

Topic	Rusting	Level	GCSE (or any course for students aged 11-16)
Outcomes	1. To explain the difference between a physical and a chemical change 2. To state the factors that cause rust		

Instructions for teachers: the purpose of this task is to find out what students already know about chemical change and rusting. This activity needs to be given to students two weeks before you are going to start teaching the concept of chemical change. Choose a blunt nail!

What do my students already know about rusting?



1. Give your students a shiny nail to take home – you could weigh it first
2. Challenge them to put it in a place where it will rust the most
3. Two weeks later students bring the nail back
4. What were their prior conceptions?

Idea taken from Driver et al., 2015. Making sense of secondary science

Observing and Thinking

- Look at your nail – how has its appearance changed?
- What has happened to the mass of the nail?
- The nail was made from iron. Is the nail still made from iron? Explain your thinking
- Is this a chemical or a physical change? How could you find out?

Nayeem: it is a chemical change because the nail changed colour.



Jack: it is a chemical change because the reaction took a long time.

Sunil: it is a chemical change because the mass of the nail changed.

Ray: it is a chemical change because a new substance was made called rust.

Who needs to improve their answer?