“IS THERE AN OCEAN IN THE HOUSE?”

|  |  |
| --- | --- |
| Level | **Investigations** |
| Topic | Salinity |

**‘*Bench top’* 1(GTV 1.1)**

*Making an Ocean in the House*

Procedure 1 support data sheet

**Precision**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Test 1 | Test 2 | Test 3 |
| Weight container + 1 L water |  |  |  |
| Weight container |  |  |  |
| Weight 1 L water |  |  |  |

Highest value for 1L water (a) =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_gms

Lowest value for 1L water (b) =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ gms

Difference, (a) – (b) =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_gms

Margin of error = difference/2 (c)

Mid-point of results range = (b) + (c) =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_gms(d)

Your measure of **precision** = (d) +/- (c) =\_\_\_\_\_\_\_\_\_+/-\_\_\_\_\_\_\_\_\_gms

If your scales measure to a precision of +/-1gm which is more precise, weight or volume?

**Accuracy**

Using volume

Average value from your 3 samples=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Actual weight of 1 Litre of fresh water =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(What was your source for this information?)

Difference between your average from 3 samples and actual =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

This is the bias of your accuracy. (is it a negative or positive bias? i.e. is your value less or more than actual?)

If we make the assumption that the scales have been correctly set, standardized and calibrated, which is the more accurate method for you, volume or weight?