

# Snowballs!

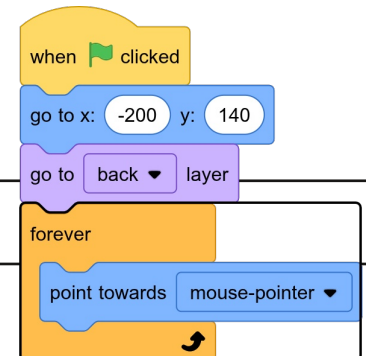


Starter:

<https://scratch.mit.edu/projects/1242631052/editor>

Don't forget to remix and rename.

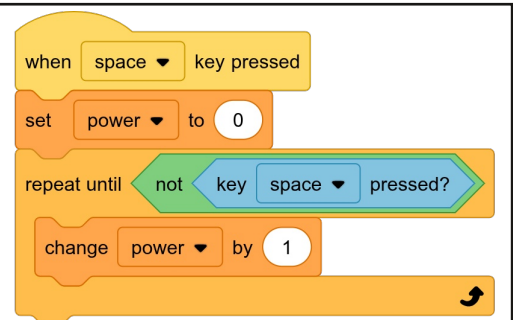
 Remix



1. In the Arrow sprite, add code to follow the mouse pointer.

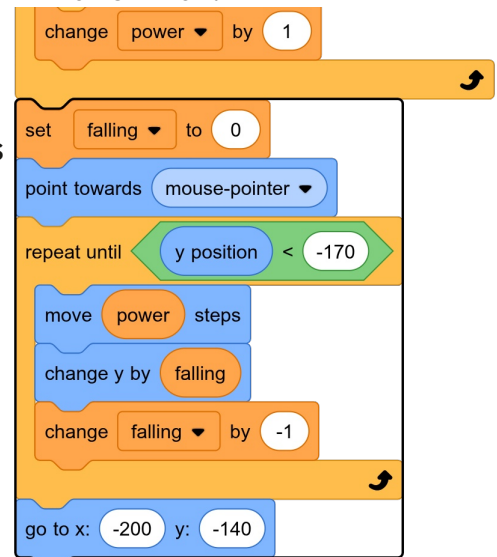
2. In the Snowball sprite, create a new script to power up while you are pressing the space bar and stop when you release.

- Detect when space is pressed.
- Create a new variable 'power' and make sure it starts at zero.
- Use a loop to increase the power until the space is not pressed any more.

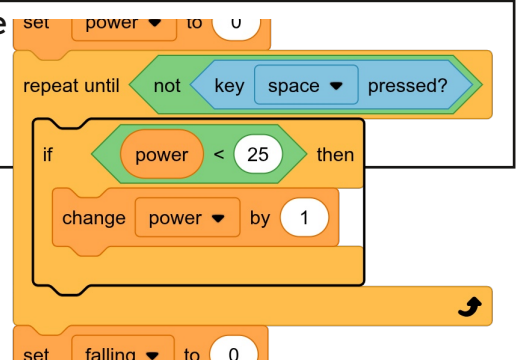


3. Add to the script from step 2 to fire the snowball when you release the space bar. This will fire off at a speed determined by the power variable and should fall with gravity. The further the snowball flies the more gravity will make it fall.

- Create a new variable 'falling' for how fast the snowball is falling. Make sure it starts at zero.
- Point in the direction of the arrow (towards the mouse pointer).
- Repeat the next two steps until the snowball hits the ground - that is, when the 'y' value is low enough.
- Move forward at the speed of 'power' and fall by the amount of 'falling'.
- Change 'falling' to make the snowball fall more.
- After the snowball has hit the ground, put it back to the the start for the next throw.

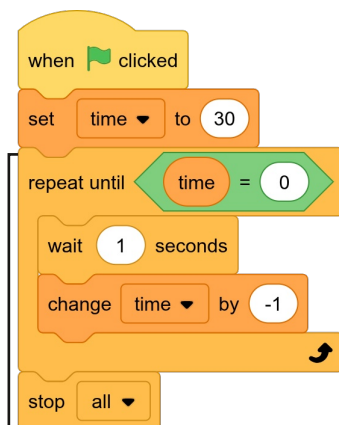
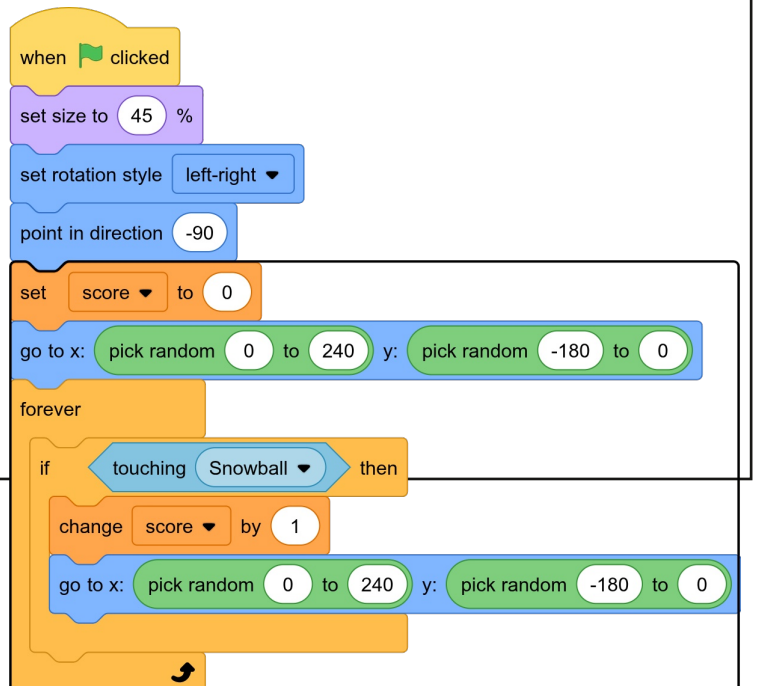


4. You might have noticed that you can make the power so strong that the snowball fires off in a straight line. This will make the game very easy so lets set a maximum power.



5. In the Snowman sprite, add to the script to get the snowman moving around so that you can shoot the snowball at it.

- Create a new variable for the 'score'. Set this to zero at the start of the game.
- Repeat forever.
- If the snowman is hit by the snowball add to the score and jump to a new random place.



6. Still in the Snowman sprite, lets add a new script to set a time limit to hit as many snowmen as possible.

- Create a new variable for the 'time'.
- When the green flag is clicked set 'time' to 30 seconds.
- Have a loop to take one off 'time' every second until it reaches zero.
- At the end stop everything to end the game.

7. Think of some ways you can do to make the game better. For example,

- Play a sound when you fire the snowball or hit the snowman.
- Add another sprite that you need to avoid hitting.
- Make the snowman move around, so it is harder to hit.
- Something else from your own imagination!

