

HOMEWORK MISSION: The State of Matter Reporter

The Challenge: Our planet is heating up, and it is causing solids to turn into liquids in places they shouldn't! Your mission is to report on an **extreme weather event** where a "Phase Change" (melting) has impacted a local community.

Your Task:

1. **Research:** Find a story about melting glaciers, melting permafrost (frozen ground), or even melting roads/rails during a heatwave.
2. **Write/Record:** Create a short news report. You can write it as an article or record it as a video on a phone/tablet.
3. **Use Science:** You must explain what is happening to the **particles** as they gain **thermal energy**.

Example Report: The Case of the Wavy Railway

Location: Cardiff, UK

Reporter: Mr Howles

Weather Event: Record-breaking Heatwave

TRACKS TURN TO TOFFEE!

"I'm standing here at the local station where the morning commute has come to a grinding halt. Usually, these steel tracks are a strong, dependable **solid**. The particles inside are packed tightly together, only **vibrating** in a fixed position.

However, because the sun is beaming down with intense **thermal energy**, the temperature of the metal has risen above 50°C! This heat has caused the particles to move more violently. The solid steel has expanded so much that the tracks have buckled and bent.

In some extreme cases, if it got any hotter, the metal would reach its **melting point** and turn into a **liquid**.

Because the state of the tracks has changed, the trains are no longer safe to run. This means doctors can't get to hospitals, parents can't get to work, and the town is stuck! It shows that even a small change in the 'state' of our world can cause a huge problem for our community."