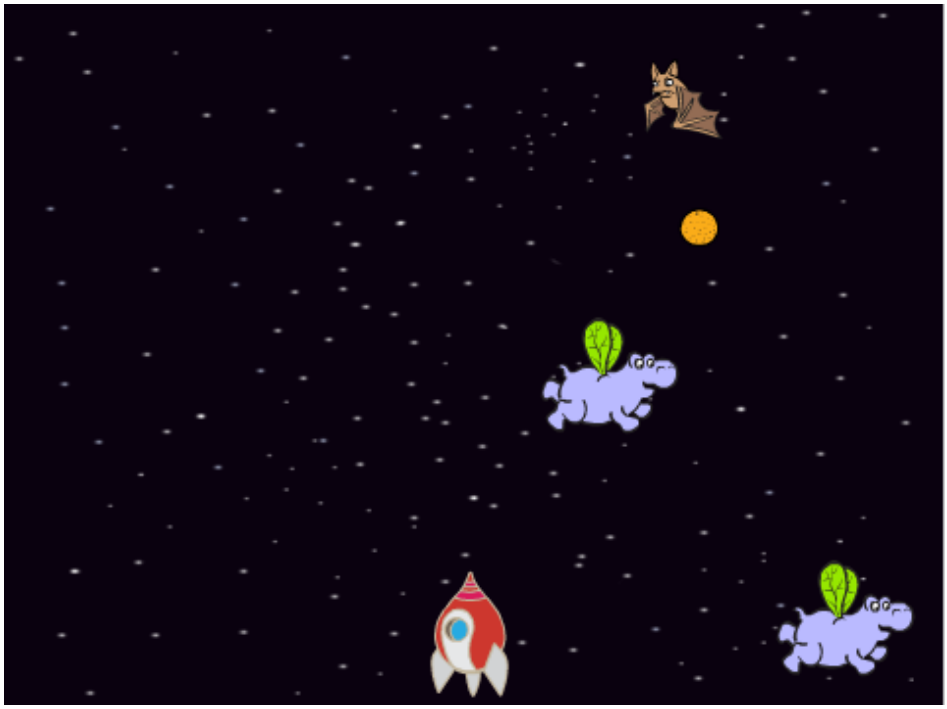
Scratch 2

# Clone Wars

All Code Clubs must be registered. Registered clubs appear on the map at codeclub.org.uk - if your club is not on the map then visit jumpto.cc/18CpLPy to find out what to do.

## Introduction

In this project you'll learn how to create a game, in which you have to save the Earth from space-monsters.



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|---|---|---|
| | Zadania do wykonania | Wykonaj te POLECENIA krok po kroku |
| | Przetestuj swój projekt | Kliknij na zieloną flagę, aby PRZETESTOWAĆ swój kod |
| | Zapisz swój projekt | Teraz ZAPISZ swój projekt |



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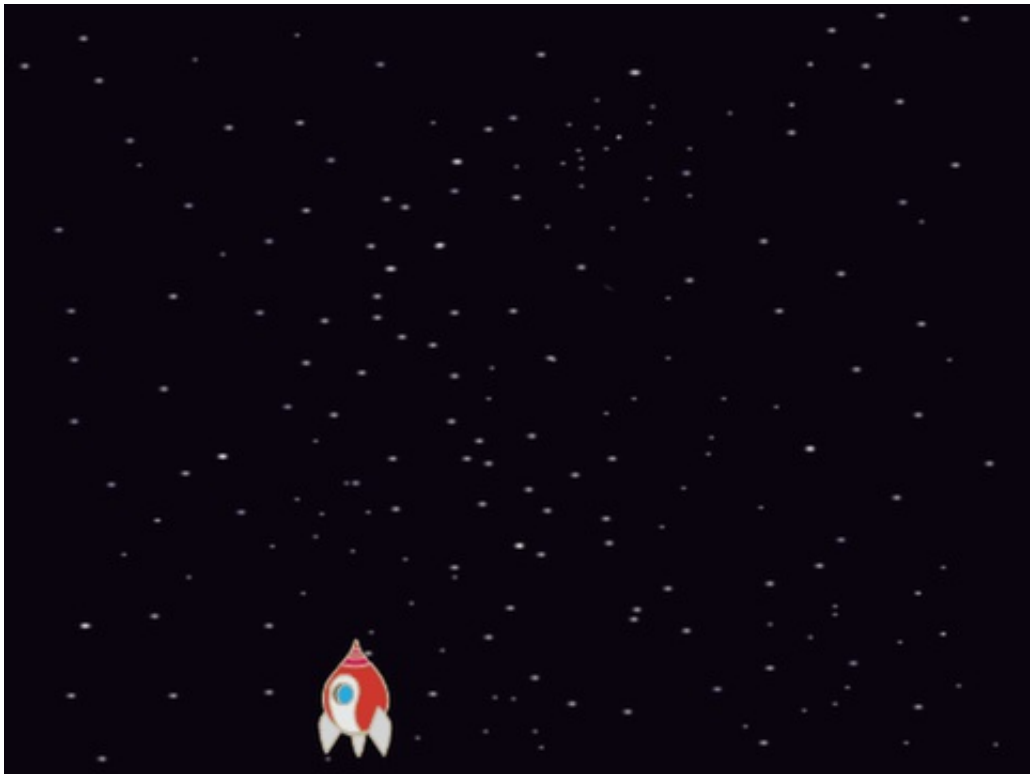
# Step 1: Making a Spaceship

Let's make a spaceship, that will defend the Earth!

## Activity Checklist

1. Start a new project, and delete the cat sprite, so that your project is empty. ☐

2. Add the 'stars' backdrop and the 'spaceship' sprite to your project. Shrink the spaceship and move it near the bottom of the screen. ☐



3. Add code to move your spaceship to the left when the left arrow key is pressed. You'll need to use these blocks: ☐

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4. Add code to move your spaceship to the right when the right arrow key is pressed. ☐

5. Test your project to see whether you can control your spaceship with the arrow keys. ☐

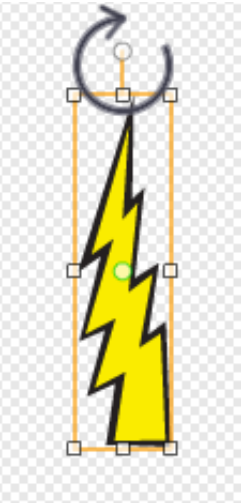
### Save your project

## Step 2: Lightning bolts

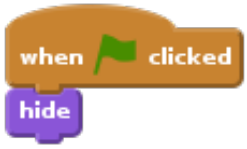
Let's give the spaceship the ability to fire lightning bolts!

### Activity Checklist

1. Add the 'Lightning' sprite from the Scratch library. Click the sprite's costume and turn the lightning upside-down. ☐



2. When the game is started, the lightning should be hidden until the spaceship fires its laser cannons. ☐



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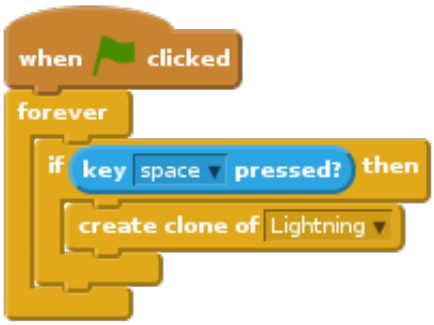
3. Add the following code to the spaceship to create a new lightning bolt whenever the space key is pressed.




4. Whenever a new clone is created, it should start in the same place as the spaceship, and then move up the stage until it touches the edge. Add the following code to the Lightning sprite:

Note: We move the new clone to the spaceship while it is still hidden, before then showing it. This just looks nicer.

1. Test your lightning, by pressing the space key.

## Save your project



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### Challenge: Fixing the lightning

What happens if you keep the space key held down? Can you use a `wait` block to fix this?

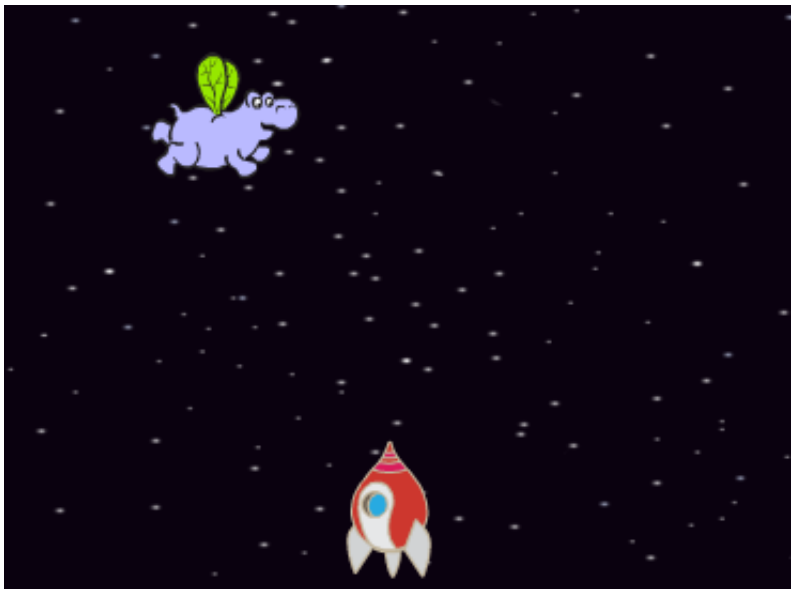
**Save your project**

## Step 3: Flying Space-hippos

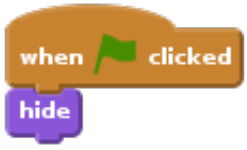
Let's add lots of flying hippos that are trying to destroy your spaceship.

### Activity Checklist

1. Create a new sprite from the 'Hippo1' image in the Scratch library. ☐



2. Set its rotation style to be left-right only, and add the following code to hide the sprite when the game starts: ☐



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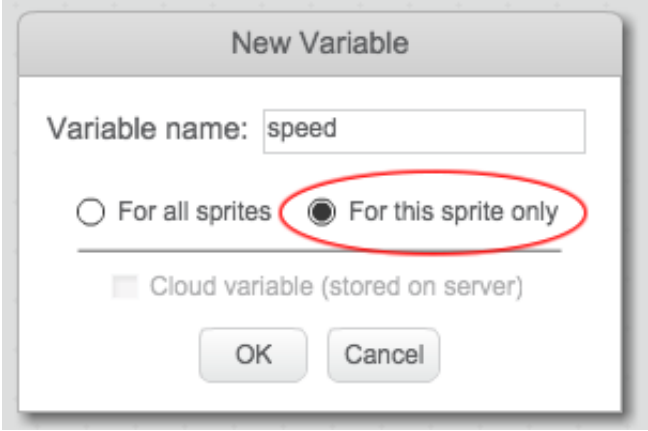
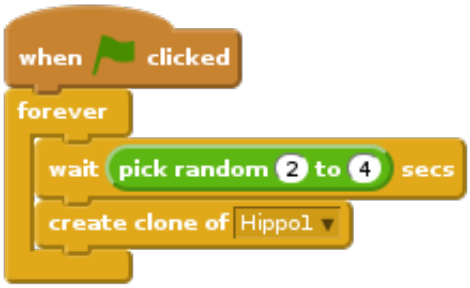
3. Create a new variable called `speed`, that is for the hippo sprite only.




You'll know if you've done this correctly because the variable will have the name of the sprite next to it, like this:

4. The following code will create a new hippo every few seconds. The Stage is a good place for this code to live:




5. When each hippo clone starts, make it move around the stage (at a random speed) until it gets hit by the lightning. Add this code to the hippo sprite:



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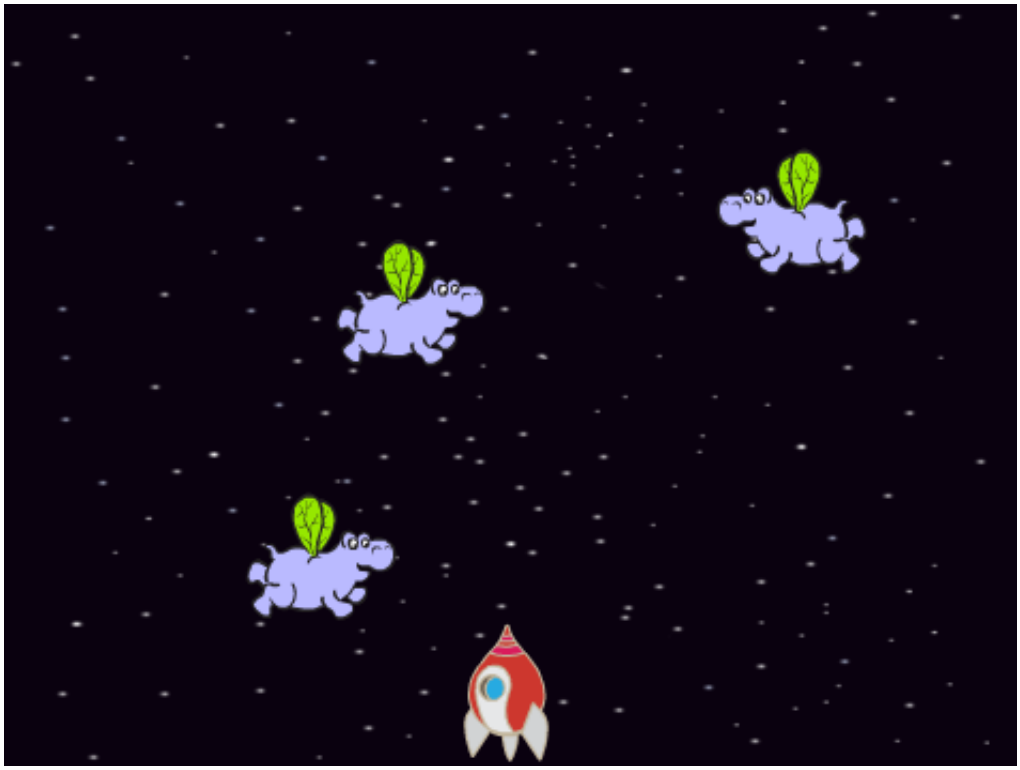
6. Test out your hippo code. You should see a new hippo clone appear every few seconds, each moving at its own speed.



7. Test your laser cannon. If you hit a hippo, does it vanish?

8. When a hippo touches your spaceship, we need to make the spaceship explode! To do this, first make sure that your spaceship has 2 costumes called ‘normal’ and ‘hit’.



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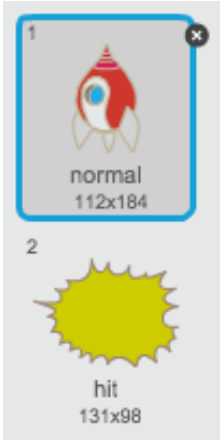
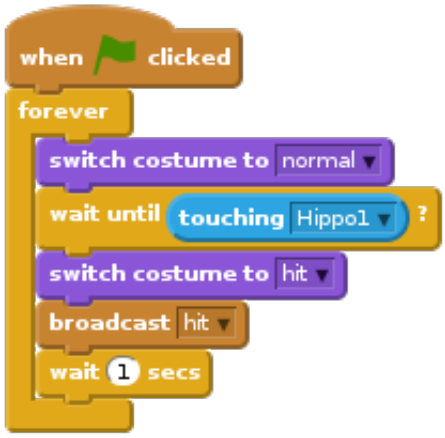



The spaceship's 'hit' costume can be made by importing the 'Sun' image from the Scratch library, and using the 'Color a shape' tool to change its colour.

9. Add this code to your spaceship, so that it switches costume whenever it collides with a flying hippo:




10. Did you notice that you have broadcast a 'hit' message in the code above? You can use this message to make all of the hippos disappear when the spaceship is hit.

    Add this code to your hippo:



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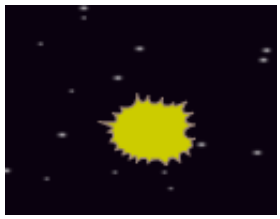
11. Test out this code by starting a new game and colliding with a hippo. ☐



**Save your project**

### Challenge: Lives and Score

Can you add a `lives`, `score` or even a `highscore` to your game? You can use the 'Catch the Dots' project to help you.

**Save your project**

## Step 4: Fruit Bats!

Let's make a fruit bat, that throws oranges at your spaceship.

### Activity Checklist

1. Firstly, make a new bat sprite that will `move` across the top of the stage `forever`. Remember to test out your code. ☐



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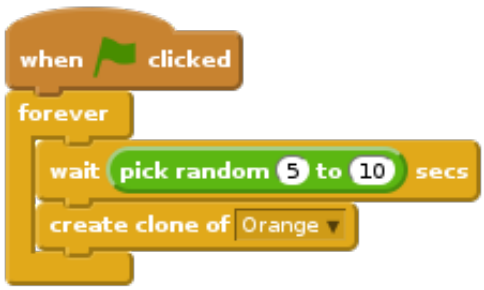
2. If you look at the bat's costumes, you'll see that it already has 2:

Use the `next costume` block to make the bat flap its wings as it moves.

3. Create a new 'Orange' sprite from the Scratch library

4. Add code to your bat, so that it creates a new orange clone every few seconds.




5. Click on your orange sprite, and add this code to make each orange clone drop down the stage from the bat towards the spaceship:



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6. In your spaceship sprite, you'll need to modify your code so that you are hit if you touch a hippo or an orange:

7. Test your game. What happens if you get hit by a falling orange?

**Save your project**

## Step 5: Game over

Let's add a 'game over' message at the end of the game.

### Activity Checklist

1. If you haven't already, create a new variable called `lives`. Your spaceship should start with 3 lives, and lose a



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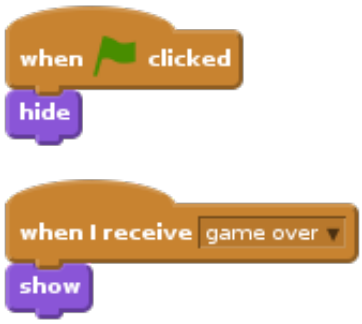
life whenever it collides with an enemy. Your game should also stop when you run out of lives. If you need help, you can use the 'Catch the Dots' project to help you.

2. Draw a new sprite called 'Game Over', using the text tool.

3. On your stage, broadcast a `game over` message just before the game ends.

4. Add this code to your 'Game Over' sprite, so that the message shows at the end of the game:




Because you've used a `broadcast [game over] and wait` block on your stage, it will wait for the 'Game Over' sprite to be displayed before ending the game.

5. Test your game. How many points can you score? Can you think of ways to improve your game if it is too easy or too hard?



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## Save your project

### Challenge: Improve your game

What improvements can you make to your game? Here are some ideas:

- [ ] Add health packs that you can collect to gain extra lives;

- [ ] Add floating rocks that your spaceship must avoid;

- [ ] Make more enemies appear when your score gets to 100.

## Save your project



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