here

In the north, erosion is part of everyday experience. Monsoon rains wash red soil into rivers each wet season, wearing away banks and shifting sand. Coastal dunes built up over thousands of years are eroding due to sea level rise, affecting First Nations communities' sacred sites. Understanding weathering and erosion helps your child appreciate why protecting the land matters — and why First Nations fire management and land care practices are rooted in thousands of years of observing these processes.

My child will learn to:

✓ Understand weathering

Know how wind, rain, heat, cold and plants break rock into smaller pieces over time.

✓ Understand deposition

Know that transported material is eventually dropped when water or wind slows down.

✓ Understand erosion

Describe how wind and water pick up and carry weathered rock and soil.

✓ See local examples

Identify examples of weathering, erosion and deposition in the local landscape.

Big ideas to know:

Weathering

Weathering is the breaking down of rock into smaller pieces. Rain, wind, heating and cooling, and plant roots all slowly break rock apart. This can take thousands of years — or happen in one big storm.

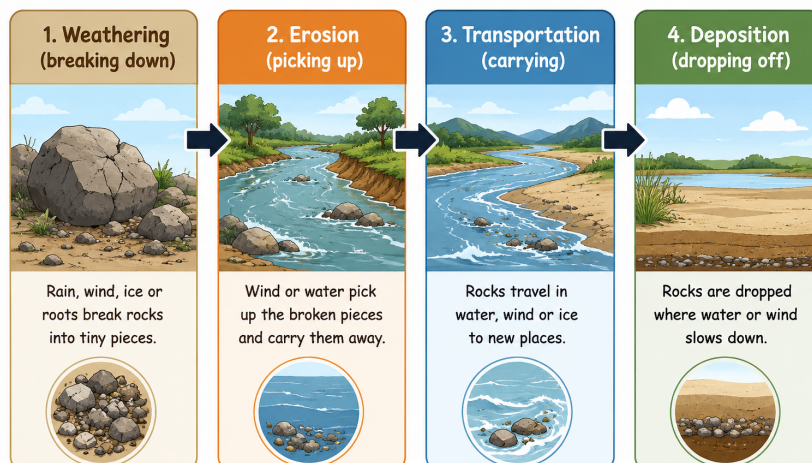
Erosion

Once rock or soil is broken up, erosion occurs when wind or water carries those pieces away. Heavy monsoon rain causes rapid erosion — washing soil off hills into rivers.

Deposition

When the wind or water slows down, it can no longer carry heavy material. The sediment drops — this is deposition. River deltas and beaches are built by deposition.

How Earth's Surface Changes Over Time





Changing Earth's Surface! Year 5 Science at Home

Types of weathering and erosion

Process	What causes it	Examples in the north
Mechanical weathering	Physical forces — heat/cold cycles, plant roots, abrasion by sand	Rock cracks from extreme heat. Paperbark tree roots widen cracks.
Water erosion	Flowing water carries soil and rock particles downhill	Wet season flooding cuts new channels and washes red soil into rivers.
Wind erosion	Wind picks up dry loose soil and sand particles	Red dust in the dry season. Sand dunes moving along the coast.
Coastal erosion	Wave action and storm surge erode coastlines	Coastal dunes eroding, saltwater moving inland into freshwater wetlands.
Deposition	Slowing water or wind drops its sediment load	River floodplains built up by silt. Sand bars in river bends.

Think Like a Scientist — Erosion in Action

Fill a tray with soil. Tilt one end up slightly. Slowly pour water from a cup onto the high end. Watch what happens to the soil. Now try it with plants or stones on the soil — does it make a difference?

Ask: "Where did the soil go? What made it move? How could we stop the soil from washing away?" This is exactly what land managers and scientists study!

You will need: (Materials)

- Tray or baking dish
- Soil or dirt
- Watering can or cup for pouring water
- Small rocks or pebbles
- Plant material (optional)
- Paper and pencil

What to investigate:

1. Pour water slowly — then pour it fast. What changes?
2. Put some rocks or twigs on the soil — does that slow erosion?
3. Try different soils — sandy vs clay. Which erodes more easily?
4. Look for real erosion near your home after rain — where did the soil go?
5. Observe a creek or riverbank — can you see where erosion has happened?

Questions to ask your child

1. Where can you see erosion happening near our home or community?
 2. What causes the red soil to wash into the river in the wet season?
 3. How long do you think it took to make that rock face smooth?
 4. Why do plant roots help stop erosion? How does that work?
 5. What could people do to protect soil from washing away?
 6. How do First Nations fire management practices help protect the land from erosion?
 7. What do you think the landscape looked like thousands of years ago?
- After heavy rain, look for where water has carved channels in dirt or soil — that is erosion happening right in front of you! These small channels form the same way as huge river valleys, just on a smaller scale.*

Key words to know:

Weathering	The breaking down of rock into smaller pieces by wind, water, heat, cold or plant roots
Erosion	The picking up and carrying away of weathered material by wind or water
Transportation	The carrying of sediment from one place to another by wind or water
Deposition	The dropping of sediment when water or wind slows down
Sediment	Tiny pieces of rock and soil that have been eroded and transported
Landscape	The natural features of an area of land
Erosion rate	How quickly erosion is happening — can be slow or very rapid

Key words to look up

Weathering · Erosion · Transportation · Deposition · Sediment · Landscape · Erosion rate

What school will check

Your child needs to describe how weathering, erosion, transportation and deposition cause slow or rapid change to Earth's surface.

Try it at home!

After the next rain shower, go outside and look for mini rivers of water flowing across the soil. Where does the water go? Can you see soil being carried with it? Watch and discuss — you are watching erosion!

