

## Competition for oxygen – student sheet

### Introduction

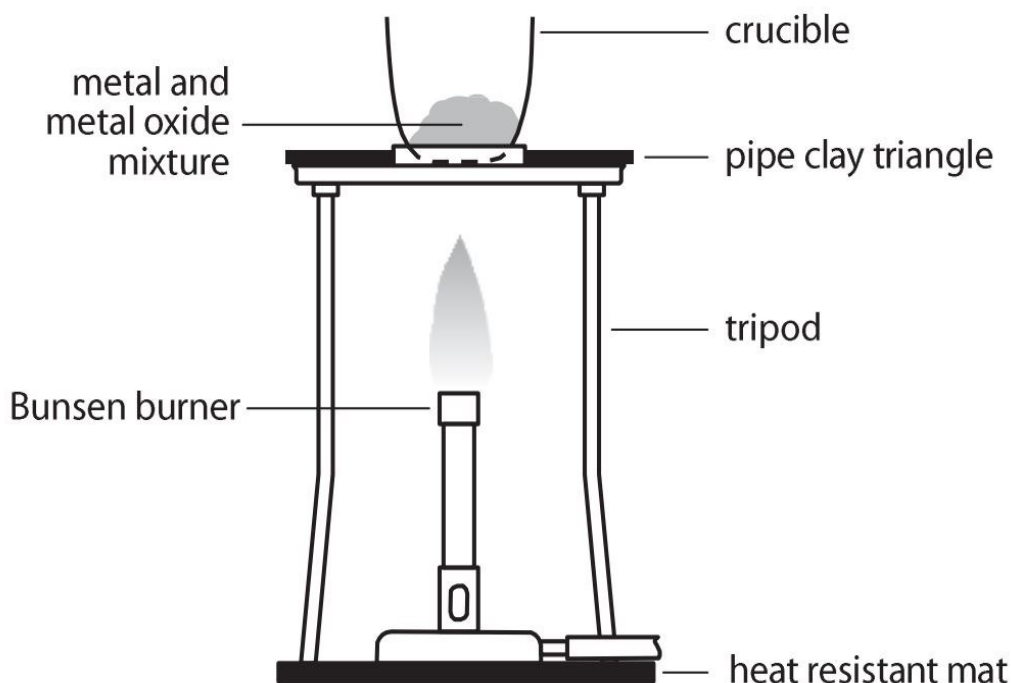
This experiment involves the reaction of a metal with the oxide of another metal. When reactions like these occur, the two metals compete for the oxygen. The more reactive metal finishes up with the oxygen (as a metal oxide). If the more reactive metal starts as the oxide, then no reaction takes place

### Health and safety

- Wear eye protection.
- Do not lean over the crucible.

### Procedure

1. Set up the apparatus as shown in the diagram provided below



2. Place one spatula measure of one of the reaction mixtures into the crucible.
3. Heat the mixture gently at first and then more strongly. Watch carefully to see what happens, but do not lean over the crucible.
4. Allow the mixture to cool. Look for evidence that a reaction has taken place.
5. Use your observations to decide which of the two metals has 'won' the competition for oxygen - which is more reactive?
6. Choose another mixture and repeat the experiment.

## Questions

1. Complete this table:

Reaction mixture	Does this mixture react?
Magnesium oxide and iron	
Lead oxide and iron	
Lead oxide and zinc	
Copper oxide and zinc	

2. Write word equations for any reactions that occur.