

## Part B

### Systematic investigation in chemistry

#### 11. Execution (Time 30 minutes)

You are going to carry out an investigation to find out:

**Which** one of the three solids common salt, bicarbonate **or** sugar has the best neutralizing capacity when they are mixed in an acidic solution?



**In your execution, you are going to:**

- work according to your plan or the prepared experiment instruction.
- consider the safety instructions your teacher has informed you about.
- take notes on your results in a table.

## Part B

### Experiment instruction for a systemic investigation in chemistry

You are going to carry out an investigation to find out:

**Which** one of the three solids common salt, bicarbonate **or** sugar has the best neutralizing capacity when they are mixed in an acidic solution?

#### Equipment:

Common salt, bicarbonate, sugar, a hydro chloric solution (prepared by your teacher), BTB, plastic cups or beakers, paper bun cases, spoons, graduated glass cylinder, goggles and apron.

#### Risks with the experiment:

Consider the safety instructions informed by your teacher.

#### Method of investigation:

1. Mark 3 beakers with **A**, **B** and **C**.
2. Measure 20 ml of the hydro chloric solution and pour in beaker **A**, beaker **B** and beaker **C**.
3. Add BTB in beaker **A**, beaker **B** and beaker **C**.
4. Note and write down your observations.
5. Measure common salt, bicarbonate and sugar.
6. Add common salt in beaker **A**.
7. Add bicarbonate in beaker **B**.
8. Add sugar in beaker **C**.
9. Take notes on your results in a table.

## Part B

### Systematic investigation in chemistry

#### 12. Evaluation (Time 30 minutes)

a) Present your results for the three compounds in a table.



b)

- Draw a conclusion, from your results, on which of the three compounds that has the best neutralizing capacity.
- Explain the conclusion using your chemistry content knowledge.



Suppose you can do the investigation once again.

c)

- Give **one** suggestion on an improvement of your investigation to make your result more reliable.
- Explain why this improvement would give a more reliable result.

