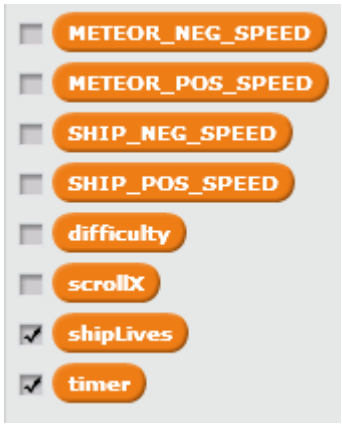
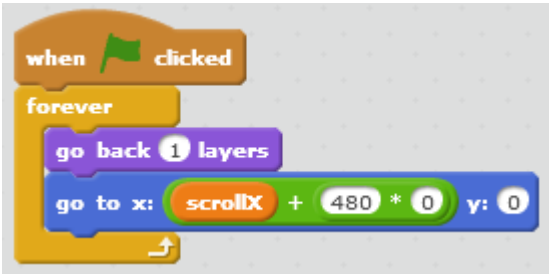
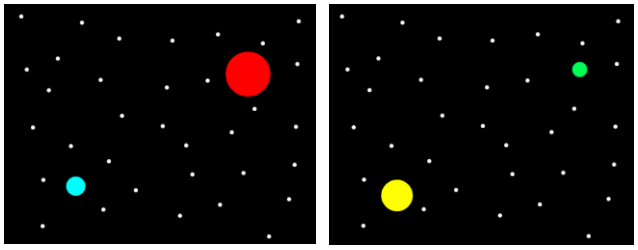
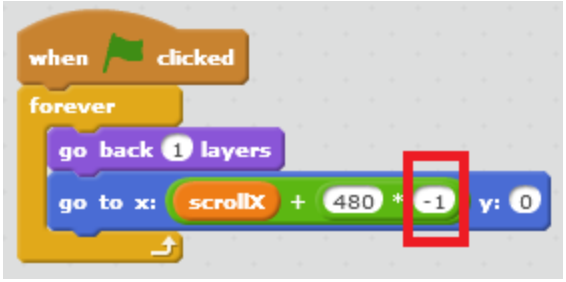
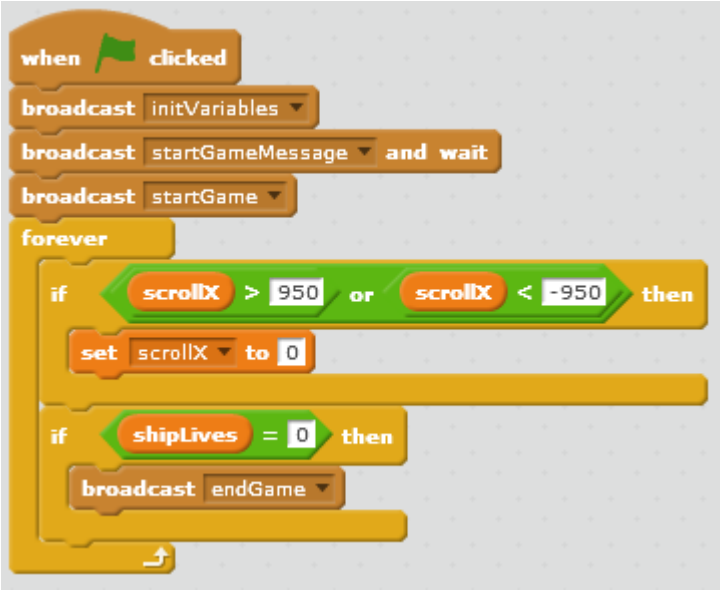
Meteor Dodge – Creation Tutorial

https://scratch.mit.edu/projects/67076150/

Paint a **new sprite** • This will be our template space background • Use the paint tools under the costume tab to draw a black square that fills the entire canvas • Draw a small white circle and duplicate it many times to look like stars • Make sure you have chosen *Vector Mode*! • Name this sprite *space0_0*	
Create the following **variables** using the *Make a Variable* under the **Data** blocks section • We use capital letters on variables to represent constants (these do not change their value) • We don't need to see all these variables on-screen except for *shipLives* and *timer*	
Script ***space0_0*** sprite with the following scriptlet: • This is how the scrolling works in the game • We move the background object rather than the player object itself	
Duplicate the ***space0_0*** object 4 times (to have a total of 5 *spaceX_Y* sprites). • Name each of these as ***space1_0, space2_0, space-1_0, space-2_0*** • On ***space1_0*** and ***space-1_0***, draw some coloured circles to represent suns	
On each of the ***spaceX_Y*** sprites, change the number in the (*scrollX + 480 * spaceX)* scriptlet to whatever the **X** value in the sprites name is, e.g • ***space-1_0*** will have a -1 and ***space2_0*** will have a 2	

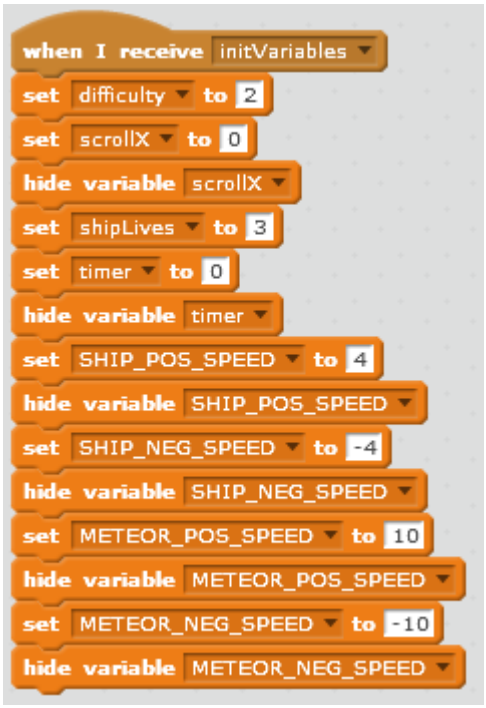
Script the **Stage** with the following scriptlet

- We use three *broadcast* calls to assign values to our variables we created earlier, show the start game message, and start the game
- We *forever* check to see if our scroll is greater than or less than the center of our outside *spaceX_Y* sprites (i.e. ***space-2_0*** and ***space2_0***). When we get past these, we reset *scrollX* so that we move back to ***space0_0***. This is why our edge backdrops must match our center backdrop (i.e. ***space-2_0, space2_0*** and ***space0_0*** all look the same)
- We also *forever* check if the game is over by checking our *shipLives* and if so, *broadcast* call the end game message



Script the **Stage** with the following scriptlet:

- This sets the initial values of all our variables and hide the variables we don't need to see
- Our variables in capital letters are constants that will not change during game
- *SHIP_POS_SPEED* and *SHIP_NEG_SPEED* control how fast our player ship moves left and right
- *METEOR_POS_SPEED* and *METEOR_NEG_SPEED* control how fast the meteors move left and right



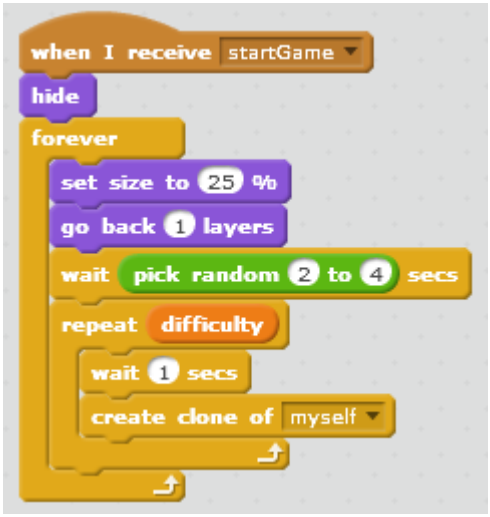
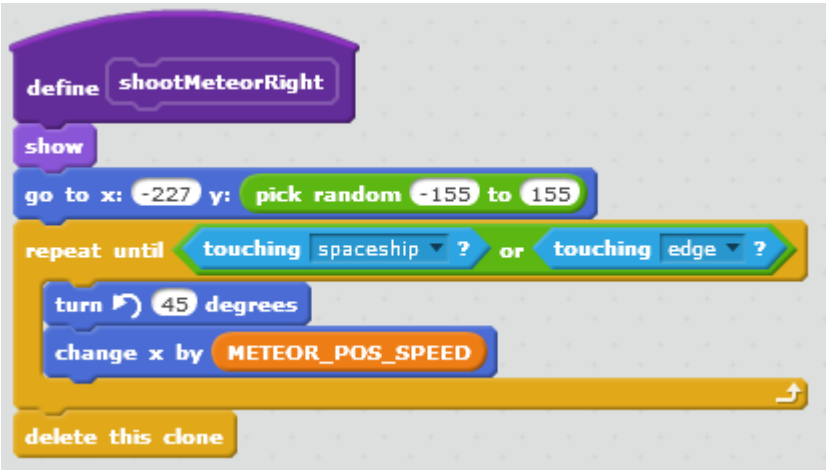
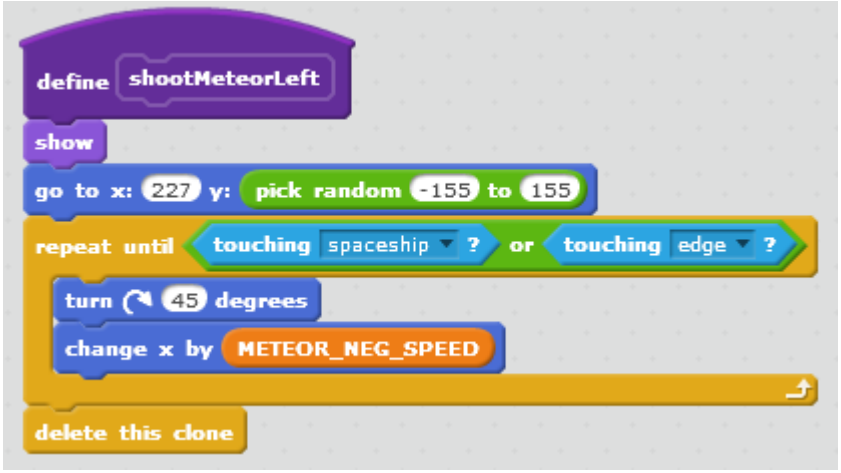
Script the **Stage** with the following scriptlet:

- This starts the timer that we use to judge how well the player has scored

Create a **new sprite** (from the sprite library)

- Select *Planet2*
- Name this sprite ***meteor***

Planet2

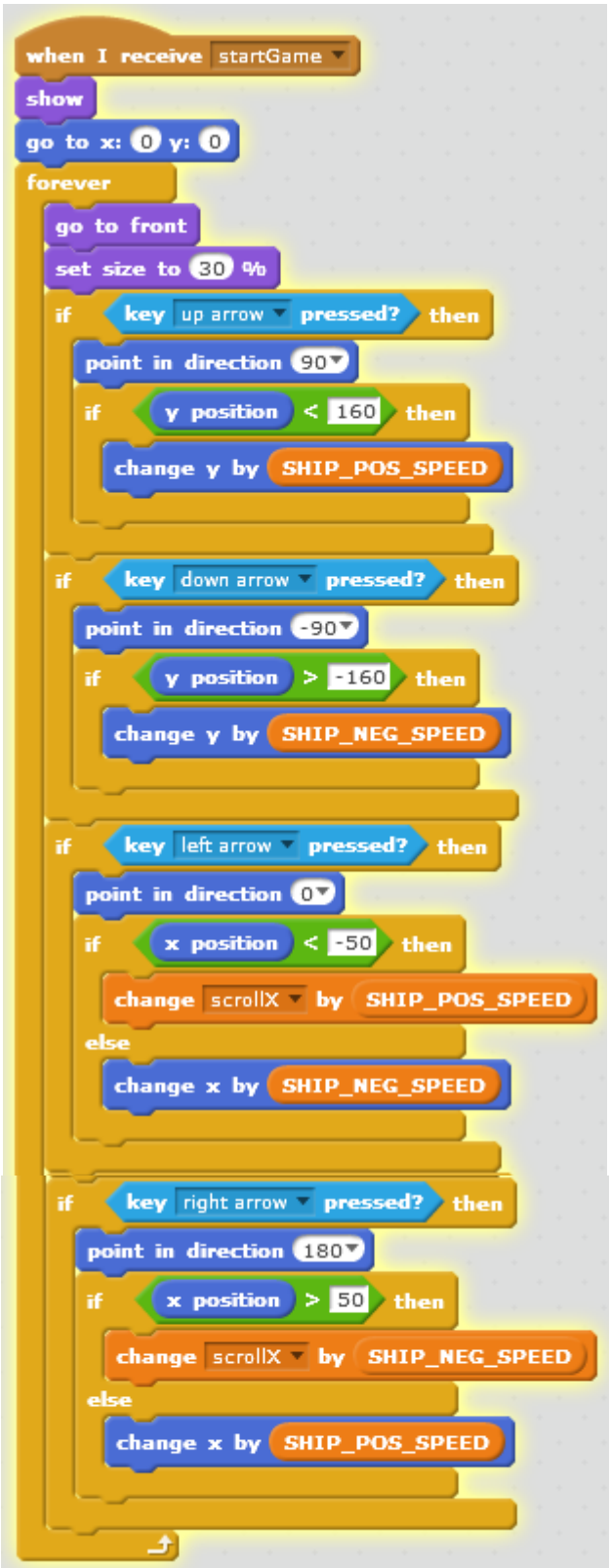
Script the **meteor** sprite with the following scriptlet: • This sets the initial size and starts the cloning • We control how may meteors are fired every second by the *difficulty* variable • We launch the batches of meteor(s) every 2 to 4 seconds	
Create a **new sprite** (from the sprite library) • Select *Spaceship* • Name this sprite ***spaceship***	
Go back to the **meteor** sprite and script with the following scriptlet: • We use the **More Blocks – Make a Block** and name it *shootMeteorRight* • This controls the behaviour of the meteors travelling right	
Script the **meteor** sprite with the following scriptlet: • We use the **More Blocks – Make a Block** and name it *shootMeteorLeft* • This controls the behaviour of the meteors travelling left	

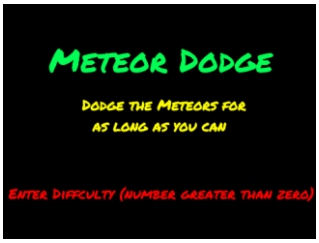
Finally, script the **meteor** sprite with the following scriptlet:

- This will control which way the meteor travels depending on which arrow key is pressed (and when neither key is pressed)

Script the **spaceship** with the following scriptlet:

- This sets where the player sprite starts when the game starts and the size of the sprite
- We also set the player controls for up, down, left, and right
- Left and Right allow the ship to move a little before scrolling across the different background sprites
- Up and Down allow the ship to reach near the top and bottom of the screen



Finally, script the **spaceship** with the following scriptlets: • This sets what happens when a meteor hits the spaceship • Also hides the ship at the very start and end of the game (where the messages appear)	
Paint a **new sprite** • Add some text that looks like a game start message • Name this sprite *startGameMessage*	
Script the **startGameMessage** sprite with the following scriptlet: • This shows the start game message and waits for the player to set the difficulty of the game	
Paint a **new sprite** • Add some text that looks like a game end message • Name this sprite *endGameMessage*	
Script the **endGameMessage** sprite with the following scriptlet: • This shows the end game message • If the *timer* variable is not where you want it to be, simply move it into the place where you want and then replay the game