Unit 4e
Modelling Effects on Screen

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This unit looks at the similarities and differences between instructions given to screen and floor turtles. It also develops 'procedure' writing.

Vocabulary

Procedure
Repeat
Pen up
Pen down
Clear

Resources

Floor Turtle
Super Logo
Graph paper

Assessment

All children will be able (with help) to create a simple procedure, and develop this to create a 'flower'. Most children will be able to create a 'flower' using one shape and rotating it, using repeat procedure and changing the angle of turn. Some children will be able to create 'flowers' using different shapes and rotating them using repeat procedures. Investigating complex shapes and sizes by changing the angle of turn.

Lesson 1 In Classroom

Teacher Task

Demonstrate how a floor turtle can be programmed to move in a square. Write instructions on the board :-

Forward 4
Right 90
Forward 4
Right 90
Forward 4
Right 90

Now show how you can use a repeat loop to make this simpler.

Repeat 4 [Forward 4, Right 90]

Allow some children to attempt this. Discuss 90 = 90 a right angle.

Lesson 2

Teacher Task   Still 1

Introduces Screen Turtle (Superlogo). Demonstrate how to move and clear screen. Discuss the space between command and number ie.

Forward – 100

Use forward 100 instead of 4. Discuss difference between Floor Turtle and Screen Turtle. Give out printed worksheet of instructions. Ask children to write a prediction of what shape will be drawn at bottom.

Pupil Task

Using instructions (in pairs) draw instructions.

<u>Learning Outcome</u>

Children will recognise that the same language is used to program the Screen and Floor Turtle. Children will recognise that the size of numbers used for distances is different.

<u>Extension</u>

Alter the numbers and discover what shape can be made.

<u>Lesson 3</u>

<u>Teacher Task</u>

Show examples of 2 letters drawn with Screen Turtle using only 45 or 90. Use graph paper (1 cm) to draw letters showing class. Explain that each square on the graph paper equals 50 Screen Turtle steps.

<u>Pupil Task</u>

Using graph paper draw first letter of name and begin writing your moves for Screen Turtle.

<u>Teacher Task   Still 2</u>

Demonstrate pen up and pen down.

<u>Pupil Task</u>

Each child writes their 2 letters on Screen and prints off.

<u>Learning Outcome</u>

Children can produce 2 shapes on screen and learn to move the Screen Turtle without drawing a line.

Lesson 4

As above, allow completion time.

Lesson 5

Teacher Task Still 3

Talk about repeating sequence and demonstrate a repeat Screen Turtle Instruction.
Type in   repeat 5 [forward 80, right 108]
Ask children how many sides do they think this shape will have?
Press enter, show what happens.

Pupil Task

Give out worksheets, let them do predictions first, then try it out.

Learning Outcome

Children learn how to use the repeat instructions and will predict what will happen.

Lesson 6

As above, allow completion of task.

Lesson 7

Teacher Task

Demonstrate Screen Turtle drawing a square. Move turtle about using pen up and pen down and repeat the square. Inform class you have taught turtle 4 new words demonstrate SQUARE.

<u>Still 4</u>

Demonstrate how changing numbers can make a bigger square.

<u>Pupil Task</u>

Let pupils test 4 procedures, and change sizes and steps noting what happens.

<u>Learning Outcome</u>

Children learn that sequences of instructions can be named and edited.

<u>Lesson 8</u>

<u>Teacher Task</u>

Using the 4 repeat procedures on computer tell children they are going to 'make' flowers on the screen.
Demonstrate.

Repeat 36 (square, right 10)

<u>Pupil Task</u>

In pairs, create their own 'flowers', print out. Colour in and display 'Electronic flowers'.

<u>Learning Outcome</u>

Children learn how to write procedures using standard commands.
Children learn to combine procedures to produce a desired outcome.