



<p>Green flag start Pause for 5 seconds Loop always A If right arrow key touched Turn right 5 degrees Else Turn left 3 degrees</p>	<p>Green flag start Pause for 5 seconds Loop always B If space bar touched Move forward 2 steps Else Move backwards 1/2 step</p>
<p>Green flag start Pause for 5 seconds Loop always C If space bar key touched Change backdrop to forward Else Change backdrop to reversing</p>	<p>Green flag start Pause for 5 seconds Start timer D Loop always If grey touching green Change to game over backdrop Stop other scripts Say score using timer Stop all scripts Move forward 2 steps</p>

Read & Predict (Read the algorithms above, answer the questions below and then predict what the algorithm will do once it is turned into code)

- 1, Which algorithm section A, B, C or D contains a **condition-starts-action**?
- 2, Which algorithm sections contains a **condition-switches-between-actions**?
- 3, In algorithm A if the right arrow button is **not** pressed what will happen?

4, In algorithm C which backdrop will be displayed if the space key is pressed?

5, In algorithm block D what is the **first** thing that will happen when the colour grey touches the colour green?

Predict (In a few words describe what the main task of each algorithm is)

A	B
C	D

Name

Cheese Crush Game
PRIMM Algorithm Page 2
Start Scratch and load
cheesecrush



Condition
Switches
Between
Actions

RUN the Code

Were your predictions right?

Mark the read and predict section using the answer sheet

INVESTIGATE the code (Run the programs lots of times to help you answer the questions but don't change the code)

Look at the code inside Mouse sprite

Mouse Sprite Questions

- 1, What do you need to do to make the mouse **turn slowest**?
- 2, What happens to the **size** of the mouse every time it hits the purple walls?
- 3, What loop ensures that the conditions are checked **continuously**?
- 4, Why do all the blocks of code, apart from one, start with a wait 5 secs block?

Look at the code inside the cheese sprite

Cheese Sprite Questions

- 5, What size does the cheese sprite clones start at?
- 6, After 6 seconds what **size** would the cheese sprite clones be?
- 7, How often does a new clone appear?
- 8, What triggers a cheese sprite clone to be deleted?
- 9, What blocks are inside the **condition-stops-loop**?
- 10, On which **x axis** do all the cheese sprite clones start?

Mark your use work using the **investigate** answer sheet

Name



MODIFY (Run the code and make small changes)

Mouse Modify Challenges

- 1, Can you make the mouse move faster backwards than it does forwards? What did you change?
- 2, Can you make the mouse turn faster to the left than the right? What did you change?
- 3, Can you make the mouse start at size 50%? What did you change?
- 4, Can you make the mouse get smaller every time it touches the purple walls? What did you change?

Cheese Modify Challenges

- 5, Can you make a new clones appear regularly after 4 seconds? What did you change?
- 6, Can you make the cheese clones always point to 90 degrees (right)? HINT This won't affect cheese2 clones. What did you change?
- 7, Can you make the cheese clones grow by 10% every 3 seconds? What did you change?
- 8, Can you make the cheese move faster? What did you change?

Now mark the **modify** questions using the answer sheet

Mouse Modify More Challenges

- 1, Two sections of code use the space key as a condition. Combine the code so that it uses the least number of blocks but still changes background and moves backwards and forwards using the space key. What did you change?
- 2, Change the code so that the right arrow key steers right and the left arrow key steers left. What did you change?

Now mark the **modify more** questions using the answer sheet

Name



MAKE INSIDE (Create additions to cheese crush)

You don't need to explain what you have done on this page.

Two Player Cooperative Game

Duplicate the mouse (right mouse click on the sprite and select duplicate)

Adapt the code so the new mouse can steer and move forwards and backwards using different keys. Change the code so the new mouse is stopped by yellow cheese not green ones.

Blue Cheese of Doom

Duplicate a cheese (right mouse click on the sprite and select duplicate)

Adapt the code so the new cheese sprite

- Is always blue
- Ends the game if either mouse touch it
- Cannot be popped by the pink mouse tail
- Only lasts for 20 seconds before the clone is deleted

Moving Purple Obstacles

Create new purple shape sprites. Code these so they glide slowly from one area to another continuously or rotate slowly. Create code in the cheese sprites that pops them when they touch the moving obstacles. HINT When I start as clone, touching condition.

For extra hints see the create inside hints sheets or ask your teacher

Cheese Crush Game PRIMM Algorithm Page 5

You can share design ideas but must
plan and code separately



Condition Switches Between Actions

Make

Design and code your own game that uses **condition-switches-between-actions**.
You can adapt any ideas from cheese crush or any other games you have studied.

Idea Level *My game will... My characters will be... The aim of the game will be...*

Design Level (Draw your game simply)

Write **condition-switches-between-actions** algorithms
that you might need near your design drawings.

Initialisation Jot down how your sprites will always start in the same place

Name

Read & Predict (Read the algorithm above, answer the questions below and then predict what the algorithms will do once they are converted into code)

1, Which algorithm section A, B, C or D contains a **condition-starts-action**?

(1 mark)

2, Which algorithm sections contains a **condition-switches-between-actions**?

(1 mark)

3, In algorithm A if the right arrow button is **not** pressed what will happen?

Turn left 3 degrees (1 mark)

4, In algorithm C which backdrop will be displayed if the space key is pressed?

forward (1 mark)

5, In algorithm D what is the first thing that will happen when the colour grey touches the colour green?

Change to game over backdrop (1 mark)

Predict (In a few words describe what the main task of each algorithm is)

(1 mark for each correct prediction, Total 4 marks)

A Steering right or left using arrow key	B Move forward or backwards using space key
C Switch between the forward or back backdrops using space key	D End the game, give a score if grey touches green

USE the code (Run the programs lots of times but don't change the code)

Look at the code inside Mouse sprite

1, What do you need to do to make the mouse **turn slowest**?

Don't press the right arrow or do nothing as this then rotates left at 3° rather than right at 5° (1 mark)

2, What happens to the **size** of the mouse every time it hits the purple walls?

Increases or gets larger or increases by 5 (1 mark)

3, What loop ensures that the conditions are checked **continuously**?

Forever or continuous or indefinite loop (1 mark)

4, Why do all the blocks of code, apart from one, start with a wait 5 secs block?

To give time for the game instructions to be read on rules background (1 mark)

Look at the code inside the cheese sprite

Cheese Sprite Questions

5, What size does the cheese sprite clones start at?

35% (1 mark)

6, After 6 seconds what **size** would the cheese sprite clones be?

43% (35+4+4) (1 mark)

7, How often does a new clone appear?

Between 1 and 3 seconds randomly (1 mark)

8, What triggers a cheese sprite clone to be deleted?

If it touches the colour pink (1 mark)

9, What blocks are inside the **condition-stops-loop**?

Move 1 step, if on edge bounce (1 mark for both)

10, On which **x axis** do all the cheese sprite clones start?

-240° (1 mark)

MODIFY (Run the code and make small changes)

Mouse Modify Challenges

1, Can you make the mouse move faster backwards than it does forwards? What did you change?

Increase move 0.5 steps to greater than 2 (1 mark)

2, Can you make the mouse turn faster to the left than the right? What did you change?

Increase 3° to a number greater than 5 (1 mark)

3, Can you make the mouse start at size 50%? What did you change?

Change set size to 35% to set size to 50% (1 mark)

4, Can you make the mouse get smaller every time it touches the purple walls? What did you change?

Change change-size-by 5 to a negative number such as -4 (1 mark)

Cheese Modify Challenges

5, Can you make a new clones appear regularly after 4 seconds? What did you change?

Remove the random block and make wait 4 seconds (1 mark)

6, Can you make the cheese clones always point to 90 degrees (right)? HINT This won't affect cheese2 clones. What did you change?

Remove random block and change the point in direction code to 90 degrees right. (1 mark)

7, Can you make the cheese clones grow by 10% every 3 seconds? What did you change?

Modify change size by 4 to change size by 10 (1 mark)

8, Can you make the cheese move faster? What did you change?

Change move 1 step to a larger number (1 mark)

Mouse Modify More Challenges

1, Two sections of code use the space key as a condition. Combine the code so that it uses the least number of blocks but still changes background and moves backwards and forwards using the space key. What did you change?

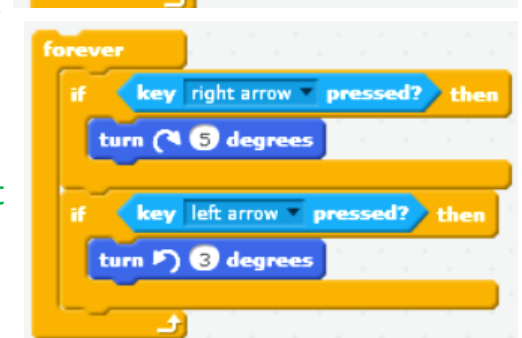
Either combine the switch backdrop blocks with the move blocks or the other way round see right (1 mark)

2, Change the code so that the right arrow key steers right and the left arrow key steers left. What did you change?

Change the code to use two condition chooses action blocks, these could be in separate forever loops. See left for how it could look (1 mark)



```
if key space pressed? then
  move 2 steps
  switch backdrop to forward
else
  move -0.5 steps
  switch backdrop to reversing
```



```
forever
  if key right arrow pressed? then
    turn 5 degrees
  if key left arrow pressed? then
    turn 3 degrees
```


Cheese Crush Game

MAKE HINTS

Condition Switches Between Actions

MAKE INSIDE (Create additions to cheese crush)

You don't need to explain what you have done on this page.

Two Player Cooperative Game

Duplicate the mouse (right mouse click on the sprite and select duplicate)

Adapt the code so the new mouse can steer and move forwards and backwards using different keys. **HINT (keys) Right arrow and space key need changing** Change the code so the new mouse is stopped by yellow cheese not green ones. **HINT (colour touching) Colour grey is touching yellow not green**

Blue Cheese of Doom

Duplicate a cheese (right mouse click on the sprite and select duplicate)

Adapt the code so the new cheese sprite

-Is always blue **HINT (sprite costumes) Change colour in sprite costumes**

-Ends the game if either mouse touch it

HINT (Forever if touching) name of sprite end game

-Cannot be popped by the pink mouse tail **HINT (remove loop until) replace with count controlled loop this will also sort next issue underneath**

-Only lasts for 20 seconds before the clone is deleted **HINT count controlled loops**

Moving Purple Obstacles

Create new purple shape sprites. **HINT paint new sprite** Code these so they glide slowly from one area to another continuously or rotate slowly. **HINT forever (glide) to x y** Create code in the cheese sprites that pops them when they touch the moving obstacles. **HINT When I start as clone, touching condition.**