

PRODUCT WARS: MARKET RESEARCH

These activities are designed for 60-minute lessons. You may need to adapt the materials for use in longer or shorter lessons.

INTRODUCTION

In this activity, pupils are invited to carry out a survey to gather information about smoothie drinks. This activity will help pupils to prepare for the other activities in this case study.

This activity is mainly ICT based. It has been designed for use with pupils in an ICT suite although it could be adapted for use in a maths classroom equipped with a data projector and whiteboard. It is suggested that pupils work together in pairs or small groups to encourage appropriate levels of participation and discussion.

The activity contains 3 options offering varying degrees of challenge. Different groups within your class can work on different options. Alternatively, you may prefer to ensure each group has a mix of pupils. This will help to create appropriate conditions for peer support.

These different options are as follows:

- **Option A:** Pupils are presented with a pre-defined questionnaire and a data sheet containing a batch of pre-prepared sample data. Pupils are asked to process the sample data and to analyse the patterns and trends found within. This option is considered appropriate for learners working at **level 3 – level 4 of the National Curriculum**.
- **Option B:** Pupils are presented with a pre-defined questionnaire and a blank data sheet. Pupils are asked to carry out a survey using the questionnaire with other pupils to complete their data sheet. Pupils are then asked to process their data and to analyse the patterns and trends found within. This option is considered appropriate for learners working at **level 4 – level 6 of the National Curriculum**.
- **Option C:** Pupils are presented with a blank questionnaire outline and a blank data sheet. Pupils are asked to complete the questionnaire then carry out a survey with other pupils using their questionnaire to fill in the data sheet. Pupils are then asked to process their data and to analyse the patterns and trends found within. This option is considered appropriate for learners working **at or above level 6 of the National Curriculum**.

OBJECTIVES

- Pupils will collect data.
- Pupils will represent data using a range of measures, diagrams and charts.

RESOURCES

- Pupils will need a copy of the appropriate form(s) of the questionnaire.
- You will need a projector for the start and end of the lesson.
- Pupils will need paper and basic materials to construct their graphs and create their presentations. This may include graph paper, pairs of compasses, colouring pencils, sugar paper, scissors and glue.
- Pupils may require access to computers if they are going to use computer-generated graphs and charts instead. They will also need access to computers to access the feedback tool so they can evaluate how well they did on the task.

DELIVERING THE CASE STUDY

The activity can be used as a tool for teaching, for revision or for consolidating and extending pupil understanding.

There are 4 phases to the task:

1. Introducing the use of questionnaires

- Play the introductory Brad King video for this activity.
- Take time to introduce the appropriate form(s) of the questionnaire, e.g. discussing the issues surrounding questionnaire design.
- You may also wish to discuss basic sampling techniques, e.g. highlighting the need for pupils to ask a balance of both males and females.

2. Data collection

- Pupils should be given the appropriate form(s) of the questionnaire.
- If you have chosen Option A, pupils will use a pre-defined questionnaire and some pre-prepared data.
- If you have chosen Option B, pupils will use a pre-defined questionnaire with twenty people gathering opinions and recording responses on a blank data sheet.
- If you have chosen Option C, pupils will create their own questionnaire on a blank questionnaire outline then use their questionnaire with twenty people gathering opinions and recording responses on a blank data sheet.

3. Analysing and representing the data

- Pupils should be asked to analyse their data using averages and measures of spread, where appropriate.
- Pupils should be asked to produce a summary of their findings, representing their data using bar charts, pie charts and histograms as appropriate.
- You may wish to use some of the graphs in the Misrepresenting Data presentation to remind pupils of the key points when constructing graphs and charts.

4. Presenting their findings to the group

- Either to the whole class or in small working groups.

HOMEWORK SUGGESTIONS

Pupils should be asked to complete their summary of the data in order to present back to the class during the next session.

Alternatively, pupils could be asked to write up an evaluation of the activity.