

Land · supported focus

Supported focus · SL

Supported scope

- Supported SL focus. First assessment 2026; current SL/HL brief acquired. Remaining guide, assessment and practical requirements retain their recorded holds.
- State model conditions and distinguish fictional data from measurements.

Ess Land · 1.1

Reasoning

A farm can increase yield while increasing soil loss or water demand. Food-system evaluation requires more than tonnes harvested. Start with a prediction. State the quantities or features you would compare, then decide what evidence could distinguish two explanations.

Ess Land · 2.1

Reasoning

Soil supports nutrient cycling, water storage and organisms. Erosion removes soil; nutrient depletion changes fertility. Resource use involves extraction, production, distribution and waste. erosion: Removal and transport of soil or rock; resource: A material or service used to meet needs.

Ess Land · 3.1

Reasoning

Distinguish total yield from yield per area and energy input. Sustainable management must consider regeneration rates and impacts beyond the farm boundary. Different stakeholders may rank food security, biodiversity and income differently. Compare management options using a stated functional unit and the same timescale. Use approved secondary datasets or non-destructive soil observations. Explain trade-offs instead of claiming a method has no disadvantages.

Ess Land · 4.1

Reasoning

State the known values and their units. Choose the relation because its assumptions fit this case, then rearrange before substitution. Known: farm A harvests 18 tonnes from 6 hectares. Yield per area = $18/6 = 3$ tonnes per hectare. Farm B harvests 20 tonnes from 10 hectares, so its yield is 2 tonnes per hectare despite a larger total harvest.

Ess Land · 4.2

Reasoning

A farm harvests 28 tonnes from 7 hectares. Find yield per hectare. Use the same sequence: known quantities $\rightarrow$ model $\rightarrow$ relation $\rightarrow$ substitution $\rightarrow$ unit and interpretation.

Ess Land · 5.1

Reasoning

A high yield is not proof of long-term soil health. Renewable resources can be depleted when use exceeds regeneration. Return to the original observation. Explain what the result supports, which conditions it assumes, and one way to test a competing explanation.

Ess Land · 5.2

Reasoning

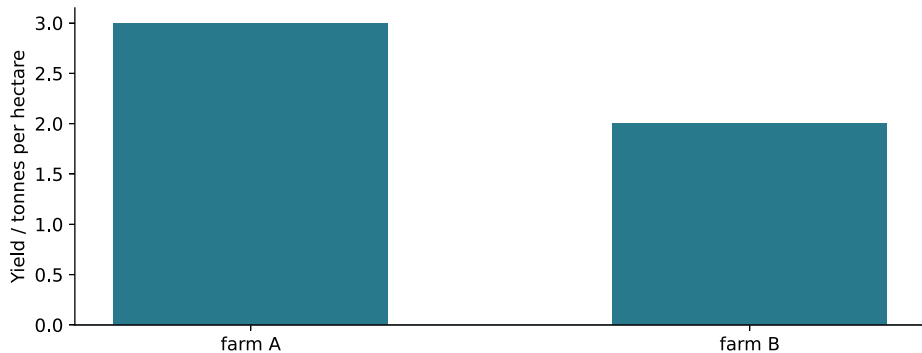
A renewable resource cannot be depleted. This claim is false: A high yield is not proof of long-term soil health. Renewable resources can be depleted when use exceeds regeneration.

Ess Land · 5.3

Reasoning

Land, food and resource decisions: Distinguish total yield from yield per area and energy input. Sustainable management must consider regeneration rates and impacts beyond the farm boundary. Different stakeholders may rank food security, biodiversity and income differently.

Ess Land · diagram



- Original teaching diagram: Land, food and resource decisions
- Use the labels and the stated model together.

Ess Land · original transfer

Your turn

Fictional farms produce 24 t on 6 ha and 30 t on 10 ha. Compare yield and total output. Can sustainability be inferred?

Ess Land · transfer reasoning

Method and interpretation

Yields 4 and 3 t/ha; second total is larger. Inputs, soil, water, biodiversity and timescale are missing. Yield is only one criterion.

Check yourself

- Explain erosion using the stated model.
- Explain resource using the stated model.
- Change one value in the original transfer; explain which assumption still matters.