

Meden School Curriculum Planning							
Subject	GCSE D&T	Year Group	10	Sequence No.	Skills Board 2	Topic	Joining Metals

Retrieval	Core Knowledge	Student Thinking
What do teachers need retrieve from students before they start teaching new content ?	What specific ambitious knowledge do teachers need teach students in this sequence of learning?	What real life examples can be applied to this sequence of learning to development of our students thinking, encouraging them to see the inequalities around them and 'do something about them!'
<input type="checkbox"/> The correct and safe use of the pillar drill and a twist drill bit to drill holes into steel. <input type="checkbox"/> What soldering is, and how it is done using a soldering iron.	<input type="checkbox"/> That metals can be joined by both permanent and non-permanent methods. <input type="checkbox"/> That using nuts, bolts and screws are all examples on non-permanent methods of joining metals. <input type="checkbox"/> That welding is a very strong and permanent method of joining metals. <input type="checkbox"/> That in MIG welding the wire acts as both the electrode and the filler material and that the inert gas reduced oxidisation, and enables much better-quality welds. <input type="checkbox"/> How to use a MIG welder correctly and safely to permanently join two pieces of mild steel. <input type="checkbox"/> The use of a centre punch for marking out steel prior to drilling it. <input type="checkbox"/> The correct and safe use of the pillar drill and a twist drill bit (retrieval) to drill holes into steel. <input type="checkbox"/> What a cold rivet is and how cold riveting is done using a rivet snap set. <input type="checkbox"/> That cold riveting can be seen in places such as the structure of the Eiffel tower, and in the manufacture of steel hulled shipping, boilers etc. <input type="checkbox"/> What a pop rivet is and how pop riveting is done. <input type="checkbox"/> That pop riveting can be seen in places such as aircraft manufacture and that it is particularly useful because it can be done from one side of the pieces being joined, (rather than needing access to both sides like cold riveting. <input type="checkbox"/> What soldering is and how it is done using a soldering iron, (which is more common in the electronics application of soldering) (retrieval). Also, that soldering can be done using a gas flame and that this is more common in plumbing applications of soldering.	<input type="checkbox"/> Consideration of the variety of metals that are contained in circuit boards and therefore the importance of ensuring that 'e-waste' is sent for recycling rather than to landfill.

	<ul style="list-style-type: none"><input type="checkbox"/> That both of the pieces being joined need to be heated prior to the solder being applied, as the solder will only join properly to the hot metal surfaces.<input type="checkbox"/> That the term addition is used to describe methods such as soldering, welding and riveting, (as materials are 'added' to other materials).	
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