

LI 3: WE ARE LEARNING TO EXPLAIN WHAT HAPPENS TO MATERIALS WHEN THEY ARE HEATED AND COOLED.

When particles are heated they:

When particles are cooled they:

EXPERIMENT: Fill one beaker with hot water and one with cold water. Add one drop of food colouring to each.

Which beaker does the food colouring move around faster in?

[Why does this happen?](#)

What does this have to do with building houses?

When the particles have more energy they take up more space. This is why things expand or get bigger when they are heated and contract or get smaller when they get cold. When building, architects need to think about how much the materials may expand in the heat of the summer and contract in the cold winter months. Metal railway tracks have small gaps so that when the sun heats them, the tracks expand into these gaps and don't buckle.

Why are there bumps or small gaps in the harbour bridge?