STRANMILLIS UNIVERSITY COLLEGE
A College of Queen's University Belfast

TAPS-NI
Progression in Science Skills

Example topic: Cold Places	Primary 3/4 Age 6-8	Activity title: Ice Escape
Science skill focus Doing: observing and measuring	**Curriculum link: Place** Materials have a range of properties which are related to their uses (PL2, PL3)	

Progression focus

- Can children observe and/or measure how quickly the iceberg melts?
- Can children compare melting speed in different conditions?

Activity

Freeze plastic animals (related to topic) in muffin cases or tubs with coloured water so animals cannot be seen. (An exploration of ice balloons could be carried out in an earlier lesson if children have not done this before).
Does salt help the animals to escape from the mini-iceberg?
Discuss ideas and decide on different conditions e.g. different tables could try different amounts of salt. Include a 'control' e.g. one with no scoops of salt.
Decide how to measure and compare the melting e.g. observations every 5/10/15 minutes (depending on size of ice), could time until part/all of animal is uncovered.
Collect observations and/or measurements at regular intervals.
Compare results, together with discussing accuracy of measurements.

Adapting the teaching

Support: Provide table to collect observations/measurements.
Extension: Test other conditions e.g. flour/sugar/sand etc, or warm and cold places.
Other ideas: Research use of salt on roads.

Questions to support discussion

- What is happening when you add the salt?
- What has changed about the ice?
- What words can you use to describe the ice?
- What are you measuring?
- When will you stop the timer?
- How do your results compare to the group with more/less salt?
- How accurate do you think our measurements are?

Pupil learning indicators

Not fully achieved: Recognises that salt has an effect on ice but does not focus on collecting observations or measurements.

Achieved: Collects observations and/or measurement(s) and compares these to other groups.

Exceeded: Begins to evaluate the accuracy of the measurements e.g. time might depend on how close animal leg was to edge of ice.