

The Workcards

How the cards are constructed

Some cards have no sample program to start with and the pupils are required to construct the program 'from scratch'. Other cards begin with a sample program, which the pupils are required to edit. In some cases, guidance is offered as to what each part of the sample program does. The learning takes place with the trialling. Pupils should try and understand the function of each program line. It is good practice to experiment. For example, remove a line, but first make a prediction as to the likely outcome. Try changing the numbers in the white boxes, but always make a prediction first. With this type of trialling, pupils will soon develop simple programming skills and learn to think creatively. The key rubric is: **predict - trial - review**. This underpins the whole learning process.

How to use the cards

It is wise to do most of the first set in sequence as there is a high 'tutorial element', but thereafter, it is more important to select particular topics as they are required. However, this approach may result in the need to teach quickly a few more instructions before the selected card can be tackled.

The easier route is to use the cards in sequence as far as possible. This will enable the pupils to learn all the facilities of Logo in a logical sequence, with plenty of consolidation cards included.

All the cards include challenges, some of them, substantial. The investigations are spread throughout the 3 sets and most of them are open-ended.

The third set can be dovetailed with the other 2 sets. It begins with some basic numeracy practice and should be brought forward as considered appropriate, but the first card of the set is essential to the next 5. Cards 3.7 and onwards are revisiting old skills but with a new content.



Spike Logo The Teacher's Quick Start Guide Card 1.1

This card replaces cards 1.2 to 1.5 (for a quick start).

Although the cards are designed to be used by the pupils, it is recommended that the teacher demonstrates the content of the first 5 cards.

This can usually be achieved in 1 session.



1. Please ensure that you are using the latest fully registered version of Visual Logo (the software for **Spike Logo** - the scheme), so that all the software facilities are available to you.
2. Select level 1 - this is the starter level. (For details see card 1.2.) Move the cursor to the left and the menu will appear.
3. Drag and Drop the word **Forward** from the menu to the **Test Page**. Type a number between 0 and 100. Click on **Run**. [**Pen Down** simply tells Spike to draw a trace when he moves]. (For details see card 1.3).
4. Add **Right** to the **Test Page** by Dragging & Dropping. Type a number (between 0 and 200) into the box. These are degrees. As you click on **Run**, Spike turns right by the number of degrees you have typed. Edit this number to make Spike turn a right angle. (For details see card 1.4).
5. To remove an instruction from the **Test Page**, Drag & Drop it to the recycle bin (bottom right of the screen). Write a short program using **Backward** and **Left**. Make Spike turn a half turn and a quarter turn. (For details see card 1.5).
6. You may wish to demonstrate card 1.8, which shows other ways to edit a program.

Getting to Know the Software

Use an Interactive Whiteboard or Mouse.

Hi! I'm Spike,
the LOGO spider.



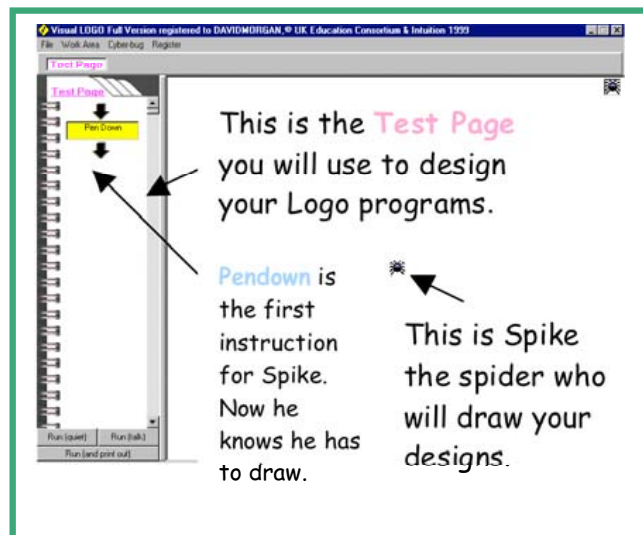
Level 1

Level 2

Level 3

1. Select **Level 1** by clicking with the mouse on that button.

2. The screen is divided into two sections. The **Test Page** is where Spike's instructions appear. He carries out these instructions on the rest of the screen.



3. This is the list of instructions that you can give Spike if you choose the **Level 1** button. The **list appears** as you move (or move the mouse) across the screen towards the **Test Page**.

The next card shows you how to place these instructions on the **Test Page**.

Forward
Backward
Left
Right
Repeat
End Repeat



You know how to **select the right level** to start.

Select level 1

Spike is a special spider.
He can spin wild and wonderful webs.
Spike will let you create your own web designs.



New instructions:
Forward

1. **First** you must learn to
Drag & Drop.

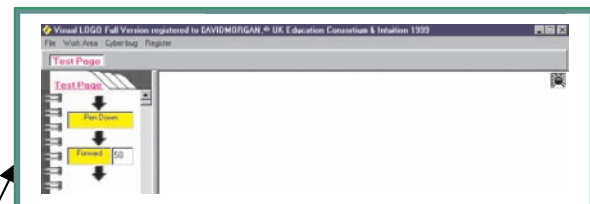
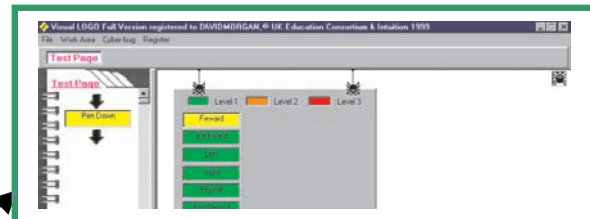
[This can be done with a mouse
or whiteboard.]

Select the instruction **Forward**
Drag & Drop Forward to the
Test Page and place it under

Pen Down

A white box has appeared next
to the word **Forward**.

Forward



2. **Type a number between 0
and 100** into the white box. Now
click on the grey box at the
bottom.

Run

Spike was standing in the centre
of the screen. Where has he
moved to? What has he left
behind? Delete the number and
try a different one.



You know how to **Drag and Drop** instructions
onto the **Test Page** to make Spike move.

You can make Spike move and leave a trail.

Select level 1

Spike can turn in either direction.
Today he is turning right.
Can you teach him to turn a **right angle**?



In card 2 you discovered how to move Spike Forward, by **Dragging and Dropping**.
Whenever you see **D&D** you **Drag & Drop**

New Instructions:
Right

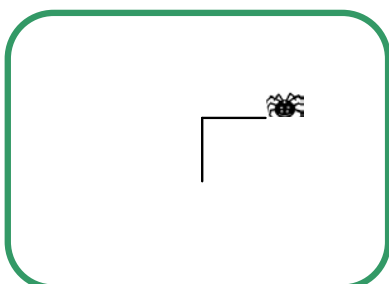
Now **D&D Forward** type in 50, click on

Spike has moved forward but he is still facing up the screen.

D&D Right type in a number between 0 and 200.

Watch carefully as you click on
Which way is Spike facing?

Try different numbers. Which number turns Spike through a **right angle**?



You know how to turn **Right**.

You know which number makes Spike turn an exact **right angle**.

Did you know, I make about 5 metres of web before I can catch my breakfast in the morning. That's about 1000 times my own body length!



You can use the words **Backward** and **Left** in the same way as **Forward** and **Right**.

New instructions:
Backward
Left

D&D Backward onto the **Test Page**.
Type in a number between 0 and 100.

Click on

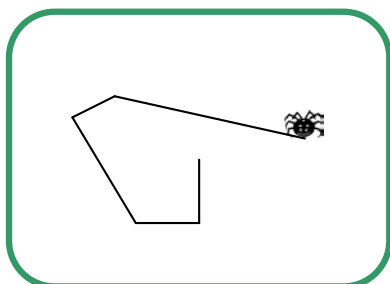
Spike has moved again, but this time backwards.

D&D Left onto the **Test Page**.
Type in a number between 0 and 200.

Click on

Spike has turned to the left.
Change the number in the **Left** box (this is called editing). See if you can make Spike do a quarter turn, a half turn and a whole turn.

To clear the **Test Page** or remove an instruction, **D&D** it to the bin in the bottom right of the screen. Then you can start a new list of instructions for Spike. Take Spike for a walk around his web, using the four words you know so far (**Forward**, **Backward**, **Right**, **Left**). Try lots of different numbers to see what happens.

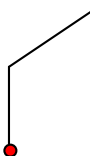


You know how to move Spike backwards and to make him turn left.
You know which numbers make a quarter turn, a half turn and a whole turn.
You know how to edit and how to remove an instruction to the recycle bin.

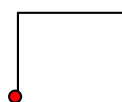
Make Spike draw these simple shapes, using **Forward**, **Backward**, **Right** and **Left**.
Begin the shape from the red dot •



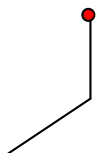
1



2



3



4



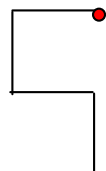
5



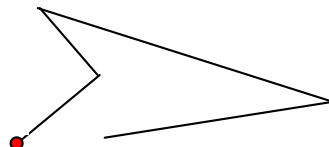
6



7



8



Try some shapes of your own

Select level 1

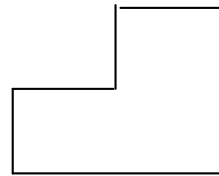
Time for exercise!



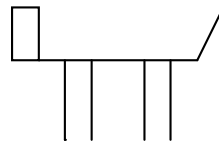
Using **Forward**, **Backward**, **Right** and **Left**, exercise Spike around this rectangle:



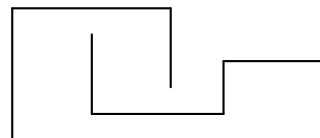
Try this shape ...



.... and this animal



.... or this maze.



If you have time,
design some shapes of your own.