MEASURING THE WATER CONTENT OF SNOW BY WEIGHT
Calibration

Weigh your outer-tube
Without anything in it.

Looks like it weighs
452.2 gms without water
Calibration

Next prepare the inner-tube with exactly 1.00” of water.

Now pour the water into the larger tube
Calibration

Now weigh the outer-tube with exactly 1.00” of water inside it.

The result with this particular tube is 653.0g
Calibration

Subtract the original weight of the outer-tube (452.2g) from your measurement (653.0g) to find the weight of the “one inch of water”:

\[
\begin{align*}
653.0g \text{ (outer-tube} & \text{ & 1.00” of water)} \\
- 452.2g \text{ (outer-tube)} & \\
\hline
200.8g \text{ per inch of water}
\end{align*}
\]

1.00” of water = 201g

0.01” of water = 2g
Snow Core

Take a snow core with the outer-tube of your gauge off of your *snowboard* for the snow water equivalent (SWE) of newly fallen snow. Take another snow core off *the ground* to determine the (SWE) of snow cover on the ground.
Weighing your snow sample

Now weigh your snow core in the tube

(for our example we will just weigh the snow core sample off our snow board)
Weighing your snow sample

This one weighs 624.2g
Weighing your snow sample

Subtract out the weight of the outer-tube.

624.2g (outer-tube & snow core)
- 452.2g (outer-tube)
172.0g weight of snow core
Finally divide the weight of the snow (172.0g) by (201g) to convert weight to depth.

\[
\frac{172.0\text{g}}{201\text{g/inch}} = 0.86 \text{ inches of water}
\]
Snow Water Equivalent (SWE)

“The depth of water that would result from the melting of a snow sample”
- AMS Glossary of Meteorology
Reporting (SWE)

For new snowfall report SWE in box #1. Box #2 for SWE of total snow on the ground.