Experiment worksheet answers

3.7 Metals form unique bonds

Pages 82–83 and 199

Challenge 3.7: Modelling alloys

Discussion

1 Which ‘alloy’ was most malleable (able to be rolled out easily when cold)?

The alloy with the least sand.

2 Which ‘alloy’ was most ductile (able to be drawn out into a wire easily)?

The alloy with the least sand.

3 Which ‘alloy’ was most brittle (snapped quickly)?

The alloy with the most sand.

4 Did the amount of sand in the ‘alloy’ affect the size of the largest fracture surface? Explain your observation.

Yes. The more sand in the plasticine, the larger the fracture surface.

Conclusion

How does the alloying of metal affect its properties?

Alloying metal (by adding sand) interferes with the way atoms in the metal move against each other. This affects the metals properties.

Oxford Science 10 Western Australian Curriculum Teacher obook assess ISBN 9780190307295