Y9: Handling Experimental Data

Although the questions below are set in the context of density measurements, this task is really about general concepts relating to units and processing data.

1. The volume of a regular cuboid (3D rectangle) can be found by measuring the length, height and width of the object.

   What is the correct way to calculate volume using these three measurements? Select the right answer from the drop-down list provided.

2. If the three measurements are all made in centimetres, what will be the correct unit for the calculated volume?
   Select the right answer from the drop-down list provided.

3. What unit is equivalent to the answer to Q2 but is used for measuring liquid volumes? Select the right answer from the drop-down list provided.

4. The density of a metal block was calculated by six different groups of students. The results of those calculations are shown in the table below.

Group	1	2	3	4	5	6
Calculated density (kg/m^3)	2.54	3.1	21	2.4	2.99	2.79

   Which is the correct reason why the 21 kg/m^3 result is likely to be wrong? Select the right answer from the drop-down list provided.

5. In the box below, type the word that means a suspicious result, like 21 kg/m^3 in the results above.

6. Calculate the correct value of the mean density for the results in the table above. Type your answer in the box provided.
   Give your answer to three significant figures.

   Mean density = [   ] kg/m^3