The Island of Scientific Secrets

Year 5 • Hot-weather home learning

Choose two or three activities each day. Work indoors, take regular breaks and drink water. No printing needed.

Investigate with an adult. Use small quantities, wipe up spills and never taste mixtures.

1. Dissolving detectives

Put equal amounts of room-temperature water into three clear cups. Add a teaspoon of salt, sugar or flour to each and stir equally. Predict, observe and record. Which materials dissolve?
Challenge: how is dissolving different from melting?



2. Rescue the island's supplies

Mix dry rice and dry pasta. Test whether a sieve or colander separates them. Explain how the sizes of the pieces and holes affect the results.
Challenge: plan how to separate three different-sized materials.



3. Can you filter muddy water?

With an adult, mix clean sand with water. Pour through a coffee filter in a funnel over a container. Draw what stays in the filter and what passes through. Would filtering remove dissolved salt?

Filtered water is NOT safe to drink.



4. Save the ice treasure

Put equal-sized ice cubes in two identical plastic containers. Wrap one in a dry towel. Keep both in the same place, out of direct sunlight. Check every five minutes. Which lasts longer? Explain how insulation slows heat transfer.



5. Map a secret island

Draw a square grid. Number the lines along the bottom and up the side from zero. Place island features at grid intersections. Add a key and compass rose. Give coordinates for five places: across first, then up. Can someone find your treasure?



6. Design the explorer's equipment

Design a treasure chest, water container or protective case. Label useful material properties: waterproof, strong, flexible or lightweight. Draw it or build with clean recycling.
Challenge: explain why one material would be unsuitable.



Creative challenge: The Island's Missing Treasure

Write an adventure where explorers use dissolving, separating mixtures or insulation to solve a problem, then follow coordinates to find treasure. Include three accurate scientific facts.

Share drawings, labelled diagrams, a few sentences or a spoken explanation.