The Gimli Glider – Teachers notes

HSW concepts: Errors, units

Chemistry concepts: Density

This example of a density calculation going wrong, with potentially disastrous consequences, could be used to emphasise the importance of using and checking units.

Answers to questions

1. 7,682 litres x 0.803 kg/litre = 6169 kg.
2. 22,300 kg – 6,169 kg = 16,131 kg.
3. 16,131 / 0.803 kg/litre = 20,088 kg
4. 7,682 x 1.77 = 13,597 ‘kg’
5. 22,300 – 13,597 = 8,703 ‘kg’
6. 8,703 / 1.77 = 4,917 litres.

Further information

There is a news clip about this story with further details on:

http://archives.cbc.ca/IDC-1-69-240-1155-20/that_was_then/life_society/gimli_glider

Further details of the flight, the plane and the consequences are on Wikipedia:

http://en.wikipedia.org/wiki/Gimli_Glider .