













Quick View

There are 4 parts to this lesson:

1	Introduction: Troy's Toys example LOGO program	 
2	Writing a LOGO program to follow an example maze	  
3	Designing and writing their own LOGO program	    
4	Plenary: Introduction to procedures	 
	Homework: automated systems	

Delivery

1. Introduction: Troy's Toys example LOGO program

Pupils should have designed some mazes for homework. They can choose / modify the best ones using simple criteria to aid selection (review, modify and evaluate)

This activity requires pupils to use LOGO to show the path that needs to be cut for the ball bearing to travel around the maze.

Develop this by discussing:

- Methods of production and terms such as CNC (computer numerical control)

Show the **example6a** program - Troy's Toys and discuss how this has been written and what it does.

Pupils who have used LOGO before may well see how this program could be improved.

Group activity Show **example6a** - financial terms

Individual Pupils view their own version in **activity 6 / start**

Show pupils the language cards **language6** for this lesson.

2. Writing a LOGO program to follow an example maze

Using **worksheet6a** pupils now write a LOGO program using the example given.

There is **handout6a** about LOGO commands to support this worksheet.

3. Designing and writing their own LOGO program

Pupils were asked to draw 2 possible designs for their maze. These should now be discussed within the group and final choices made.

Develop this by:

Challenging pupils about their choice and discuss simplicity and ease of manufacture.

Encourage pupils to opt for the 'easier' option as time may be at a premium.

- They should then write their own LOGO program that would cut the path for the ball bearing for the chosen maze. There is a **worksheet6b** sheet to support this

4. Plenary: Introduction to procedures

Activity 7 requires pupils to use procedures. Introduce this concept by asking pupils to look for common sets of commands within their own program. These can then be written as procedures and 'called' when required.

Procedures are also called subroutines

Homework:

Give out **homework6**. This asks pupils to think about automated systems and include some information about them within their final presentation.

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.
- Automate simple processes by harnessing software tools; recognise where automation tools, such as filtering, can be used to improve safety when using the internet.
- 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:

- Load and examine a prepared LOGO program
- Develop a set of LOGO instructions from a diagram.
- Use MSW LOGO and write a program to simulate the cutting of the maze.
- Understand how common elements of a program can be simplified into procedures.

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

LOGO skills

Differentiation & Extension

Consider the following for some pupils:

- Examples of LOGO programs
- Wall chart of LOGO commands
- Advanced LOGO commands
- Smaller groups for teaching the skills required for this lesson

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:

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Language for learning:

programming language
manufacture

procedure

subroutine

Resources

For this lesson:

You will need

- Large screen display or whiteboard
- Access for pupils to **Unit 8.5 > Activity 6**
- LOGO handout (skill revision)

Teacher Resources:

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

Resource Description	Filename	Format
Language Cards	language6	Word PDF
Worksheet on planning a maze	worksheet6a	Word PDF
Handout on LOGO commands	handout6a	Word PDF
Worksheet on planning own maze	worksheet6b	Word PDF
Activity sheet	task6	Word PDF
Summary sheet	summary6	Word PDF
Homework sheet	homework6	Word PDF
Activity answer sheet	act6answers	Word PDF

Pupil Resources:

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

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