20 %	Find the equation for burning carbon in air.	$C + O_2 \rightarrow CO_2$	In this equation, what mass of oxygen will react with 12 g of carbon?
32 g	In this same reaction, what mass of CO_2 will be formed?	44 g	What is the formula for sodium hydroxide?
NaOH	What is the % by mass of oxygen in NaOH?	40 %	What is the % by mass of sodium in NaOH?
57.5 %	What is the % by mass of hydrogen in NaOH?	2.5 %	In a reaction, 50 g of product are expected but only 25 g are obtained. What is the % yield?
50 %	State the balanced equation for methane burning in air.	$CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$	In this equation, what mass of O_2 will react with 16 g of methane?
64 g	In this same reaction, what mass of CO_2 will be formed if 32 g of methane are burned?	88 g	In this same reaction, what mass of water will be formed when 16g of methane is burned?
36 g	What is the formula of sulfuric acid?	H_2SO_4	What is the % by mass of hydrogen in H_2SO_4?
2 %	What is the % by mass of sulfur in H_2SO_4?	33 %	What is the % by mass of oxygen in H_2SO_4?

65 %	In a reaction, 25 g of product are obtained, but the theoretical yield was 200 g. What is the % yield?	12.5 %	Find the equation for a neutralisation reaction.
$HCl + NaOH \rightarrow NaCl + H_2O$	In this equation, what mass of HCl will react with 80 g NaOH?	73 g	In the same reaction, what mass of NaCl will be formed?
117 g	In the same reaction, what mass of H_2O will be formed?	36 g	What is the formula for propane?
C_3H_8	What is the % by mass of C in propane?	82 %	What is the % by mass of hydrogen in propane?
18 %	In a reaction, 1 200 tonnes of product are obtained, but the theoretical yield was 24 000 tonnes. What is the % yield?	5 %	Find the equation for respiration.
$C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$	In this equation, what mass of oxygen would react with 45 g of glucose?	48 g	In the same reaction, what mass of carbon dioxide would be formed?
66 g	In the same reaction, what mass of water would be formed?	27 g	The total mass of the reactants was 93 g. What should the total mass of the products be?
93 g	If ammonia is the only product and the reactants weigh 2 kg, what is the theoretical yield of ammonia?	2 kg	If however only 0.4 kg are produced, what is the percentage yield of ammonia?

Teaching notes

This is a domino style activity which requires students to identify formulae, identify equations and complete calculations. These calculations include percentage yield, percentage by mass and calculating reacting masses. All are required by the common GCSE exam boards.

There are 32 cards, allowing it to be used with a whole class. The activity could also be done individually, in pairs or in small groups to produce a complete ordered set of cards.

As all the cards are quite challenging, none have been specifically singled out as more suitable for the most able / least able. However, you may wish to target particular question styles (e.g. identifying formulae / reacting masses / % yield) to particular students.