

Hibernation: An Insulation Investigation

Science Activity

Design a nest to insulate a hibernating dormouse

Upper
Primary

 By considering examples where energy is conserved, I can identify the energy source, how it is transferred and ways of reducing wasted energy (SCN 2-04a)

 Give reasons, based upon evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic (Upper KS2)

 The Sustainable Earth > 4. the properties of materials relating to their uses (KS2)

 Movement and Energy > the causes and effect of energy, forces and movement (KS2)

 Energy and Forces > Heat (3rd & 4th classes)

A hibernating dormouse provides a novel context for the study of the insulating properties of different materials and school microclimates. This activity can also support pupils' scientific literacy as they plan, hypothesise, use fair testing and record results graphically. It could even be a springboard to study actual animal adaptations to hibernation.

Instructions

1. Each child/team needs to decorate a plastic cup to look like a dormouse
2. They then build a nest for their 'dormouse' using the materials that they believe will be best for insulating and camouflaging it.
3. Once the nest is completed, the cup needs to be filled with hot water.
4. The initial temperature of the water needs to be recorded.
5. The temperature of the dormouse then needs to be measured every 2 minutes.
6. The resultant temperature drop can be recorded in a line graph.
7. Discuss the reasons for the success of the nesting materials of the dormouse with the lowest overall temperature drop after 10 minutes.

Equipment

- Water-tight lidded plastic cups
- Sticky labels an/or permanent pens
- Hot water
- Thermometer
- Natural or man-made materials



Photo by Clare Rooney

For more resources
call 01962 846 258 or visit
www.ltl.org.uk/resources
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