**TAPS-NI** 

**Progression in Science Skills**

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| **Example topic:**  Cold Places | Primary 3/4  Age 6-8 | | Activity title:  Ice Escape |
| **Science skill focus**  Doing: observing and measuring | | Managing Information logo for Northern Ireland’s Thinking Skills and Personal Capabilities**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](https://pstt.org.uk/application/files/4115/1957/4782/Rplan_Materials_-_Frozen_balloons.docx) 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**  Child's drawing of ice after salt has been added, with words underneath: cracks, rough, hard, bumpy**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. | | | |