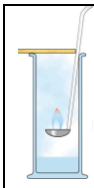
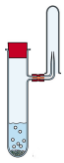
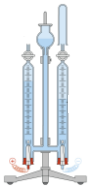
Aufgabenart: Informationssuche, Richtig/Falsch-Beurteilungen, Berechnung, Zeichnen; (Englisch)
Fokus: Sachverständnis, rezeptive Verwendung der englischen Fachsprache

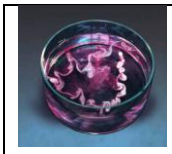
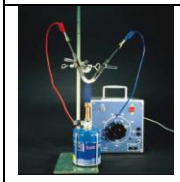
Please work on the following tasks!

T1 The pictures in tables a) and b) represent some properties of acids and alkalis. Write down the properties next to each picture.

a) Properties of acids

b) Properties of alkalis

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T2 Search the Flash-tool for the following formulas:
KOH, H_2SO_4, HCl, $Ca(OH)_2$, Na_2CO_3, H_3PO_4, $NaOH$, HNO_3
Then draw a table into your exercise book using the scheme below:

formula	English name	German name	acid or alkali?

T3 Write the states of matter of the pure substances into the brackets behind the formulas:
HCl ( ), $NaOH$ ( ), NH_3 ( ), Na_2CO_3 ( ), $Ca(OH)_2$ ( )

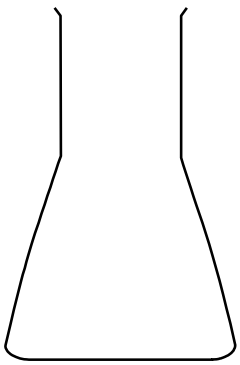
T4 Mark the right statements with „✓“ and the wrong ones with „×“. Correct the wrong statements in your exercise book.

☐ Acids are formed if metal oxides react with water.
☐ Acids are corrosive.
☐ The indicator bromothymol blue turns yellow when an acid is added.
☐ If you electrolyse an acid, oxygen gas is formed at the cathode.
☐ According to Arrhenius an acid forms hydrogen ions in aqueous solutions.
☐ Ammonia is not an alkali, because there aren´t any hydroxide-ions in the NH_3-molecules.
☐ The formula of hydrochloric acid is HCl (g).
☐ The pH value gives information about the amount of matter of hydroxide ions in a solution.
☐ Antacids neutralise excess gastric juice in your stomach.
☐ Cosmetics with “pH-neutral“ written on them have a pH of 7.

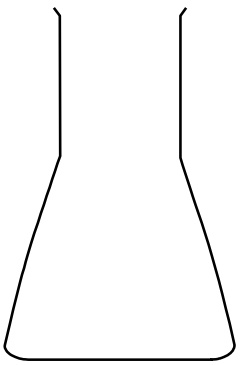
T5 In a titration of 20 mL sodium hydroxide solution with hydrochloric acid, c = 0,05 mol/L, a volume of 12 mL acid was used for reaching the end point of the titration. Calculate the concentration of the sodium hydroxide solution using the calculation in the Flash-tool as an example.

T6 Draw the relevant particles, which can be found in the flask at the indicated times during the titration from T5, into the flasks:

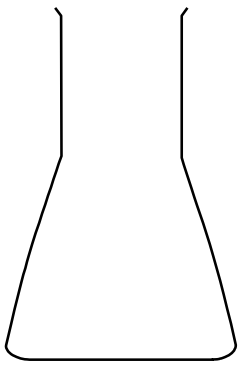
a) before the titration



b) before reaching the end point of the titration



c) at the end point of the titration



d) after reaching the end point of the titration