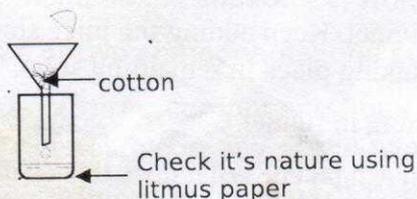


### Task 3: Ash residue & Lemon juice

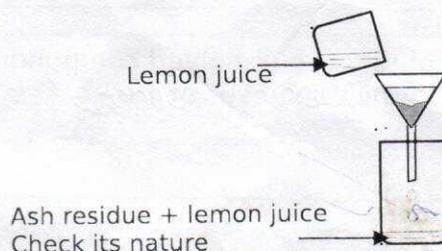
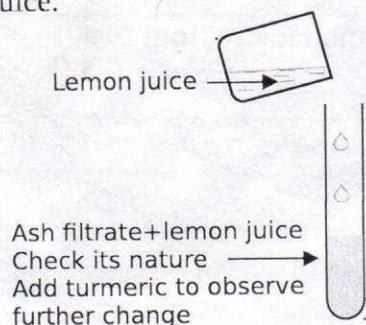
**Step 1:** Squeeze some lemons and strain the juice through a tea strainer or filter it through cotton. Check if this juice is acidic, basic or neutral.



Q.1. What observation is expected when lemon juice is added to the filtrate? What is expected when this is added to the solid remaining in the funnel?

The color of lemon juice would be the most visible and the nature will slightly acidic.

**Step 2:** Take some ash filtrate in a test tube, add some lemon juice and note down the observations. Add some turmeric and see if there is change in acidity/basicity of the filtrate after adding lemon juice.



**Step 3:** Take the funnel containing the residual ash from task 2 and put another empty beaker under the funnel. Add lemon juice to the solid in funnel. Note what you observe (the change in colour, texture, any gases evolved, smell, heat) and what does this indicate.

On adding lemon juice in the precipitate, bubble formation takes place, the smell is purely of lemon extract.

**Step 4:** Check if the filtrate collecting in beaker below is acidic, basic or neutral.

Acidic (slightly) of PH about 2-3.

Q.2. Is any part of ash dissolving in this lemon juice?

Yes

Q.3. With which of the following substances, would you observe the similar effect as observed on ash with Lemon Juice? Table Salt, Washing Soda, sand, coal, carbon, chalk powder

Washing Soda

**Step 5:** Add about 20 mL more of lemon juice to the funnel. Keep adding the juice slowly and keep stirring till you observe no further dissolution/change taking place in remaining solid.

**Step 6:** Note the colour and texture of the solid remaining in funnel.

Q.4. Is the solid looking different now than the original ash taken. What does this change tell about the components that dissolved in water/lemon juice?

Yes it looks different. So, some components of ash ~~water~~ mixes with the lemon juice.

Q.5. Has the amount of solid in funnel decreased after adding the lemon juice?

The amount of ash in funnel has decreased negligibly.

Q.6. Can we obtain the dissolved components (in water and in lemon juice) from the filtrate back in their solid state? How?

No.

#### Task 4: Ash Filtrate & Its Uses

**First day:** Take about 5 mL milk each in two separate test tubes. In one of them, add 3-4 mL of the ash filtrate collected in **Task 2**. Keep the other test tubes as it is as a reference. Cover the two test tubes with aluminium foil/paper and keep them aside for about 10 hours.

Q.1. What should happen to the milk in the two test tubes if you leave them for few hours?

The test tube which has milk mixed with filtrate is neutral in nature whereas the other test tube has spoiled & became curd which is acidic in nature.

**Second Day:** Check the next day: what differences do you see in the two test tubes?

Q.2. What effect did ash filtrate have on the milk?

Milk was earlier acidic due to lactic acid has now become neutral.

**Cleaning Oil spots:** Take a small piece of cloth and put 2-3 drops of cooking oil on it. Then dip this cloth in the ash filtrate and see if you can remove the oil stain from the cloth.

Yes, at beginning a white stain is to be seen, after drying the stain would be completely gone.