**Name**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Date**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

LOGO Lesson 1

# Do Now

Use the code to complete the diagram using a pencil and a ruler.

left 90°

forward 4

right 90°

forward 3

right 90°

forward 4

right 90°

forward 3

forward 2

left 90°

forward 2

right 90°

forward 2

left 90°

forward 2

forward 1

left 90°

forward 1

right 90°

forward 1

left 90°

forward 1

right 90°

forward 1

left 90°

forward 1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

forward 3

right 90°

forward 4

forward 2

left 90°

forward 2

left 90°

forward 2

forward 4

left 90°

forward 4

left 90°

forward 4

left 90°

forward 4

left 90°

**Homework written down? Green pen out?**

**Extension:**

Next to each instruction above write the instructions using LOGO abbreviations fd, lt 90 and rt 90.

# Learning objective:

To use LOGO to draw shapes, starting with letters of the alphabet.

# Activity One – S

1. With your partner, get some pens and pencils out of your pencil case. You’ll need a total of 6 pens or pencils.
2. Now arrange the pens/pencils into the letter ‘S’. [Note: you may not need all 6 pens.]
3. Get one of your pen-lids and imagine it is a small vehicle about to travel over the letter ‘S’.
4. Partner A should now put the pen-lid at the start of the letter ‘S’ that you’ve made.
5. Partner A moves the pen-lid over the letter slowly making sure they turn the pen-lid when they reach a corner.
6. Give the pen-lid to partner B to do the same.
7. Now do it one more time but as you do, whisper to each other what movements the pen-lid is making, e.g. “forward”, “turn left 90°”, etc.
8. Stop at this point and put your hand up to let the teacher know.

# Activity Two – T

**Use a pencil and ruler to sketch out the letter ‘T’. Then trace over it with a pen-lid thinking carefully about the turns you need to make.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Start |  |  |  |  |  |  |  | Write the LOGO instructions for drawing the letter ‘T’.  🖉 clear  🖉 home  🖉 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

**Now test your instructions in LOGO.** To access Logo, go to [www.tiny.cc/mathslogo2](http://www.tiny.cc/mathslogo2)

# Activity Three – O and P

Look at the letters ‘O’ and ‘P’ below. ‘O’ has already been annotated with the instructions needed.

**It’s your turn to annotate ‘P’. You choose where to start.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Start |  | Forward 2  Forward 2 |  | Right 90°  Right 90° |  |  |  |  |  |  |  |  |  |  |
| Forward 3 |  |  |  | Forward 3 |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Right 90° |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**LOGO Log #1**

**Write down what you have learned about LOGO so far today.**

Today, I have learned …………………………………………………………………………………………………………………………………………………..

…………………………………………………………………………………………………………………………………………………………………………………….

…………………………………………………………………………………………………………………………………………………………………………………….

…………………………………………………………………………………………………………………………………………………………………………………….

# Activity Four – Changing the Start Position

Look at this empty LOGO screen. You can see the turtle in the middle waiting for instructions.

Suppose you want to start drawing in the top left of the screen, **how could you move the turtle without drawing a line across the screen?**

**A: using ‘**pendown’

**B: using ‘**nopen’

**C: using ‘**penup’

**Type in the following commands into LOGO:**

|  |  |
| --- | --- |
| clear  home  penup  lt 180  fd 200  lt 90  fd 200  lt 90  pendown  fd 50 | **Describe what has happened.**  The turtle has 🖉………………………………………………………………………………………………………………………….  …………………………………………………………………………………………………………………………………………………….  …………………………………………………………………………………………………………………………………………………….  **Explain how the code has made this happen.**  The code works by 🖉…………………………………………………………………………………………………………………  …………………………………………………………………………………………………………………………………………………….  ……………………………………………………………………………………………………………………………………………………. |

**LOGO Log #2**

**Write down what you have learned since your last LOGO Log.**

Since my last LOGO Log, I have learned ………………………………………………………………………………………………………………………..

…………………………………………………………………………………………………………………………………………………………………………………….

…………………………………………………………………………………………………………………………………………………………………………………….

# Merit Challenges

**Number One**

Put everything we have learned today and use LOGO to draw the following:

**Tip:**

Trace round each letter using a pen lid.

**Number Two**

**Number Three**