# An Investigation on Sedimentation

What is sedimentation?

Sedimentation is . . .



 $\boldsymbol{AIM}$  (what are we trying to find out):

To find out how much sediment is in water when it is poured over (in an attempt to simulate run-off) an area with root-bearing plants growing on it compared to an area with no plants.

## HYPOTHESIS/PREDICTION (what do I think will be the result):

I think that . . .

EQUIPMENT (what will we need):

6 x plastic containers (old Chinese takeaway containers are perfect) Dirt (sediment)
Grass plus it's associated dirt (sediment)
2 x beakers
A suitable device for making holes in plastic containers
2 x grey trays
2 x Petri dish's
Stopwatch or classroom clock

**METHOD** (how are we going to carry out the experiment – step by step):

### Variables (the factors which will affect our results):

Independent variable (what are we going to change):

Dependent variable (what are we going to measure):

Fixed/Control variables (what will we keep the same):

#### Steps:

1. Gather all the equipment.

2. Put a hole into each end (in the middle at the bottom) of each plastic container.

3. Into 3 containers pack some grass with associated sediment into it. Make sure there are no gaps – the containers needs to look like you just went out into the field, dug up some grass and put it tidily into the containers with the sediment on the bottom containing the grass's roots leaving the grass top to stick up.

4. Into the remaining 3 containers pack just sediment. These containers need to look like you just went out onto the field, dug a hole, threw the grass away, dug deeper where the grass was, picked up some of the dirt and packed it into the second container.

5. Place a container containing grass and sediment into a grey tray. Under it place a Petri dish at one end so as to make a slope.

6. Pour 200mL of water over the grass to simulate rain. Let sit for one minute then remove the container from the grey tray.

7. Pour the excess water from the grey tray into a beaker. Record this amount.

8. Stir the water in the beaker – record whether the water is clear, slightly cloudy, cloudy or very cloudy.

9. Repeat steps 5 to 8 for the remaining two grass and sediment containing containers. 10. Repeat steps 5 to 8 for the three containers containing sediment only.

(Draw a picture of the set-up).

#### **RESULTS**:

#### Table:

independent variable	goes here	dependent variable go		
Sediment Type				
	Trial 1	Trial 2	Trial 3	AVERAGE
With plants				
Without plants				

## **Graph** (ONLY graph the averages):

**CONCLUSION** (what was your result; what does the graph say; answer your aim):

**DISCUSSION** (why did you get the result you did; explain what was happening):

**EVALUATION** (what could of you done to make the experiment more interesting):