

module 6

activity 21

Collecting the Ink Bubbles Creating the bubbles

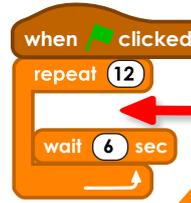
Select the Bubble sprite

1

Each time the flying Pen Bot tries to collect the ink bubbles, 12 bubbles will be created.

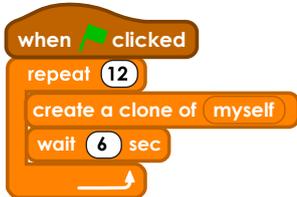


2



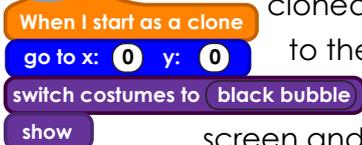
Inside the 'repeat 12' add a 'create a clone of myself' block. This block creates a clone of the bubble sprite.

When I start as a clone
When a clone is created it will carry out the instructions under this block.



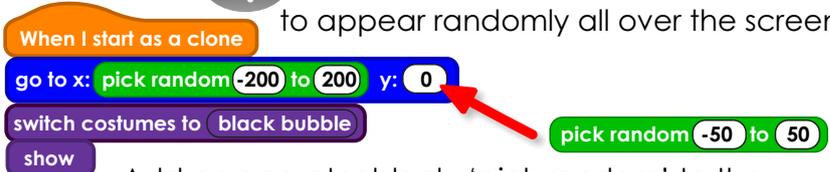
3

These lines move the cloned bubble to the middle of the screen and sets the costume to black bubble.



4

However the cloned bubbles need to appear randomly all over the screen.



Add an operator block, 'pick random' to the x: and y: values of the 'go to' block.

5

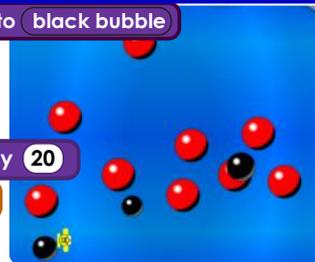
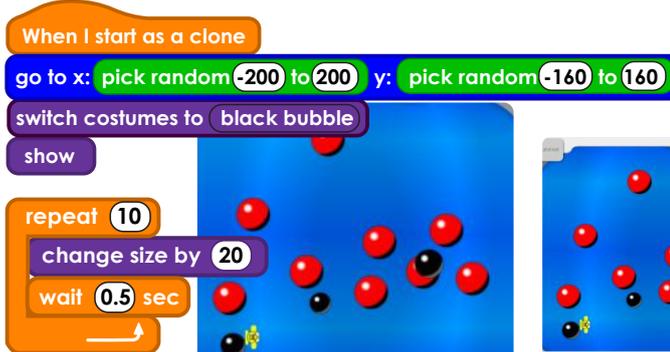
Set these random values so the bubbles appear randomly all over the screen.



Next the bubble needs to grow, turn red and then disappear.

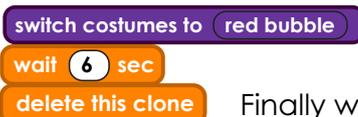
6

The bubble will grow 10 times. There will be a wait each time it grows.

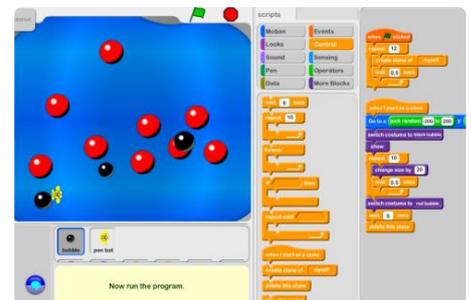


7

Switch the costume to the red bubble.



Finally wait a few second and delete the clone.



Next you need to program the pen bot...

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Collecting the Ink Bubbles The Flying Pen Bot Program

This is the simple flying pen bot program.

1

2 Add an 'if touching color' = red block to the flying pen bot code.

Inside the 'if touching color' block add a play sound and wait block.

Pen bot will now fly around and play a sound when it touches a red bubble.

Pen bot needs to record how many bubbles it has collected. Use data variables to record the number of bubbles collected.

4

When pen bot starts to fly set the collected variable to 0.

change collected by 0

3

Click on the Data button and then Make a Variable. Select the 'collected' name.

Every time pen bot touches a red bubble 'collected' must change by 1.

5

Pen bot must stop when it has collected 6 bubbles.

Click on the operators button and drag the equals block to the repeat until block.

Add the variable block 'collected' to the repeat until block.

6

The repeat until block should stop when 'collected = 6'.

7

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Attacking the Monster Machine The Ink Blob Code (part 1)

1

```

when clicked
  forever
    if key space pressed? then
      create a clone of myself
      wait 2 sec
  
```

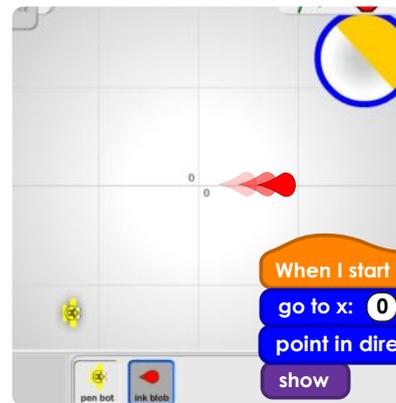
This code waits for the 'space' key to be pressed. It then creates a clone of ink blob.

2

```

When I start as a clone
  go to x: 0 y: 0
  point in direction (90) right
  show
  
```

When the clone is created it is moved to the centre of the screen and points to the right.



```

When I start as a clone
  go to x: 0 y: 0
  point in direction (90) right
  show
  
```

This moves the cloned ink blob until it touches the edge.

```

repeat until touching edge?
  move 2 steps
  
```

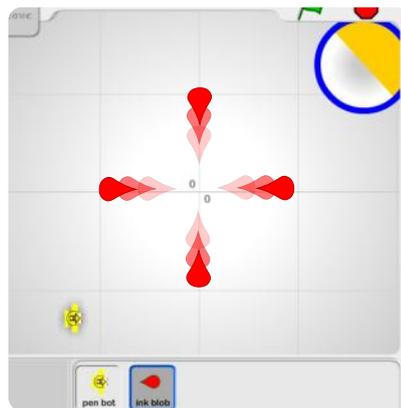
Then the clone is deleted.

```

delete this clone
  
```

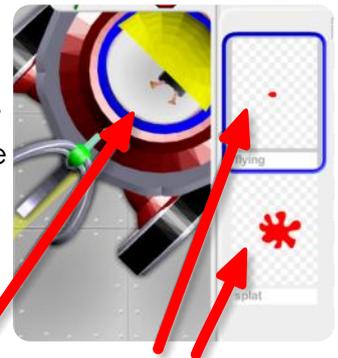
```

When I start as a clone
  go to x: 0 y: 0
  point in direction (180) left
  show
  repeat until touching edge?
    move 2 steps
  delete this clone
  
```



Change the 'point in direction' block so the ink blobs are fired at all 4 sides of the screen.

When the ink blobs hit the blue edge to the monster machine window they



need to change from their costume from flying to splat.

Add an 'if touching color' block so if the cloned ink blob touches the blue edge of the window it will switch the costume to splat and play a tune.

```

When I start as a clone
  go to x: 0 y: 0
  point in direction (180) left
  show
  repeat until touching edge?
    move 2 steps
  delete this clone
  
```

Add a stop this script block when the ink blob hits the window so the blob just stays on the window and stops moving.

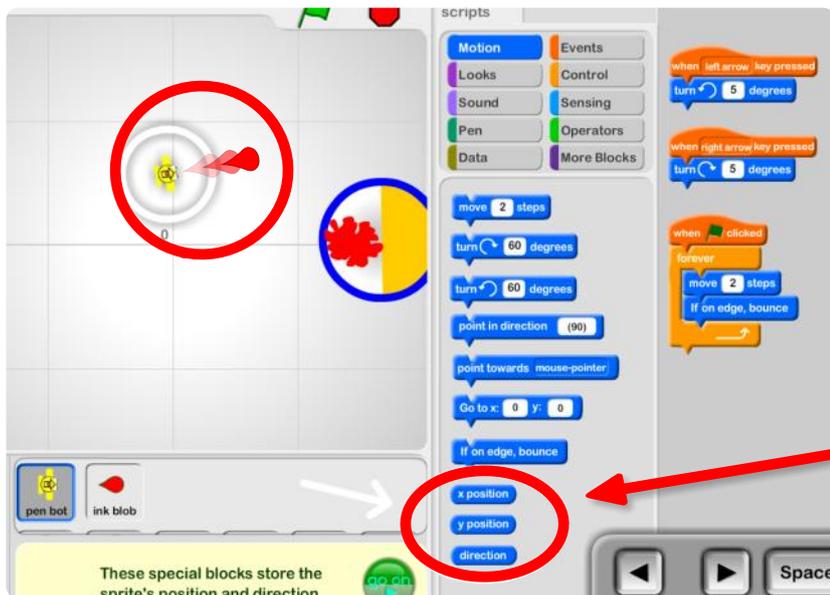
```

if touching color blue? then
  switch costumes to splat
  play sound splash
  stop this script
  
```

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Attacking the Monster Machine The Pen Bot Code



So far the ink blobs have been fired from the screen centre. However, they should be fired from the same position and in the same direction as the pen bot.

Inside the pen bot sprite are these special blocks. These store the pen bot's x position, y position and direction.

You need to transfer these 3 values to the ink blob sprite.

To transfer the x position, y position and direction of the flying pen bot use data variables.

Doctor Han has created the variables you need to transfer these values.

- pen x position
- pen y position
- pen direction

set pen x position to 0

change pen x position by 0

x position

y position

direction

Add 3 'set variable' blocks to the flying pen bot code.

Set these new variables with pen bot special blocks.

```

when clicked
  go to x: 0 y: 0
  forever
    move 4 steps
    on edge, bounce
    set pen x position to x position
    set pen y position to y position
    set pen direction to direction
  
```

The Ink Blob Code (part 2)

These variables have been set in the pen bot sprite.

- pen x position
- pen y position
- pen direction

Drag them to the start of the ink blob clone to set its x and y position and direction.

```

When I start as a clone
  go to x: 0 y: 0
  point in direction (180) left
  show
  repeat until touching edge?
    move 2 steps
    if touching color? then
      switch costumes to splat
      play sound splash
    stop this script
  delete this clone
  
```

```

When I start as a clone
  go to x: pen x position y: pen y position
  point in direction pen direction
  show
  repeat until touching edge?
    move 2 steps
    if touching color? then
      switch costumes to splat
      play sound splash
    stop this script
  delete this clone
  
```

The final Ink Blob code.

Now you can attack the monster machine!