BIOLOGY: FOOD TESTS

- Handling solid samples (if needed)
  1. Chop 1cm3 of solid sample into small (like really small) pieces using a knife (should be given)

  OR

  grind 1cm3 of solid sample using mortar and pestle.

  2. Add the crushed food sample into a test tube containing 2cm3 of deionised water
  3. Shake thoroughly to allow the food sample to dissolve into the water
  4. Decant (throw away the solid) the solution into a clean test tube

  (Tip: Prepare sufficient sample solution to conduct Benedicts and Biuret tests)

Benedict's Test: Test for reducing sugar

1. $2cm^3$ of Benedict solution to $2cm^3$ of liquid sample.
2. Shake thoroughly.
3. Heat in hot water bath for 5 minutes. — during prac, take from HW tap.

Results	conclusion
remain blue	absent
green / yellow ppt	traces / small amts
orange ppt	moderate
Brick-red ppt	large amt

NOTES!!

- Always swirl the container before collecting any liquid sample
- Syringes will be provided for collection of food samples.
- Do NOT measure reagents with syringes. Estimate the volume by the height. (eg. $2cm^3$ of X sol. to U → depth of 2cm)

Biuret Test: Test for protein

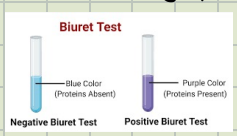
Old syllabus:

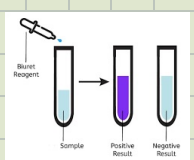
1. $1cm^3$ of NaOH to $2cm^3$ liquid sample
2. Shake thoroughly
3. 1% $CuSO_4$ drop by drop.
4. Shake after each drop.

Results	conclusion
remain blue	absent
violet concentration	present

New syllabus:

1. $2cm^3$ of Biuret solution to $2cm^3$ of liquid sample
2. Shake thoroughly.

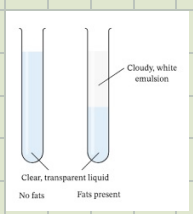




Ethanol Emulsion Test: Test for fats

1. $2cm^3$ C_2H_5OH to $2cm^3$ sample — enables fats to dissolve due to its insolubility. ↓ causes cloudy white emulsion
2. Shake thoroughly
3. $2cm^3$ of distilled water

Results	conclusion
clear liquid	absent
emulsion	present



Iodine Test: Test for starch

Solid sample

1. Few drops of iodine solution to solid sample

Liquid sample

- few drops of iodine solution to $1cm^3$ of liquid sample

OR

- few drops of iodine solution to liquid sample on WHITE TILE

Results	conclusion
remains	absent
turns blue-black	present