EndoTherm™

PRACTICAL EXPERIMENT 1 - THE PENNY TEST

This short, easy to conduct experiment identifies how EndoTherm changes the surface tension of water.

Difficulty: Low/Medium
Time Required: 20 minutes

Equipment Required:

2 Pennies (both clean)
A flat, level surface
A dish towel or paper towel
2 pipettes
1 glass of tap water
1 bottle of Endotherm solution

Note:
EndoTherm test solution is available as part of the Eco-Schools resource pack please contact EndoTherm to request it. Washing up liquid can also be used as an alternative to mimic the EndoTherm effect in the practical experiments in the classroom. Washing up liquid is not a substitute for EndoTherm and should NOT be dosed into a heating system under any circumstances.

PROCEDURE

1. Fill the pipettes. One with tap water and the other with the EndoTherm sample.
2. Put the pennies on a flat surface that can get wet.
3. Starting with normal water. Add drops of water (one at a time) onto a penny and count how many drops it takes before the water spills over the side of the penny. Repeat this 5 times
4. Use a towel to dry the table.
5. **Question? Do you think the EndoTherm will take more or less drops than water?**
6. Repeat with EndoTherm
7. If you have time you could try different liquids like hand soap, milk or juice. How do different liquids react?

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OBSERVATION AND RESULTS

You should notice that plain tap water needs more drops of water to break over the side of the penny. This is because water has a **HIGHER** surface tension and the surface is stronger to hold the water together. Adding the EndoTherm solution lowers this tension so the drops become weaker and break apart sooner.

Space for other liquids

Count the number of drops	Tap Water	EndoTherm Solution		
1				
2				
3				
4				
5				