

Map of the unit: *The Steel Story*

This shows the relationship between the Storyline, the Activities and the Chemical Ideas. To aid planning, laboratory-based practical work is indicated by (P), activities involving IT skills are indicated by (IT) and those developing study skills by (S).

ACTIVITIES		CHEMICAL STORYLINE	CHEMICAL IDEAS
SS1.1	How much manganese is there in a paper clip? (P)	SS1 WHAT IS STEEL?	9.1 <i>Oxidation and reduction (revision)</i>
SS1.2	A redox titration (P)		6.7 Where does colour come from?
SS2.1	Why is blast furnace iron so impure?	SS2 HOW IS STEEL MADE?	6.1 <i>Light and electrons (revision)</i>
SS2.2	What changes occur during steelmaking? (IT)		
SS2.3	Getting the 'heat balance' right (Optional extension)		
SS2.4	How much aluminium do we need to add? (Optional extension)		
SS2.5	Which is the right steel for the job? (Optional extension)		
SS3.1	A simple redox reaction (P)	SS3 RUSTING	9.2 Redox reactions and electrode potentials
SS3.2	Simple electrochemical cells (P)		9.3 Predicting the direction of redox reactions
SS3.3	More electrochemical cells (P)		
SS3.4	How does steel rust? (P)		
SS3.5	Understanding redox reactions (S)		
		SS4 RECYCLING STEEL	
SS5.1	Investigating the oxidation states of vanadium (P)	SS5 A CLOSER LOOK AT THE ELEMENTS IN STEEL	11.5 The d block: characteristics of transition elements
SS5.2	How do transition metal ions act as catalysts? (P)		2.4 <i>Electronic structure: sub-shells and orbitals (revision)</i>
SS5.3	Looking at some transition metal complexes (P)		10.5 <i>How do catalysts work? (revision)</i>
			11.6 The d block: complex formation
SS6	Check your notes on The Steel Story (S)	SS6 SUMMARY	