



## Purpose

To determine the effect of ground cover on erosion

## Equipment

- 6 x aluminium trays or takeaway containers
- Soil
- Hand trowel
- Wood chip mulch (to cover surface of one tray)
- Weeds or grass with root system (to cover surface of one tray)
- Gloves (optional)
- Board to elevate one end of trays
- Watering can
- 3 x coffee filters or large paper towels
- Colander
- Electronic scale



Equipment for making the erosion trays

## Risk assessment

Microbes in soil may cause disease. Wear gloves, if available, and wash hands thoroughly after handling soil.

## Procedure

1. Fill one tray to the rim with soil.
2. Fill the second tray nearly to the rim with soil, then top with wood chip mulch to the level of the rim.
3. Fill the third tray with soil and weeds or grass such that the surface of the soil is even with the rim of the tray.
4. Prop one end of each tray up on a board so that all are at the same angle.
5. Place an empty tray at the lower end of each experimental tray to catch runoff.
6. Pour an equal amount of water on each of the trays using the watering can. This can be achieved by pouring for the same amount of time on each or by measuring out a fixed volume of water for each tray.
7. Record qualitative (descriptive) observations of runoff in the results table.
8. Weigh a filter or paper towel on the electronic balance. Record the mass on the filter in the results table.
9. Place the filter or paper in the colander and pour the runoff from one of the trays through the filter paper.
10. Re-weigh the paper and record the final mass.
11. Repeat steps 8-10 for each of the remaining trays.



## Results

Tray	Mass of paper (g)	Mass with filtrate (g)	Eroded mass (g) = mass with filtrate – mass of paper	Qualitative observations
Bare soil				
Soil with wood chip				
Soil with plants				

## Discussion

1. Evaluate the validity of your experiment. \_\_\_\_\_  
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2. Were your quantitative results (eroded mass) consistent with your qualitative observations?  
Explain. \_\_\_\_\_  
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3. Based upon your results, what is a good erosion control strategy for a school built on a hill?  
Justify your choice. \_\_\_\_\_  
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## Explore

Learn more about [erosion control](#) the AusEarthEd blog.  
Watch [the AusEarthEd video](#) about erosion control.

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