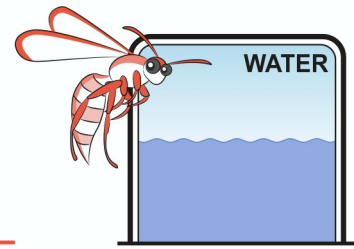
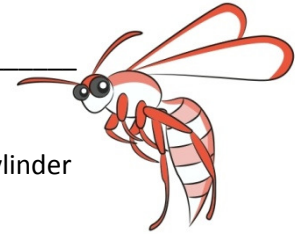


Decanting - Student Activity



Clear water for stock, irrigation or household washing can be obtained by **DECANTING** dirty water that has been allowed to settle.

DECANTING involves _____



Materials needed per student or group

- Two 500mL beakers
- Stirring rod or spoon
- Water
- Measuring cylinder
- Dirt or sand
- Timer

Place two heaped tablespoons of dirt or sand into one beaker and half fill with water. Mix the sand and water. Leave the water to settle for 1 minute then attempt to pour off only clean water into the measuring cylinder. Stop when the water starts to become cloudy (translucent). Repeat the activity increasing the time left to settle the sediment.

Vocabulary (Memorise this during the experiment)

- Transparent** Light can pass through and objects clearly seen e.g. window
- Translucent** Semi-transparent (fuzzy image) e.g. milky glass
- Opaque** Light cannot pass through e.g. brick

Results from decanting dirty water

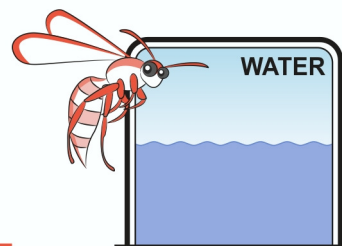
Time to settle	Height or volume of clear water mL			Comment on clearness of water.		
	Test 1	Test 2	Test 3	Transparent	Translucent	Opaque
1 minute						
2 minutes						
5 minutes						
10 minutes						

Did waiting a longer time before decanting improve the clarity of the water? (Explain your answer)

Is this water potable (fit to drink)? _____

What could this water be used for? _____

Decanting - Student Activity



Extra for experts

Design a tool to measure the transparency of decanted water.

Dissolved and solid materials in water are essential as they provide nourishment for plants and animals and deposit silt to become rich soil. The Great Yellow River of China, the Huang Ho and the Nile in Egypt might make your washing pretty yellow but their silt created the birthplace of ancient Chinese and Egyptian civilisations. Water must be sufficiently translucent to allow light to enter and water plants to photosynthesise.

A Secchi disk is used to measure transparency of water in dams, rivers and seas. A black and white chequered disc is lowered into water until the pattern can no longer be seen clearly. The length of rope is taken as the measurement of transparency.

http://en.wikipedia.org/wiki/Secchi_disk

Some farmers use a long graduated stick in the same way.