Projects

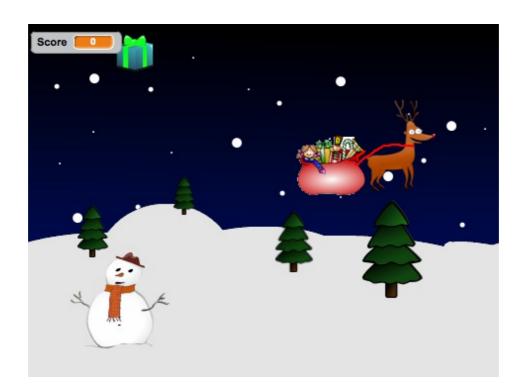
# Addition a Christmas **Capers**



#### Introduction

In this project we'll create a game with scrolling backgrounds, scoring and a festive game over screen.

A disaster in a toy factory has sent presents flying into the sky, help Rudolph to save Christmas by catching the presents!





**Activity Checklist** 

Follow these INSTRUCTIONS one by one



**Test your Project** 

Click on the green flag to TEST your code



**Save your Project** 

Make sure to SAVE your work now

# Step 1: Make Rudolph fly

# Activity Checklist

1.	Start a new Scratch project. Delete the cat by right-clicking it	
	and selecting Delete	
2.	Replace the background with SkyBackground.png.	
3.	Add the Rudolph sprite to the project (use the	
	resources/Rudolph.png file)	
4.	Make Rudolph follow the mouse by using the following script:	

when Clicked
go to front
go to mouse-pointer v

#### Test Your Project

Click the green flag and move the mouse, does Rudolph follow the mouse?



- To make the game more interesting we will add some moving snowy hills to make it look like Rudolph is flying. Add the Snow sprite to the project (use the SnowHills.png file).
- Rename the sprite to Snow1.
- Create a new variable by clicking the Data tab and then make a variable.

  Call it ScrollX and make it for all sprites, then uncheck the box next to it to remove it from the stage. This will be used to control how the hills move.
- Add the following script to make the hills move:

```
when clicked

set y to 0

forever

set x to ScrollX

change ScrollX v by -1

if ScrollX < -480 then

set ScrollX v to 0
```

Click the green flag, do the hills move? What happens as the hills move to the side of the screen?



- Let's fix the issue with the snowy hills flickering when they reach the right of the screen. Add more hills to the stage use the new sprite from file button to add the Snow sprite to the project again (use the SnowHills.png file).
- Rename the sprite to Snow2.
- Add the following script to the Snow2 sprite to allow the 2nd set of hills to follow closely behind the first:

```
when clicked

set y to 0

forever

set x to ScrollX + 479
```

Click the green flag, do the hills move? Has the issue with the flickering trees been fixed?



Save your project

# **Step 2: Falling Presents**

a score.

	Activity Checklist	
1.	We now need to add in the presents for Rudolph to collect.	
	Add the Present sprite to the project (use the Present.png file).	
2.	Create a new variable by clicking the Data tab and then make	
	a variable. Call it <b>Finish</b> and make it for this sprite only, then	
	uncheck the box next to it to remove it from the stage. This	
	will be used to control when the present should be removed	
	from the game.	
3.	Create another variable and call it Speed and make it for this	
	sprite only, then uncheck the box next to it to remove it from	
	the stage. This will be used to control the speed that the	
	present falls down the screen.	
4.	Add the following script to the Present sprite to allow it to fall	
	from the sky. Note that we will use pick random to make the	
	present appear in a different place each time.	

5. By using the touching [ Rudolph ] block we can make the

present disappear when touched, we can use this later to keep

```
forever

set Finish v to 0

go to x: pick random -230 to 230 y: pick random 50 to 170

set Speed v to -1

repeat until Finish = 1

change y by Speed

if y position < -160 then

set Finish to 1

if touching Rudolph v ? then

set Finish to 1
```

Click the green flag, do the presents fall from the sky? Do they disappear when Rudolph touches them or they hit the ground?



- Let's make the game more interesting by changing the colour of the presents each time they fall. Do this by using the change colour block.
- Change the speed of each present by replacing set Speed to -1 with the pick random block, try different values such as -10 to -1. Your script should now look like this.

```
when clicked

forever

set Finish v to 0

go to x: pick random -230 to 230 y: pick random 50 to 170

change color v effect by pick random 1 to -150

set Speed v to pick random -10 to -1

repeat until Finish = 1

change y by Speed

if y position < -160 then

set Finish to 1

if touching Rudolph v ? then

set Finish to 1
```

Click the green flag, do the presents fall at different speeds and colours?



### **Step 3: Scoring and Sound Effects**



- Let's change our script to keep track of a score within the game. We can then use this later to work out when the game over message should appear.
   Create a new variable. Call it Score and make it for all sprites.
- 2. Create a new variable. Call it **Score** and make it for all sprites. Leave this variable ticked so it appears on the screen.
- 3. Change the script behind the Present sprite to look like this. Note we have both added sound effects with the play drum command and also change [ score ] by 1 when Rudolph touches the present.

```
when / clicked

forever

set Finish v to 0

go to x: pick random -230 to 230 y: pick random 50 to 170

change color v effect by pick random 1 to -150

set Speed v to pick random -10 to -1

repeat until (Finish = 1)

change y by Speed

if (y position) < -160 then

play drum 57 v for 0.25 beats

set Finish to 1

if touching Rudolph v ? then

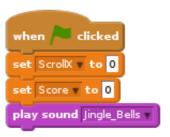
play drum 39 v for 0.25 beats

set Finish to 1

change Score v by 1
```

Let's add some music to the game:

1.	Import the sound file Jingle_Bells.mp3 to the Stage.	
2.	Add the following script to the Stage, this will set score to 0	
	when the game is started. It will also play Jingle Bells while the	
	game is being played.	
3.		



Note, if at first the music sounds 'choppy' save your project, close Scratch and then open your project again.

#### Test Your Project

Click the green flag, does the score change when Rudolph touches a present?



Save your project

## Step 4: Game over

- Let's change our script to keep track of a score within the game. We can then use this later to work out when the game over message should appear.
- Change the script on the Stage so when the Score reaches 10 we will broadcast a GameOver message.

```
when clicked

set ScrolX v to 0

set Score v to 0

play sound Jingle_Bells v

forever

if score = 10

broadcast GameOver v and wait
```

- We now need to add in our GameOver message. Add the GameOver sprite to the project (use the GameOver.png file).
- Add the following script to the GameOver sprite. This will hide the picture when the game starts and show it when the GameOver message is received.



Click the green flag, does the score change when Rudolph touches a present?



Save your project

Challenge: Make the game harder		
Can you make the presents wobble on their way down the		
screen?		
Can you add more than one present to the game at the		
same time?		
Change the game over message to appear after 20		
presents are collected.		
Can you reduce the score by 1 when a present hits the		
ground?		



#### Save your project

Well done, you've finished! Now you can enjoy your game!

Don't forget you can share your game with all your friends and family by clicking on Share on the menu bar! Have a very Merry Christmas!