

YOUR MISSION, RANGER:

THE SHADOW TRACKER

Lesson 3 · Prove the sun moves — and learn why angle changes temperature.

GEAR YOU NEED

- A stick (30cm tall)
- Chalk or small stones
- This mission card + pencil
- A sunny morning!

HOW TO COMPLETE THE MISSION

- 1 Push the stick straight into the ground in a sunny open spot.
- 2 At 9am, mark the TIP of the shadow with chalk or a stone.
- 3 Do the same at 11am, 1pm, and 3pm.
- 4 Measure the length of each shadow in steps or hand-spans.
- 5 Which shadow was LONGEST? Which was SHORTEST?
- 6 Write your result in the Field Notes box below.

RANGER TIP

When the sun is HIGH in the sky (midday) the angle is steep and the ground gets more heat → shorter shadows.

When the sun is LOW (morning/evening) heat spreads out → long shadows.

BONUS CHALLENGE

Do the same mission again in 3 months — winter or summer.

Compare shadow lengths. You've just felt climate change seasons!

FIELD NOTES / SKETCH

**SCOUT SAYS:**

You're measuring sun ANGLE — the #1 thing that shapes climate.
Every ranger learns this trick. Now you know it too.

RANGER STAMP

DATE COMPLETED

