Goldilocks' Porridge – Insulation Experiment

Teacher Instructions

Goldilocks and the Three Bears is a great story for children with many different topics to lead in to. This experiment offers a scientific perspective on the story by providing the opportunity to explore insulators to help Goldilocks.

**Through exploring properties and sources of materials, I can choose appropriate materials to solve practical challenges. SCN 1-15a**

Materials – Porridge, microwave, milk, bowls, spoons, tinfoil, cling film, tupperware, newspaper, blankets, t-shirt, polystyrene, bubble wrap, thermometers, stopwatch, any other potential insulator you can think of.

Ensure there are enough options so that the children really have a choice for themselves without duplicates where possible.

Set-up:

1. Set out all insulation materials on a table for the groups to choose from.
2. Heat porridge to a good temperature (80-90°C).
3. Empty the porridge into bowls, enough so there is one for each group.

Method:

1. Provide each group with a bowl of porridge (make sure they know it's really hot, so be careful not to burn themselves).
2. Ask each group to use the thermometer to check the temperature of their porridge – write this on their grid.
3. Ask one member from each group to choose a material to use as their insulator.
4. Set a timer for 15 minutes.
5. During this 15 minute break, ask the children to use their grid to show which materials they are using in their experiment (this is all materials, not just their insulator). If they still have some extra time, they may wish to discuss what they think is going to happen, will it stay the same? Will the temperature decrease/increase? Why?
6. After 15 minutes, ask the children to measure and record the temperature again and on their grid explain what has happened and why they think it has happened.
7. Continue to do this every 15 minutes for as long as you would like. You may wish to plan other activities for each 15 minute gap, or increase the gaps to suit your class.
8. Once you feel the lesson has gone on long enough for your class and they have received enough data, you can ask the groups to create a graph which clearly shows their findings.

Conclusion

* Ask the groups to share their findings with the class
* Use the findings of each group to form a combined graph which shows the best insulator
* Potential to create a wall display