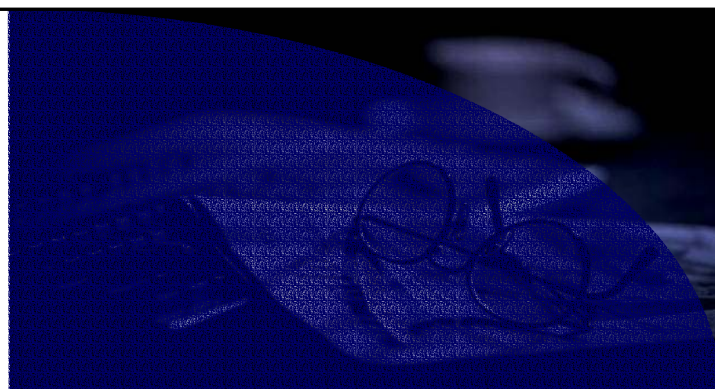


assessment for learning

year 7...mark scheme



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## 7F Simple chemical reactions...mark scheme

### Assessment for learning...year 7 (level 3-6)

#### Question 1:

- (a) sulphur dioxide 1  
nitrogen oxides 1  
*answers may be in either order*
- (b) **a reference to sulphur dioxide is required**  
any **one** from 1
- higher concentration of sulphur dioxide by power stations
  - sulphur dioxide kills lichens
  - lichens affected by sulphur dioxide
- (c) water 1  
carbon dioxide 1  
*answers may be in either order*
- (d) carbon + oxygen → carbon dioxide 1  
*accept 'C + O<sub>2</sub> → CO<sub>2</sub>'*  
*do **not** accept 'carbon oxide' or 'carbon monoxide'*  
*do **not** accept 'carbon dioxide + water'*
- (e) oxidation 1  
*if more than one box is ticked award no mark*

[7]

**Question 2:**

- (a) any **two** from 2
- oil *accept 'petrol'*
  - gas
  - uranium **or** nuclear  
*accept 'geothermal' or 'peat'*  
*do not accept 'fossil fuel' or 'coal'*
- (b) can be grown **or** more trees can be planted 1  
*accept 'can be replaced'*  
*do not accept 'can be used again' or 'can be recycled'*
- (c) any **two** from 2
- wind
  - wave *do not accept 'water'*
  - tidal
  - solar *accept 'the Sun' or 'sunlight'*
  - biomass **or** a stated biomass, such as straw  
*accept 'alcohol' do not accept 'wood'*  
*accept 'hydroelectric'*  
*accept 'geothermal' unless used as the answer to (a)*  
*do not accept 'nuclear'*
- (d) any **one** from 1
- thermal *accept 'heat'*
  - radiant
  - light

**[6]**

**Question 3:**

- (a) oxygen → magnesium oxide 1  
*both parts of the equation are needed*  
*do not accept 'air' for oxygen*
- (b) nitrogen 1  
**the following explanations are only applicable to nitrogen: if any other answer is given above a mark cannot be awarded for the second part**
- any **one** from 1
- contains no oxygen *accept 'the other jars all contain oxygen'*
  - nitrogen is unreactive *accept 'nitrogen does not support burning'*

**[3]**

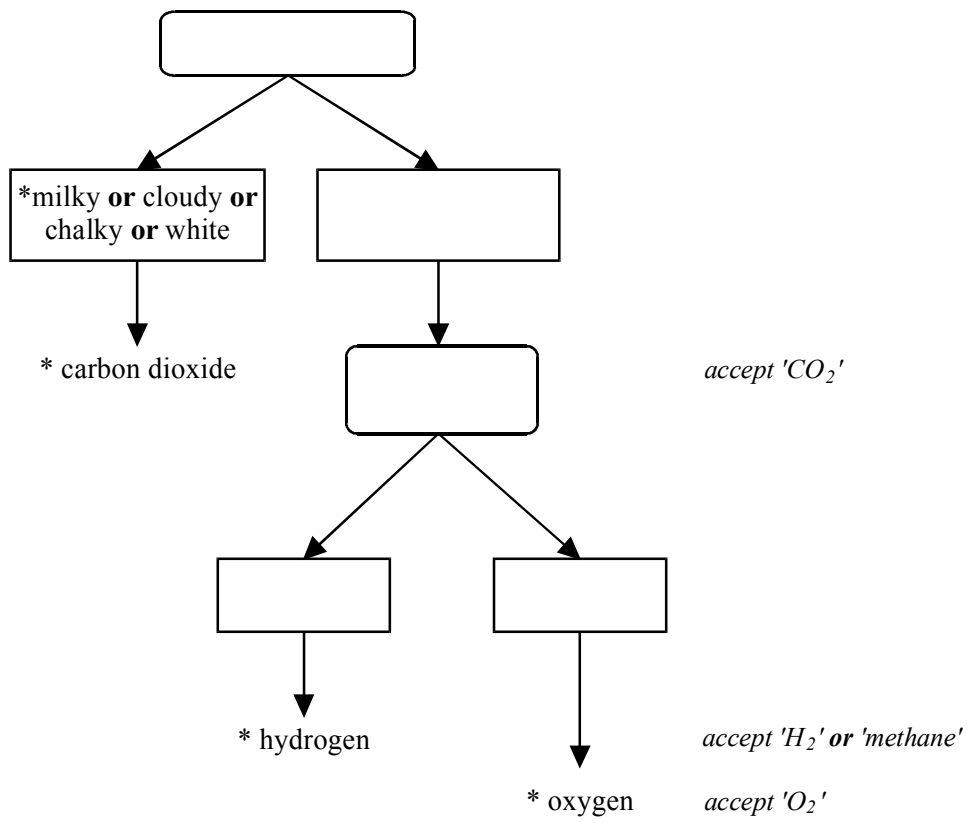
**Question 4:**

- (a) rises **or** increases 1  
*accept 'goes up' **or** 'gets hot' **or** 'gets warmer'*
- (b) by thermal transfer 1  
by light 1  
*answers may be in either order*  
*accept 'heat' **or** 'heating the air' **or** 'conduction'*  
***or** 'convection' **or** 'by air molecules'*  
*accept 'conduction and convection' for both*  
*marks*  
*accept 'radiation' **or** 'infra red'*
- (c) (i) oxygen 1  
*accept 'O<sub>2</sub>'*  
*do **not** accept 'O'*
- (ii) **answers should give a reasonable way of providing an inert atmosphere in the bulb** 1  
any **one** from  
  - no oxygen inside bulb
  - inert **or** noble **or** named noble gas inside bulb*accept 'vacuum **or** no air inside bulb'*  
*accept 'nitrogen **or** carbon dioxide inside bulb'*  
*do **not** accept 'air tight'*

**[5]**

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**Question 5:**



[4]