



## Hinchingsbrooke School Science Department

### KS3 Homework Task

#### Scientific Enquiry HW1 – Space Agency’s lost bath duck

Date set:

Date Due in:

On the following page is information related to the task. You may need to do additional research to achieve the maximum level possible.

- Answer all questions, if you use PowerPoint please print off and stick in your book
- Fill in your details below

Name:	Form:
Teacher:	Science Set:

Feedback from teacher:

Student comment:

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## Space agency's missing bath ducks

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The United States space agency, NASA, has lost ducks, and it would like them back. The ducks, which experiment to find out what happens to the water in the Arctic, were thrown into a hole in the ice in September 2008 and have not been seen since!

During the summer, some of the ice in the Arctic large lakes of water on top of the ice. This water to the bottom of the ice sheet through holes called Scientists want to know about the water flow, as they water might act as a lubricant, making the ice sheet slide faster over the rock below towards the ocean. So they dropped the bath ducks down a moulin, hoping that where the ducks popped up would tell them about where the water flows. But the ducks haven't popped up.



90 plastic bath are part of an when ice melts Greenland in

melts, forming drains down *moulin*s. think the

NASA is also using a much more 'hi-tech' way to find out about the water flow. They put a cylindrical probe, called Moulin Explorer, down the same moulin as the ducks. Moulin Explorer is almost 30 cm long and contains a camera, equipment to measure changes in movement and pressure, together with batteries, a GPS to tell them where the probe is and an antenna to send the measurements to a NASA satellite. One day the NASA scientists hope to use probes like Moulin Explorer to explore distant planets and moons in our solar system. But Moulin Explorer has also disappeared and is not sending out any signal. 'We've got to go back and scratch our heads and think about what we do next,' said the scientist who developed Moulin Explorer.

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### QUESTIONS

What was the experiment with the ducks supposed to find out about?

Where do you think the water goes when it flows down the moulin?

Describe in your own words what a 'lubricant' is.

Can you suggest a possible reason, or reasons, why the ducks have not popped up?

What does 'hi-tech' mean?

Why do you think the Moulin Explorer was designed to send information to a satellite?

Suggest a reason, or reasons, why the Moulin Explorer is not sending out any signal.

### Challenge

If you were the scientist who developed Moulin Explorer, what might you do next? Try to think about all the ways scientists work and share ideas.