




**Quick View**

**There are 3 parts to this lesson:**

<b>1</b>	Introduction: Using FLOWOL to represent a production line	
<b>2</b>	Writing a FLOWOL program	
<b>3</b>	Profit and Loss	
	Homework: Report summary page	

## Delivery

### 1. Introduction: Using FLOWOL to represent a production line

This activity introduces pupils to manufacturing techniques but the focus is on the production line method.

Show pupils **presentation8a** - this looks at manufacturing and uses FLOWOL to show the process as a flow chart. There are **notes8a** and a **worksheet8a** to support it.

**Group activity** Show **presentation8a** on the large screen

**Individual** Pupils view their own version in **activity 8 / start**

Show pupils the language cards **language8** for this lesson.

### 2. Writing a FLOWOL program

Using **worksheet8b** pupils are required to think about their own maze and create a flow chart for the production of it based on the example in the presentation.

Key questions should relate to:

- The materials being used, as this may affect the manufacturing processes.
- The sequence of events.
- Checks and feedback to ensure quality control.

Pupils should use FLOWOL to test their production line. They are not required to link it to a mimic although some pupils may like to attempt this by drawing their own.

### 3. Profit and Loss

Using **example8b** pupils can explore profit and loss by entering expenditure and profit details into a spreadsheet. They can model various situations by adding new expenditure, number of mazes sold and the selling price for each maze.

**Group activity** Show **presentation8b** on the large screen

**Individual** Pupils view their own version in **activity 8 / end**

If pupils have time, they may wish to reflect on any work that has not been completed fully and revisit it. For most pupils, this will not be the case and they will need this part of the activity to complete the main task.

**Homework:**

Give out the sheet **homework8**. This homework asks pupils to write a summary page for their final report.

You may feel it appropriate to provide the homework sheet in electronic format for those pupils with computer access at home. Consideration should then be given to:

- How they would return the work and the style - electronic or printed
- Virus protection
- Authenticity of the work

## Objectives

### Developing Ideas

#### Pupils should be able to:

- Identify the key elements of a problem and represent components in a plan.
- Use precision and accurate syntax when framing instructions.
- Test and refine sequences in order to achieve specific outcomes.
- Recognise that sequencing instructions is fundamental to a wide range of ICT applications.

#### Pupils should be taught to:

- Understand manufacturing processes.
- Write a sequence of events to simulate a production line.
- Use FLOWOL to create a simulation of a production line.

## Preparation

### Have you:

- Identified the key elements of this lesson
- Understood the school ICT policy in the areas that may affect this lesson
- Thought about the seating arrangements for any large group demonstration
- Checked that the whiteboard or large screen has been set up
- Ensured that all pupils can access the relevant software
- Prepared any extra work to be used for differentiation
- Prepared any work that teaching assistants may require
- Looked at any presentations and worksheets and are familiar with their content
- Practised the skills required that need demonstrating
- Prepared any key word displays

### Required IT skills for this lesson:

Using a large screen / whiteboard
PowerPoint presentation
FLOWOL skills

## Differentiation & Extension

Consider the following for some pupils:

- A partly completed sequence for the production of a typical maze
- A partly completed FLOWOL program for a typical maze
- Creation of a mimic to support their FLOWOL program
- Including sensors as part of their FLOWOL program

The following resources are available to pupils. Printable versions can be accessed in the 'all resources' within each lesson and are useful for reinforcement, extension or general support.

- 2 Wordsets with audio support
- 2 Wordsearch activities
- 2 Interactive crosswords

## Homework & Language

**Homework:**

Give out the sheet **homework8**. This homework asks pupils to write a summary page for their final report.

You may feel it appropriate to provide the homework sheet in electronic format for those pupils with computer access at home. Consideration should then be given to:

- How they would return the work and the style - electronic or printed
- Virus protection
- Authenticity of the work

**Language for learning:**

flowchart

## Resources

### For this lesson:

### You will need

- Large screen display or whiteboard
- Access for pupils to **Unit 8.5 > Activity 8**
- FLOWOL

### Teacher Resources:

These are accessed by opening the **Teacher Resources File** on the CD (or network).

Resource Description	Filename	Format
Language Cards	language8	Word PDF
Presentation on manufacturing systems	presentation8a	PowerPoint
Notes on presentation	notes8a	Word PDF
Worksheet on manufacturing systems	worksheet8a	Word PDF
Flowol example	system	Flowol
Animated GIF of system	system2	GIF
Spreadsheet for Profit/Loss	example8b	Excel
Worksheet on Profit & Loss	worksheet8b	Word PDF
Activity sheet	task8	Word PDF
Summary sheet	summary8	Word PDF
Homework sheet	homework8	Word PDF
Activity answer sheet	act8answers	Word PDF

**Pupil Resources:**

These are accessed by opening the **Pupil Resources File** on the CD (or network).

Resource Description	Filename	Format
Worksheet on manufacturing systems	worksheet8a	Word PDF
Worksheet on Profit & Loss	worksheet8b	Word PDF
Activity sheet	task8	Word PDF
Summary sheet	summary8	Word PDF
Homework sheet	homework8	Word PDF