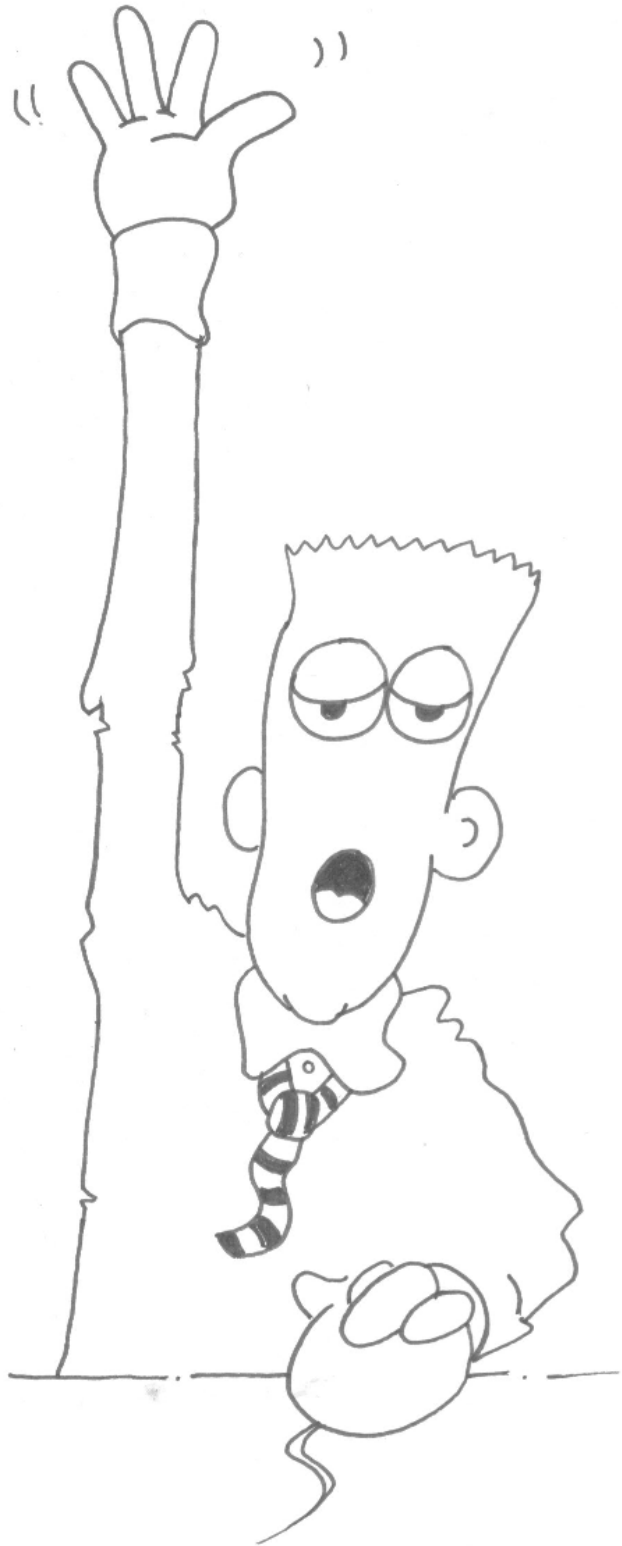
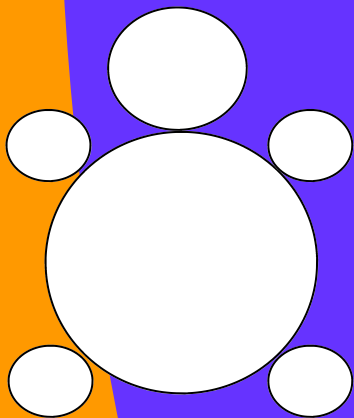


How do I ?



Ten easy steps to creating
great MicroWorlds EX
projects.

Steve Robson

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Introduction

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.

How do I move the Turtle?

This is easy, but there are lots of ways to do it.

Here are the basic ones you might need.

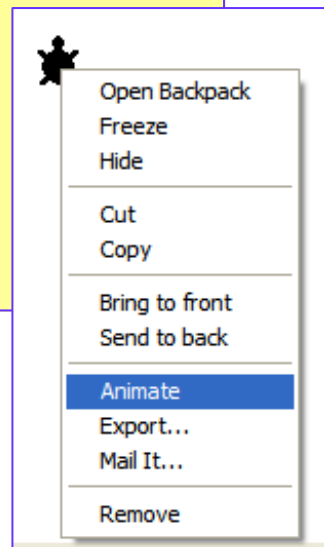
If you just want to make him jump across the screen, try these commands out;

```
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!



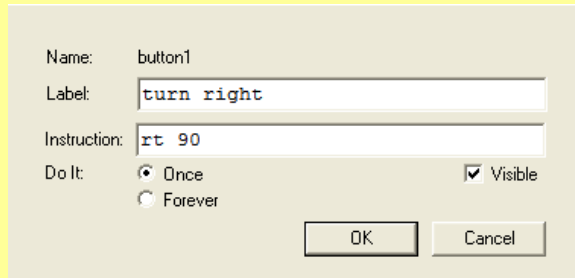
Name: button1
Label: Click Me!
Instruction: fd 10 wait 1
Do It: Once Forever Visible
OK Cancel

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?

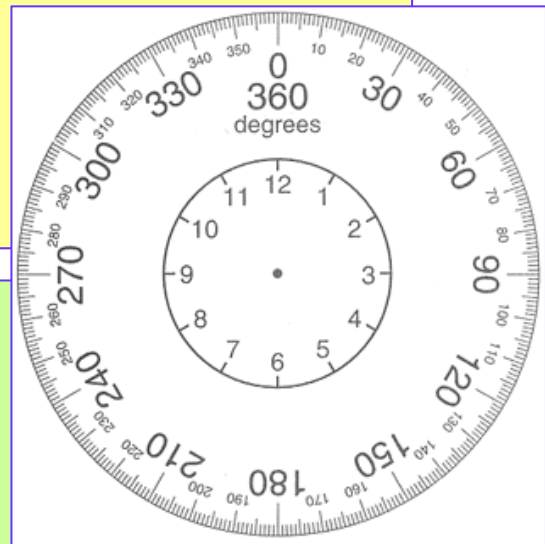


Three easy ways!

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`



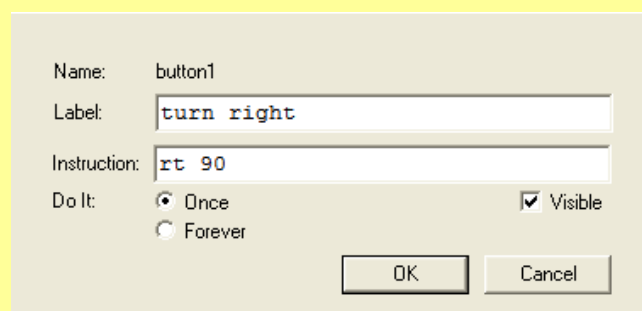
The second way is to type `seth <number>` into the command window
0 is north or up the screen
90 is east or heading right across the screen

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!

How do I stop the Turtle?

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:

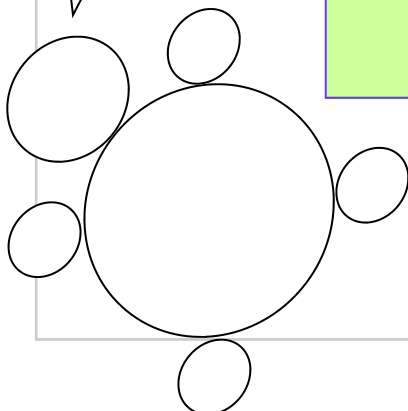
`clickoff`

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)

... or you could just click on me!



If everything is getting out of hand, click the hand tool to `stopall`!



How do I paint a background?

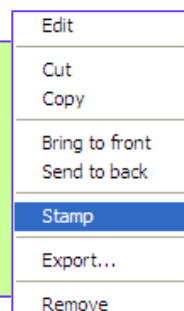
MicroWorlds has a full graphics toolbox built right into the program. It has all the tools and colours you will need to make your projects look great. Open the paint tools by clicking on the yellow diamond icon



The screenshot shows the 'Painting/Clipart' window with several sections:

- drawing and painting tools**: A row of icons for drawing shapes, lines, and text.
- eraser, double click to clear the whole screen**: An eraser icon with a callout box.
- shapes and sizes for brushes and pens**: A section with various brush and pen shapes and sizes.
- choose from these colours**: A color palette with various color swatches.
- paint transparency control**: A slider control with a '100%' label.
- fill textures and patterns**: A section with various fill patterns and textures.

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.



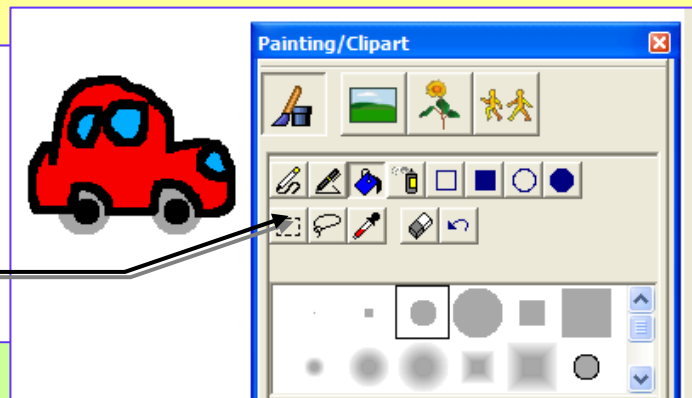
How do I make my own shape?

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.



selection tool

Select the shape with the selection tool.

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



how to get the shapes window

right click paste to get it here



Last step, click on your newly pasted shape to select it, then click on a handy turtle—voila!

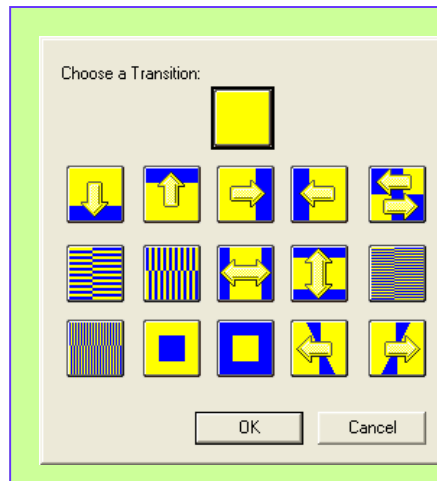
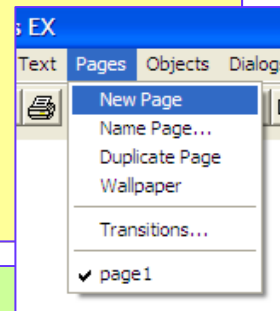
How do I change a page?

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.

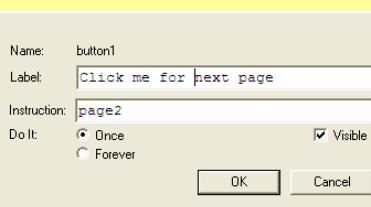
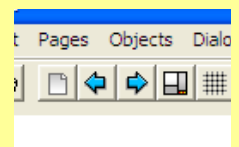


You can give the page a name if you want to, or you can copy a whole page by selecting Duplicate Page. The transitions affect how one page changes to another. You can use them or not.

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 2 (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!]

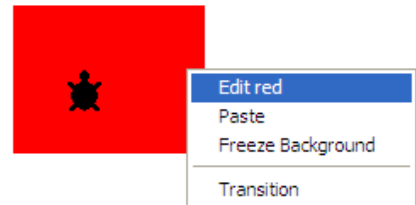
page3

end

How do I make turtle do something when it goes over a colour?

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**.



Type your instructions in here!

Instructions for: red

Mouse:

Turtle:

Once Each Time

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.

Backpack for: t1 on page1

Onclick Once Forever

OnColor Once Each Time

OnTouching

OnMessage

When this Do that

Audio Notes Rules Shapes State Procedures

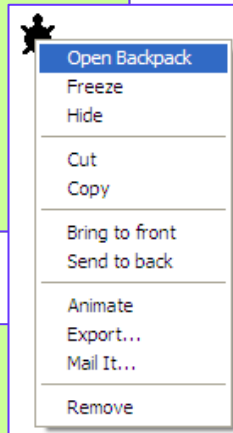
Each turtle can have its own colour command. Just right click the turtle and choose open backpack. Click the Rules tab, and enter the command in the On Color line. The dropdown menu lets you choose which colour you want the turtle to respond to. That way, different turtles can do different things when 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!

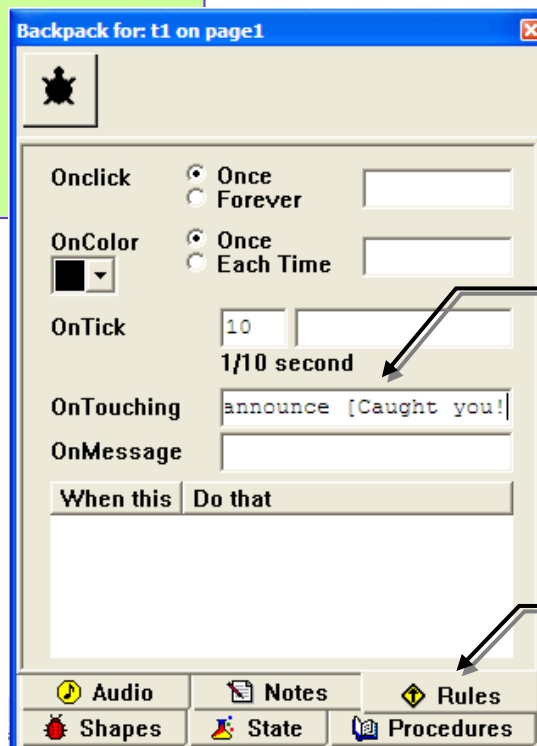
Step 1

Right click the turtle, and choose Open Backpack.



Step 2

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



OnTouching slot, your command goes here.

Click the Rules tab to see the page you need.

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

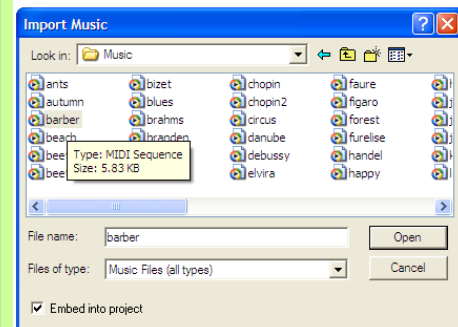
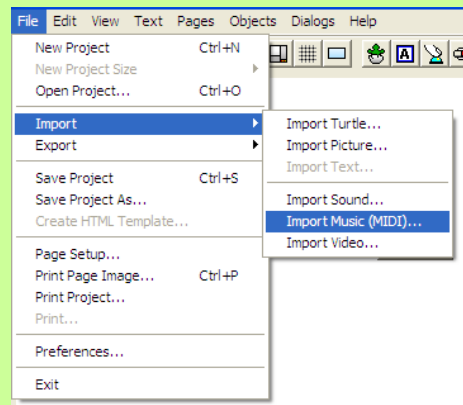
How do I add music & sounds?

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.

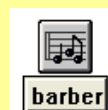
You may need to navigate to the place where the sounds are saved on your computer. The program comes with lots of sounds, or you can import your own from the Internet.

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.

More about sounds!

To make your project look better, right click the sound file and choose hide, it will still be there and work, but you won't see it on the screen.

Microphone icon

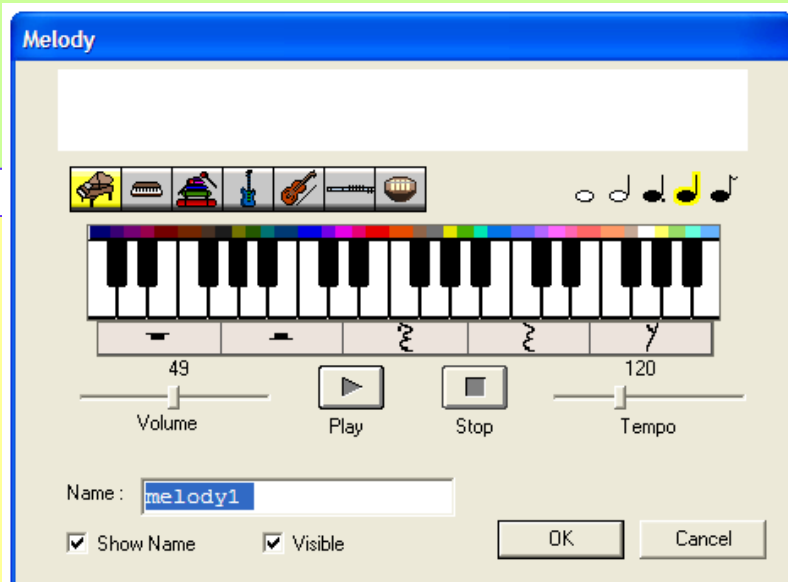
If you click the microphone icon in the toolbar, you can record your own sound into your project. Of course, you will need to have a microphone connected to your computer to do this.



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.

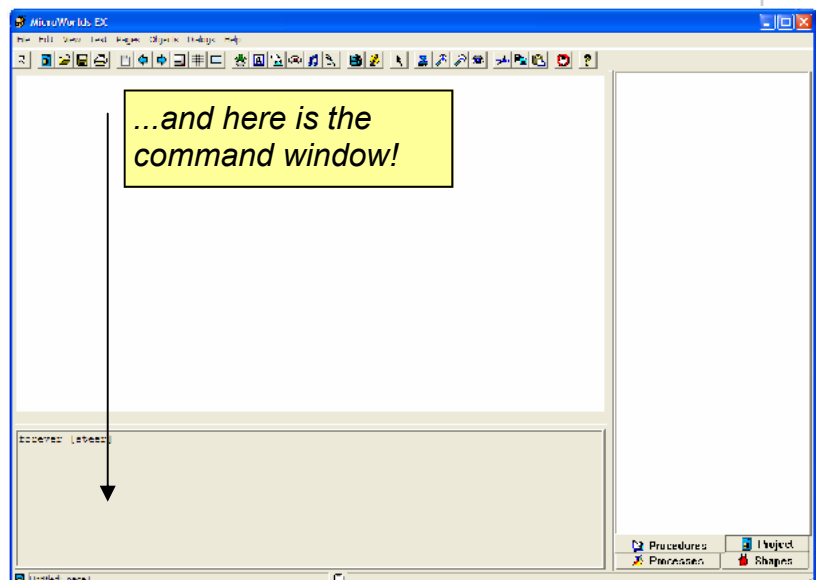
How do I control turtle from the keyboard?

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!



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.