

## WABOLL and WAGOLL

This resource accompanies the article **Secure student success writing titration methods** in *Education in Chemistry* which you can read at: [rsc.li/3UhHUhQ](https://rsc.li/3UhHUhQ)

| Don't just say ...                                 | Instead, say ...                                                                     | Because ...                                                         |
|----------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Clean out the burette and pipette before use       | Rinse the burette with sodium hydroxide and the pipette with hydrochloric acid       | It removes any potential contaminants                               |
| Fill the burette with sodium hydroxide             | Fill the burette with sodium hydroxide using a funnel                                | It is safer and prevents spillage                                   |
| Add hydrochloric acid to a flask                   | Add hydrochloric acid to a flask and place on a white tile                           | It allows the colour change to be seen more clearly                 |
| Write down the amount in the burette               | Read the initial volume on the burette at eye level or to the bottom of the meniscus | It removes parallax error and gives a more accurate volume          |
| Add universal indicator to get a colour change     | Add phenolphthalein/methyl orange                                                    | It gives a sharp colour change rather than gradual or range colours |
| Add sodium hydroxide until you get a colour change | Add sodium hydroxide dropwise until you get a permanent colour change                | It gives you a more accurate volume                                 |
| Read the amount in the burette                     | Read the final volume on the burette at eye level or to the bottom of the meniscus   | It removes parallax error and gives a more accurate volume          |
| Record the amount of sodium hydroxide added        | Record the volume of sodium hydroxide added                                          | Liquids are measured by volume                                      |
| Repeat the experiment                              | Repeat until you have concordant results                                             | It allows you to identify anomalous results and calculate a mean    |
| Work out the amount added                          | Calculate the volume added by subtracting the initial volume from the final volume   | Shows your understanding of the increasing scale on the burette     |