# SCIENCE & TECHNOLOGY

Watch the video below:



How does cement harden?

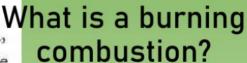
### SLOW REACTIONS

Cement is a mixture of chemicals, which react together when water is added. The reaction may take a few hours or even days, but at the end of it the powdery cement has set into a hard solid. Slow reactions give out heat just like fast ones, but much more gradually.

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#### HOT REACTIONS

One of the most familiar chemical reactions is burning, also known as combustion. This is a reaction where a fuel, such as wood, coal, charcoal, or gas, combines with oxygen in the air. Unlike the other reactions shown on this page, combustion is not spontaneous — it does not start on its own. The fuel has to become very hot — that is, we light the fire. Once the reaction starts, it gives out its own heat, which lights more fuel.





### CHEMICAL REACTION

Some chemical reactions are slow and gentle, but others are fast and release a lot of energy. The chemicals in this picture are old military explosives which are being detonated to dispose of them safely. They react to produce heat energy and hot gas, which burst outwards in an explosion.

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