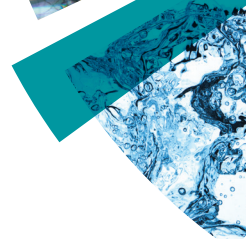


Experiment 1: How much water can my hydrogel hold?



Student worksheet

Method*

1. Place the cloth sample into the plastic tray.
2. Gradually pour 50ml of water at a time onto the centre of the sample until the sample is saturated. Record each 50ml addition as you go along. You can tell when the sample can't hold any more water, as the excess liquid will be seen around the edge of the sample.
3. If you think the sample is saturated, wait for 60 seconds and see if you can add more water. If the sample is saturated and you have added too much water, this can be poured out, measured and removed from your result tally.
4. Note how much water (ml) the sample can hold and record this on your results table.
5. Using the information you have gained, predict how much water you think the hydrogel sample will hold. Note this on your results table.
6. Repeat steps 2–4 of the experiment – this time using the hydrogel sample.

* Make sure your teacher has already set up the teacher sample

Results

Once your findings are posted to our website, you can compare your data to schools from other countries.

Estimate for the amount of water a hydrogel sample can hold (ml) _____

Group	Cloth sample (total amount absorbed – ml)	Hydrogel sample (total amount absorbed – ml)
1		
2		
3		
4		
5		
6		
Average		

Teacher sample Amount absorbed (ml) _____

Conclusions

Why was it important to make each of the samples the same size?

Is the amount of water that the hydrogel sample held more or less than you predicted?

How much water can a whole diaper (nappy) hold?

Compare your data to the website data (<http://rsc.li/ge-water>). Is there a difference? Why?

If you have any questions you can't answer, email them to us and we'll help. learn-chemistry@rsc.org