Gluten content investigation

Objective
Carry out this experiment to investigate the gluten content of different types of flour.

Resources:
- Flour – strong plain, plain, self-raising or cake flour
- Weighing scales
- Measuring jug
- 3 Small bowls
- spoon
- Running water
- Baking tray
- Oven

Method:
- Weight 50g of each type of flour.
- Mix each sample of flour with 25ml of water to make a stiff dough. Weigh the sample and record the information.
- Cover each ball with cold water and leave for 5 minutes.
- Knead each dough ball carefully between the fingers under a slow stream of cold running water.
- At first the water running away will be milky coloured, when the water becomes clear most of the starch will have been washed away.
- Squeeze the excess water from the gluten ball and leave to dry.
- Compare the size and weight of the three different gluten balls. Pull each sample and notice the differences.
- Place the three samples on a baking tray (label) and bake in a hot oven for about 10-15 minutes. The gluten balls should expand and be crisp and dry on the inside and outside.
- Weigh each sample and record the information.
- You can calculate the amount of gluten in each:

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\begin{align*}
\text{Flour original weight} &= 50g \\
\text{Gluten ball after baking} &= ?g \\
\% \text{ gluten in flour} &= (\frac{?}{50}) \times 100
\end{align*}
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- Cut each sample in half and compare the structure and texture of the gluten balls.