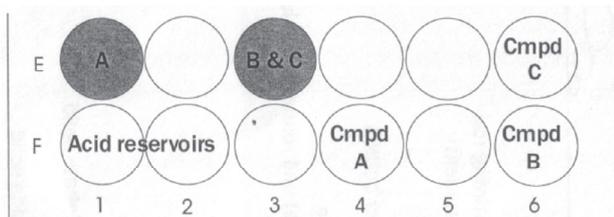


INDIGESTION: AN ACID PROBLEM

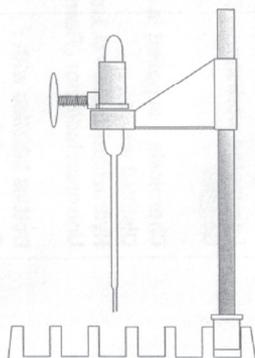
The stomach makes hydrochloric acid. This helps to break down food ready for digestion and help protect us from invading microbes. However, sometimes we make too much acid because we eat irregularly or we eat the wrong types of food. This gives us indigestion. We can relieve the symptoms by taking an indigestion tablet which helps neutralise the high levels of acid in our stomach. In this experiment you will test several powders to see which one is the best one for neutralising the acid.



Eye protection must be worn in this area



Universal indicator is flammable



Method

Do not eat any of these powders!

1. Place the Comboplate[®] over the diagram opposite so that the large wells align with the diagram. Decide how many spatulas of powder you wish to test (max. 3). Remember you need to test the same amount of each powder for it to be a fair test.
2. Count out this number of level microspatulas full of powder into F4 for compound A, F6 for B, and into E6 for compound C.
3. Add 2 drops of universal indicator to each well.
4. Fill F1 and F2 with hydrochloric acid, then fill the pipette with acid and place into the holder - see bottom diagram.
5. Position the pipette above the first powder in F4 by putting the insert and stand in E1.
6. Slowly screw in the knob counting each drop as you add it - you may wish to make a note to help you keep track.
7. You must stir in the acid after each addition.
8. Once the colour of the indicator changes to permanent orange/red, then the reaction has finished.
9. Refill the pipette with acid and move the drop controller (E3) over the next powder (compound B) in F6.
10. Repeat once more for compound C.

Write down all your results and observations in your book.