Scratch: Further challenges
Information to support the use of challenges found at http://edtechexperience.weebly.com/scratch-challenges.html

Visit http://edtechexperience.weebly.com/scratch-challenges.html to see videos of the challenges and tips to help with solutions. For each challenge take time to create your own games based on the strategies, skills and knowledge you have discovered.

1. Hitting a wall

Challenge: Make the cat move across the screen and if it hits a wall say ‘ouch’ and fall down.

![if then touching ? touching color ?]

This challenge can be used to prepare children for the idea of the ‘Racing Car Game’.

Extra Challenge: What will happen if a car moves off a road onto the grass?

2. Creating patterns

Challenge: Make the cat draw amazing patterns on the screen.

Use move blocks and experiment with pen blocks

![clear stamp set pen color to change pen color by 10 set pen color to 1 set pen size by 1 set pen size to 1]

See what happens with .

This challenge can be used to prepare children to create an ‘Etch a Sketch’

Extra Challenge: Use the arrow keys on your keyboard to make a sprite draw.

3. Collecting Coins

Challenge: Make the cat move with arrow keys and collect coins.

Use the knowledge gained from ‘creating patterns’ challenge to control the cat with arrow keys.

TIP: Use to stop the cat from turning upside down.

Use the stamp icon to duplicate a sprite.

Use the knowledge gained from ‘hitting wall’ challenge to detect coins, then program them to disappear.

Extra Challenge: Keep score of the number of coins collected.

TIP: You will find when you click on Data.
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4. Cat and Mouse

**Challenge:** Make a cat chase a mouse that is moving around the screen. If the cat touches the mouse it eats it.
TIP: You can use ‘pick random’ to move and turn randomly on the stage.

TIP: You may want to use the ‘broadcast’ block so that the cat knows when it has touched the mouse. (See Knock, knock joke).

5. Get through the mazes

**Challenge:** Make a sprite move through a maze with different levels. The sprite loses lives when it touches the walls of maze.

Use what you learnt from ‘hitting the wall’ and ‘collecting coins’.

TIP: When you have selected the stage you will find blocks.

**Extra Challenge:** Your sprite can gain lives when it collects certain things. It can lose lives if it is touched by certain things. You could try having moving obstacles in your maze.

6. Pong game

Challenges:
   a) Make a ball bounce around the screen
   b) Make a bat move back and forth with the mouse or arrow keys
   c) Make the ball bounce off the bat and score a point
   d) If you miss the ball loose points

TIP: Use to make the ball change direction when it hits the bat.
This game is similar to the ‘Tennis Game’.

7. Bowling

Challenge: Make a player bowl a ball and knock over pins. Use the arrow keys to aim the ball and space bar to fire. Keep score.

TIP: You may find these blocks useful: