**Procedures With Parameters**

Work with a partner
of same ability

**USE the code** (Run the programs lots of times but don't change the code)
Look at the code inside the Scratch Cat
**ScratchCat Sprite Questions**

1, How many procedures are there? *HINT start with define, curved at top*

2, How many blocks start/run a procedure *HINT Name of procedure without define or curved top*

3, Name all the procedures that **are** adaptable. *HINT You can input more information to change how it runs.*

4, Name any procedures that are **not** adaptable. *HINT You can't add any information when it is run.*

5, In orangerun how many main programs are there and what do they start with? *HINT Not defined procedures.*

6, Name three blocks that are initialisation (designed to set the program back to how it looked and ran when it was first run).

7, Which procedures are not inside loops in the main programs?

8, In level 1 how many procedures are inside a loop until ScratchCat touches the **open_orange** sprite? *HINT Repeat until is a loop.*

9, The restart procedure has a complex condition. Explain in your own words how you think it works.

10, Look at the move_right adaptable procedure. What will the speed of x be when the right arrow key is pressed in level 1, level 2 and level 3? *HINT Look at the procedure and the blocks that run the procedure in the main program.*

11, Look at the **gravity** adaptable procedure and the blocks that run it in the main program. In which level does the ScratchCat fall fastest?

Now mark your use work using the USE1 answer sheet

Name

Work with a partner
of same ability

**Procedures
With
Parameters**

**USE the code** (Run the programs lots of times but don't change the code)
Look at the code inside the Orange
**Orange Sprite Questions**
1, Why does the main program wait for 5 seconds before starting the forever loop?

2, How long is there between orange clones?

3, Connect Method 1 or Method 2 (Don't connect both at the same time) run the game using each method. Do they do the same thing?

⇩

4, Connect Method 2. In the first block **orange_move 0, –2, 0, 25** what does the 25 parameter do when it is inputted into the orange_move procedure? *HINT Look at the curved **define orange_move** block for the order of parameters and then look as where it has been used in the procedure.*

⇩

5, Connect Method 2. In the second block **orange_move 1, 0, 1, 67** what does the second 1 parameter do when it is inputted into the orange_move procedure?

⇩

6, In the blocks **orange_move x, y, deg, loop** what does the x parameter do? HINT x can be 0, 1 or –1

Now mark your use work using the USE2 answer sheet

Name

**MODIFY** (Run the code and make changes)

**Look at the code inside the ScratchCat**

**ScratchCat Modify Challenges**

1, Can you make the cat **move faster when the right arrow is pressed** in level 1? What did you change? *HINT It is a parameter*

2, Can you make the ScratchCat **fall faster when it is not touching the pink** floor, walls and ceiling? What did you change? *HINT It is a parameter*

3, Can you make the ScratchCat **jump less than 40**? What did you change? *HINT It is a parameter*

**Look at the code inside the row_one**

**Row_one Modify Challenges**

4, Can you **reduce the length of time** between one row_one clone and the next one appearing? What did you change?

5, Can you make the row_one clone **drop the same distance at double the speed**? What did you change? *HINT You will need to change two number parameters.*

6, Can you make the row_one clone **travel left the same distance at half the speed**? What did you change? *HINT You will need to change two number parameters.*

Name

**CREATE INSIDE** (Create additions to Orange Run)
Complete Walking Cat and then choose one or more of the other modifications.

**Walking Cat**
ScratchCat has two costumes WalkA and WalkB. Create a new procedure called walk that swaps between costumes when either the right or left arrow keys are pressed. Create a parameter called stride that allows you to adjust how many seconds between swapping from WalkA to WalkB. Find the best place to trigger this new procedure either in the large main program, in the forever jump main program or in a new main program.

**Another small rolling orange** (right click on row_three and select duplicate)
Adapt the game so that the new small orange has to drop and roll along the middle floor before disappearing.

**Random time between large oranges**
Adapt the code inside Orange so each new orange appears after a random amount of time no sooner than 3 seconds and no longer than 10 seconds.

**My Modification**
Create your own modification to improve the game and write (and draw) what it did underneath. Don't write a new level as that is one of the options after this Create Inside section.

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

You can share design ideas but must
plan and code separately

**CREATE A NEW GAME OR CREATE A NEW LEVEL IN ORANGE RUN**
Design and code your own game OR level that uses adaptable **procedures**.
You can adapt any ideas from any other game or level you have studied.

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

**Design Level** (Draw your game/level simply and name each procedure and what it will do)

Write **procedure** algorithms that you might need near your design drawings.

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

Name

**Procedures**
**With**
**Parameters**

**USE ANSWERS**

### ScratchCat Sprite Questions

1, How many procedures are there? *HINT start with define, curved at top*

*7 (1 mark)*

2, How many blocks start/run a procedure *HINT Name of procedure without define or curved top*

16 (in two main programs) (1 mark)

3, Name all the procedures that **are** adaptable. *HINT You can input more information to change how it runs.*

Gravity, move_left, jump, move_right (1 mark for all four)

4, Name any procedures that are **not** adaptable. *HINT You can't add any information when it is run.*

Endgame, end_level, restart (1 mark for all three)

5, In orangerun how many main programs are there and what do they start with? *HINT Not defined procedures.*

2 and they start with when greenflag clicked (1 mark for both)

6, Name three blocks that are initialisation (designed to set the program back to how it looked and ran when it was first run).

Hide, switch backdrop to instructions, go to x –210 and y 141, reset timer, show (1 mark for any three of these)

7, Which procedures are not inside loops in the main programs?

End_level and endgame (1 mark for both)

8, In level 1 how many procedures are inside a loop until ScratchCat touches the **open_orange** sprite? *HINT Repeat until is a loop.*

4 (1 mark)

9, The restart procedure has a complex condition. Explain in your own words how you think it works.

Any indications that OR means that any of the conditions can send the cat back to the start. (1 mark)

10, Look at the **move_right** adaptable procedure. What will the speed of x be when the right arrow key is pressed in level 1, level 2 and level 3? *HINT Look at the procedure **and** the blocks that run the procedure in the main program.*

*2 in level 1, 1.75 in level 2 and 1.5 in level 3 (1 mark for all three numbers)*

11, Look at the **gravity** adaptable procedure and the blocks that run it in the main program. In which level does the ScratchCat fall fastest?

Level 1 (gravity 2) (1 mark for level 1)

**USE ANSWERS**

**Orange Sprite Questions**

1, Why does the main program wait for 5 seconds before starting the forever loop?
To give time for the instructions to be read (1 mark)

2, How long is there between orange clones?
6 seconds (1 mark)

3, Connect Method 1 or Method 2 (Don't connect both at the same time) run the game using each method. Do they do the same thing?
Yes (1 mark)

4, Connect Method 2. In the first block **orange_move 0, –2, 0, 25** what does the 25 parameter do when it is inputted into the orange_move procedure? *HINT Look at the curved **define orange_move** block for the order of parameters and then look as where it has been used in the procedure.*
Repeats 25 times (1 mark) or loops 25 times (1 mark)

5, Connect Method 2. In the second block **orange_move 1, 0, 1, 67** what does the second 1 parameter do when it is inputted into the orange_move procedure?
Turns 1 degree to the right which makes it look like it is rolling (1 mark for turn or look like rolling)

6, In the blocks **orange_move x, y, deg, loop** what does the x parameter do? HINT x can be 0, 1 or –1
Moves right or left or if 0 doesn't more right or left (1 mark for right and left)

**Procedures With Parameters**

**MODIFY** (Run the code and make small changes)

**ScratchCat Modify Challenges**
1, Can you make the cat **move faster when the right arrow is pressed** in level 1? What did you change? *HINT It is a parameter*
*Change move_right (2) to a higher number in level 1 (1 mark)*

2, Can you make the ScratchCat **fall faster when it is not touching the pink** floor, walls and ceiling? What did you change? *HINT It is a parameter*
*Change gravity (-2) to a lower negative number such as –3 (1 mark)*

3, Can you make the ScratchCat **jump less than 40**? What did you change? *HINT It is a parameter*
*Change jump (40) to a lower number such as jump (30) (1 mark)*

**Look at the code inside the row_one**
**Row_one Modify Challenges**
4, Can you **reduce the length of time** between one row_one clone and the next one appearing? What did you change?
Change the second wait 5 second block (one in forever loop) to less than 5 seconds (1 mark)

5, Can you make the row_one clone **drop the same distance at double the speed**? What did you change? *HINT You will need to change two number parameters.*
Change orange_move (0) (-2) (0) (28) to orange_move (0) (-4) (0) (14) (1 mark)

6, Can you make the row_one clone **travel left the same distance at half the speed**? What did you change? *HINT You will need to change two number parameters.*
orange_move (-3) (0) (-5) (110) to orange_move (-1.5) (0) (-5) (220) (1 mark)

**Orange Run**
**CREATE INSIDE HINT SHEET**

**Walking Cat**
ScratchCat has two costumes WalkA and WalkB. HINT Costumes tab
Create a new procedure called walk that swaps between costumes when either the right or left arrow keys are pressed. HINT if right arrow key pressed OR left arrow key pressed
Create a parameter called stride that allows you to adjust how many seconds between swapping from WalkA to WalkB. HINT When creating procedure select options then add number input. Find the best place to trigger this new procedure either in the large main program, in the forever jump main program or in a new main program.

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**Orange Run**
**CREATE INSIDE HINT SHEET**

**Another small rolling orange** (right click on row_three and select duplicate) Adapt the game so that the new small orange has to drop and roll along the middle floor before disappearing. HINT X will be different
HINT orange_move **x, y, deg, loops**

Repeat **loops**
    Change x by **x**
    Change y by **y**
    Turn right **deg** degrees

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**Orange Run**
**CREATE INSIDE HINT SHEET**

**Random time between large oranges**
Adapt the code inside Orange so each new orange appears after a random amount of time no sooner than 3 seconds and no longer than 10 seconds. HINT Operators pick random block