## SoSLUG - GPIO Starter Kit Worksheet Dice Scratch GPIO

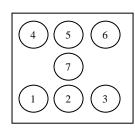
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## **SCRATCH GPIO**

In this example we are going to recreate the patterns of a board-game dice. Only six GPIO's are configured as outputs, so we need to make GPIO pin21 and output. One way to do this is to 'broadcast' to that pin, then immediately turn all outputs off.

We will also use a variable that we initially set to the number 1 to ensure a pattern is displayed on the LED's. We then generate a random number between 1 and 6 when the first button is pressed. We could then turn on and off all the 7 LED's so that each correctly corresponds to the dots on the dice for the number, this would make a rather long program, so we use the 'pin pattern' feature.

Sets a list of valid pins [26, 24, 23, 22, 21, 19, 18, 16, 15, 13, 12, 11, 10, 8, 7, 5, 3] to 0 or 1. This is an ordered list of pins set as outputs only with the lowest pin at the right hand side. In this example the LED's are number as shown to the left.



```
broadcast pin 21 On -
broadcast
set num v to 1
          pin8 sensor value = 0
   set num to pick random 1 to 6
          num =
     broadcast pin pattern 10000000
          num = 2
     broadcast pin pattern 0100001
          num = 3
     broadcast pin pattern 1100001
          num = 4
     broadcast pin pattern 0101011
          num = 5
     broadcast pin pattern 11010111
          num =
                 6
     broadcast pin pattern 0111111
```