

# THROUGH THE MAZE

*To become familiar with Logo commands.*

†† Pairs.

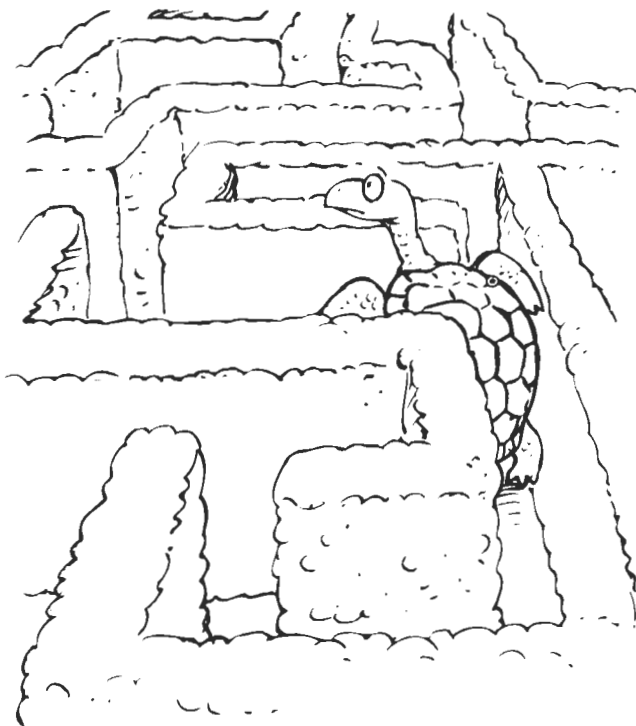
🕒 30 minutes at the computer; 20 minutes discussion/demonstration.

## **Previous skills/knowledge needed**

The children should have had a brief introduction to the common Logo commands and be familiar with 90° right-angle turns.

## **Key background information**

Controlling the screen turtle requires a good deal of estimation. This activity involves moving the screen turtle through a maze and gives the children practice in using the Logo language while also providing feedback with respect to their estimations of distance. The maze is much easier to tackle if all the turns are right-angles, although you could offer the more able children a maze with a variety of angular turns. The task is very straightforward and gives the children a good opportunity to experiment with the Logo commands. There is no correct answer to the task and the children are



encouraged to use a process of trial and error. The path through the maze merely provides them with a guideline which they should try to keep to.

### Preparation

Attach a piece of acetate to the computer monitor and carefully trace round the edge of the screen to outline the working area. Also mark the starting point where the turtle will be at the beginning of the journey. Remove the sheet and, using a permanent pen, mark out two lines in a maze pattern then attach the sheet to the screen again. You may prefer to start with 90° turns only, including a variety of angular turns later as the children's confidence develops. You could produce several mazes of varying complexity to provide a more clearly differentiated task.

### Vocabulary

Logo, maze, direction, right, left, forwards, backwards, right-angles.

### Resources needed

A computer, screen turtle Logo software, a printer, acetate sheets, a permanent marker pen.

### What to do

Demonstrate the maze activity to the children, making sure that they are familiar with how to use right-angled turns or other degrees of angle as appropriate. Explain that they must enter commands to move the screen turtle around the maze without going outside the 'walls'. Let them work in pairs at the computer, using a maze which is appropriate to their ability. The outcome is less important than the

process of interacting with the software and using and understanding the Logo language. Although 30 minutes is recommended for this activity, you could set a challenge and have the children working against the clock.

### Suggestion(s) for extension

The confident children would enjoy a more challenging maze with a variety of different turns, excluding the simpler right-angled turns.

### Suggestion(s) for support

Keep the mazes simple for the less confident children, using only a limited number of right-angled turns. The smaller the mazes, the more quickly they should be completed, as there is less opportunity for errors in their estimations.

### Assessment opportunities

This activity will allow you to assess how well the children create, test and modify the sequences designed to get the turtle through their maze. How able are they in estimating distances on the screen and entering appropriate sequences at the keyboard? Do they have a clear understanding of what the various Logo commands do?

### Display ideas

Mazes make exciting display material. You could display some photographs of real mazes from around the country alongside your own mazes designed for Logo work. Enlargements of printouts of successful routes would add further interest to this.

## LOGO BOOKMARK

*To use Logo to produce a design for a purpose.*

†† Pairs.

⌚ 45 minutes at the computer; 15 minutes discussion/demonstration.

### Previous skills/knowledge needed

The children should be familiar with the common Logo commands and be able to colour fill areas of pattern. However, it is important to bear in mind that interesting results are often obtained by accident when children first start to use the software.

### Key background information

You could consider the use of Logo for any simple design, such as a plate of favourite food, an animal, a spacecraft or a 'tag'-style signature. In this activity, the children use the Logo language to produce a design for a bookmark. Although it could be done more successfully using graphics software, this more prescriptive activity will provide an opportunity for the children to use Logo for a purpose.