Subject Chemistry	Year 8	Term Summer	Topic Chemical Resources

1.	Key Words	
1	Rusting	The reaction of iron with water and oxygen to form iron oxide
2	Rust	Hydrated iron (III) oxide
3	Oxidation	Chemical reaction that involves the gain of oxygen
4	Corrosion	Deterioration of a metal due to reactions with substances in the environment
6	Ore	A rock containing a high percentage of a mineral
7	Mineral	A naturally occurring element or compound
8	Quarrying	The process of extracting useful materials from the ground for construction
9	Resources	A source or supply from which a benefit is produced and that has some use
10	Landfill	A site for the disposal of waste materials by burial

1. Rusting		
1	Problems of Rusting – weakens metal and looks unattractive	
2	iron + oxygen + water ⟶ hydrated iron oxide $Fe + O_2 + H_2O \longrightarrow Fe_2O_3 \cdot xH_2O$	
3	**Prevention of Rust**	
	Oil	Acts as a barrier, stopping exposure to oxygen and water
	Paint	Acts as a barrier, stopping exposure to oxygen and water
	Sacrificial Protection	Another metal corrodes instead or iron, often zinc

3. Recycling	
Problems with landfill sites	
Atmospheric effects	Carbon dioxide and methane gases are released.
	Dust released
Hydrological Effects	Leachate (liquid formed when waste breaks down) is highly toxic and can pollute the land, water and water ways
	Toxins can kill animals that drink contaminated water
	Toxins can cause skin rashes, nausea, stomach pains, headaches and fever in people that drink contaminated water

Reasons to Recycle	
1	Has reduced the amount of waste put into landfills by 50%
2	There is a finite amount of metals on Earth and we are running out
3	Reduces the demand for our limited resources of materials and energy

2. Ores			
Common Name	Chemical Name	Method of Extraction	Equation
Haematite	Iron(III) oxide	Displacement (using carbon in blast furnace)	Iron (III) oxide + carbon ⟶ carbon dioxide + iron
Malachite	Copper (II) carbonate	Heating to decompose carbonate into copper oxide then displacement with carbon	copper (II) carbonate ⟶ copper oxide + carbon dioxide copper oxide + carbon ⟶ copper + carbon dioxide
Cinnabar	Mercury(II) sulphide	Displacement	
Quartz	Silicon dioxide	Displacement	
Limestone	Calcium carbonate	Displacement	
Bauxite	Aluminium oxide	Electrolysis	