



Waterproof Penguin

Stem Activities



Ages: 3-5



Less than 30 minutes



Grownup needed



Did you know that penguins are birds, and they're among the few birds that can 'fly' underwater? Adult penguins are covered in tightly packed feathers that are smooth and waterproof, allowing them to survive in the harsh Antarctic environment. This scientific activity helps children understand the secret behind penguins' waterproof feathers through a wax crayon colouring exercise.

Materials Needed

Penguin template paper
Food colouring
Dropper
Wax crayons
Water
Scissors



Step-by-step tutorial

Step 1

Print the template and colour all parts of the penguin (including white areas) with wax crayons. Make sure to cover every area thoroughly and apply a thick layer - you may want to colour it twice.



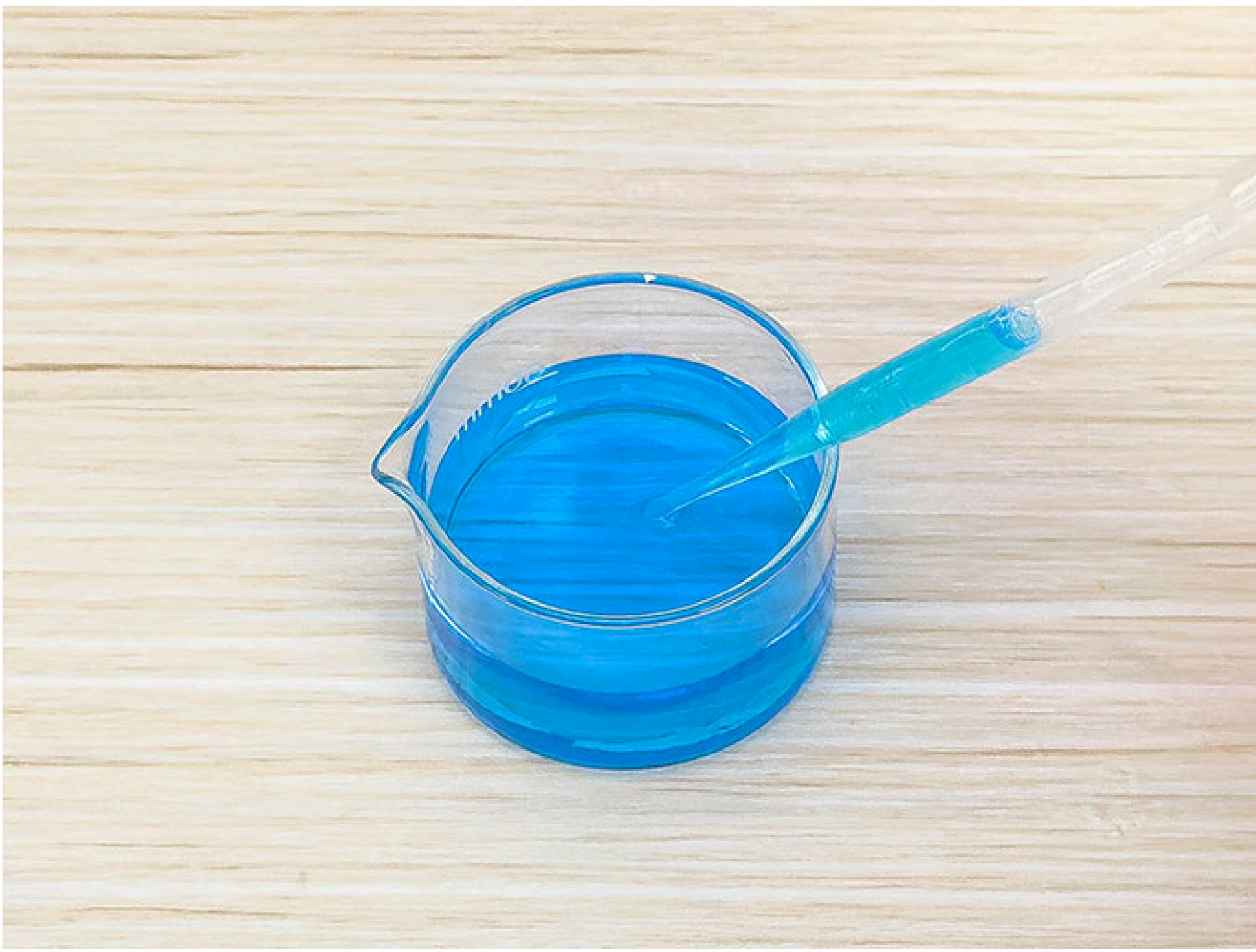
Step 2

Add 2-3 drops of food colouring to the water and mix well.



Step 3

Use the dropper to draw up some coloured water.



Step 4

Drop the coloured water onto the penguin. Observe carefully how the water droplets sit on the penguin's 'fur' without making it wet.



The Science Behind It:

Penguins have short, dense feathers that trap air for warmth and secrete waterproof oils that allow water to slide off without penetrating. This structure keeps penguins dry and warm while swimming in icy waters. In our experiment, colouring with wax crayons mimics this waterproof protection, preventing water from soaking into the paper.

