Ten easy steps to creating great MicroWorlds EX projects.

Steve Robson
MicroWorlds EX is an amazing control program. It can be used to make wonderful computer based projects, which look and sound great, as well as being fun to use. MW EX will help develop important ICT skills while at the same time really being fun.

With it you can make:

- Interactive storybooks
- Presentations
- Computer Games
- Quizzes

and many more besides.

This book will help users to progress through the program by answering some of the more commonly asked ‘How do I...?’ questions which occur in the classroom.
This is easy, but there are lots of ways to do it. Here are the basic ones you might need.

If you just want to make him jump across the screen, try these commands out:

- `fd 100`
- `bk 200`
- `glide 500 1` (move across the screen 50 steps at speed 1)

Just to get the turtle to move, right click the turtle and choose animate!

Click the button tool, then enter the short program. Click OK and click your new button.

What happens?

Can you change it?
How do I turn the Turtle?

Three easy ways!

Use `rt` or `lt` in the command window to turn turtle left or right. You will need to use a number to tell turtle how far to turn.

So it might be `rt  90` or `lt`.

The second way is to type `seth <number>` into the command window. 0 is north or up the screen, 90 is east or heading right across the screen, 180 is south or heading down the screen, 270 is west or heading left across the screen. There are 356 others to choose from!

Try putting it on a button, like this;

Click the button tool to make a button,

Leave ‘do it’ set to ‘once’ or turtle will spin on the spot!
Good question! Stop everything by typing `stopall`. But that stops everything in the whole project. If you started a turtle moving with `animate` (see page 4), use this command to stop it:

`clickoff`

If you have more than one turtle on the screen you can talk to the one you want to stop, like this:

`tto “t1 clickoff (that talks to turtle one)`

If everything is getting out of hand, click the hand tool to stop all!
MicroWorlds has a full graphics toolbox built right into the program. It has all the tools and colours you will need to make your projects look great. Open the paint tools by clicking on the yellow diamond icon.

You can also paste in any picture from another program or from the Internet. Just paste it onto your page, right click and stamp it onto the page.
How do I change turtle’s shape?

You can make turtle look like anything you like. There are lots of shapes (sometimes they’re called sprites) for turtle to wear in the program; open the painting toolbox with the button.

This button opens the single shapes, select a shape and click on turtle – simple!

This button opens the animated shapes, select a set of shapes by holding down shift, then click on turtle.

The paint window contains painting tools, backgrounds and two sets of turtle shapes, single and animated.
So you want to make your own turtle shape – can you do that? Yes – you could get any picture from the internet or one you have drawn and use it as a sprite in your project. Here’s how. Draw your shape on the screen with the painting tools.

Select the shape with the selection tool.

Then paste the shape into an empty box in the shape window.

Last step, click on your newly pasted shape to select it, then click on a handy turtle—voila!
How do I change a page?

Your project can have lots of pages in it, so it’s great for presentations, games, stories, slideshows… But you will need to be able to move around your project. Here’s, how…

Create as many pages as you like by selecting new page from the Pages menu.

You can give the page a name if you want to, or you can copy a whole page by selecting Duplicate Page. The transitions affect how one page changes to another. You can use them or not.

You can move from page to page in lots of ways. Here’s three.

Method One (easy)
Click the page turn buttons at the top of the page. It’s that easy!

Method Two (still pretty easy)
Add a button to the screen, give it a label like Click me for the next page, then type the page you want to go to in the instruction slot. It doesn’t HAVE to be the next page...

Method Three (the hardest here)
Use your page turn instruction in a procedure; it might look like this:
to collision
announce [whoah! We hit!]
page3
end
You can make things happen when the turtle goes over an area of colour on the screen. This is very useful to control your projects.

Paint an area of colour onto your page, then right click it and select Edit.

You can put an instruction in the mouse or turtle lines, this means that you could have the program responding to the mouse pointer or a turtle crossing over a colour. In this example, the turtle turns round if it crosses an area of red.

Each turtle can have its own colour command. Just right click the turtle and choose open backpack. Click the Rules tab, and enter the command in the On Color line. The dropdown menu lets you choose which colour you want the turtle to respond to. That way, different turtles can do different things when they go over the same colour!
How do I make turtle do something when it hits another turtle?

This is really easy. Just two steps to control powerful collision routines!

Step 1
Right click the turtle, and choose Open Backpack.

Step 2
Open the Rules tab, and type the command into the OnTouching slot.

Some good commands to try in the OnTouching slot:
- `announce [Ouch, that hurt!]`
- `rt random 360`
- Try putting them together;
- `announce [watch out!] rt 45 clickon`
How do I add music & sounds?

Your projects will be much better if they have some sounds or music with them. Adding them is really easy.

Use the file menu and choose import. Decide if it is music or sound you want to include, this example is for music. You may need to navigate to the place where the sounds are saved on your computer. The program comes with lots of sounds, or you can import your own from the Internet. MicroWorlds EX can use midi files and .wav sounds.

If you tick the Embed into project box, the sound will be permanently part of your project, but it will make it bigger.

When the sound is on the screen, it looks like this.

To play it, you can click it, or call it from a procedure, like this;

```
To playmusic
launch [barber]
end
```

Launch starts the sound – playing, then lets the computer get on with the rest of your project so the sound plays while other things are happening.
If you click the microphone icon in the toolbar, you can record your own sound into your project. Of course, you will need to have a microphone connected to your computer to do this.

The final way is to click the musical notes icon.

This opens the built in music editor:

You can enter notes by clicking the piano keys, change note lengths, and change the voice and the tempo.

Click OK and the tune is added to your project.
How do I control turtle from the keyboard?

This is quite a hard one. You need to write a procedure into the procedure window, then call it from the command window, or from somewhere in your game. The basic procedure uses a command called readchar, which reads the keyboard to see which key is being pressed, then does something with it. Here’s an example.

Type this into the procedures window

to steer
let [key readchar]
if (ascii :key) = 37 [seth 270]
if (ascii :key) = 38 [seth 0]
if (ascii :key) = 39 [seth 90]
if (ascii :key) = 40 [seth 180]
end

Next, right click your turtle and select Animate, then type forever [steer] into the command window and press enter. You are now driving your turtle through the arrow keys!

...and here is the command window!
Some useful Logo commands

Make sure you have a turtle on the screen, try the command below by typing them into the command window, and pressing Enter.

- `fd 100`
- `bk 100`
- `rt 90`
- `lt 180`
- `glide 100 1`
- `glide 200 2`
- `ht`
- `st`

(right click, select animate, then try)
- `clickoff`
- `clickon`

- `pd` (then try a move command)
- `pu`

There are hundreds of Logo commands, look in the help menu in the program to see them all.