Separate Science - Chemistry - Key Stage 4

C10 Using Resources

Alloys

Miss Offer

Independent task - Recall questions

Answer the following questions:

1. What are delocalised electrons?
2. What has happened in terms of electrons for a metal ion to be positively charged?
3. Why can pure metals be easily bent and shaped when force is applied?
4. What is an alloy?
5. Why are alloys harder than pure metals?

Independent task - Recall questions

Answer the following questions:

1. Which alloy is used to make statues?
2. Which alloy is used to make musical instruments?
3. Steel always contains which metal?
4. Which alloy is used to make cutlery?
5. Why would pure iron not be used to make cutlery?
6. Which 2 alloys are resistant to corrosion?

Interpreting alloy data - Independent practice

Carbon steel is an alloy of iron and carbon. The table below shows the percentage by mass of iron and carbon in 2 types

Type of carbon steel	**% by mass of iron**	**% by mass of carbon**
High carbon steel	98	X
Low carbon steel	99.5	0.5

1. Calculate value X in the table.
2. Explain why low carbon steel is softer and easier to shape than high carbon steel. Use the table and your own knowledge.
3. Which steel would be most useful for making tools like chisels? Why?