

Answer on Question #57364 - Chemistry - General Chemistry

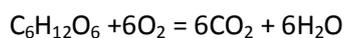
Question:

glucose + oxygen = carbon dioxide + water

1. If 360g of glucose is burned, how much water will be formed

Solution.

The reaction of glucose burning



Molar weight of glucose:

$$6 \times 12 + 12 \times 1 + 6 \times 16 = 180 \text{ g/mol}$$

Amount of moles of glucose

$$\frac{360 \text{ g}}{180 \text{ g/mol}} = 2 \text{ mol}$$

So, burning of 2 moles of glucose forms $2 \times 6 = 12$ moles of water (molar weight 18 g/mol), which correspond to

$$12 \text{ mol} \times 18 \frac{\text{g}}{\text{mol}} = 216 \text{ g}$$

Answer: 216 g