

# No Fear Coding Lesson Plan: Present Participle

**PURPOSE (Objective):** Use a Scratch project to investigate how the ending letters of a verb affect its spelling as we change tenses. Students will begin by simply adding 'ing' to the end of verbs to help them identify **patterns** of which words this works with and which it does not. Then students develop an **algorithm** (spelling rule) for those words in which adding 'ing' does not work.

## **GOALS:**

**CCSS ELA.LITERACY.L.3:** Use conventional spelling for high-frequency and other studied words for adding suffixes to base words (eg.: sitting, smiled, cries, happiness) **Students will be able to recognize patterns in forming present participles of verbs, identifying special cases.**

### *Computer Science*

**CSTA L1:6.CT.6:** Understand the connections between computer science and other fields. **Students will be able to recognize that computers find patterns in groups of items, just like students find spelling patterns with groups of words.**

**CSTA L1:6.CT.1:** Understand and use the basic steps in algorithmic problem-solving (e.g., problem statement and exploration, examination of sample instances, design, implementation and testing). **Students will modify an existing algorithm to handle special cases.**

\*student learning targets are embedded into the student/teacher rubric

<b>CT (Computational Thinking) Concept</b>	<b>Definition</b>
Algorithms & Procedures	Series of ordered steps taken to solve a problem or achieve some end.
Data Analysis	Making sense of data, finding patterns, and drawing conclusion.

## Teacher (direct) Instruction:

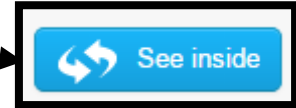
**Step #1:** Have students go to the following website:

<https://scratch.mit.edu> and open the Scratch project that fits their ability level.

Modified: <https://scratch.mit.edu/projects/134226854/>

Regular & Challenge: <https://scratch.mit.edu/projects/144905061>

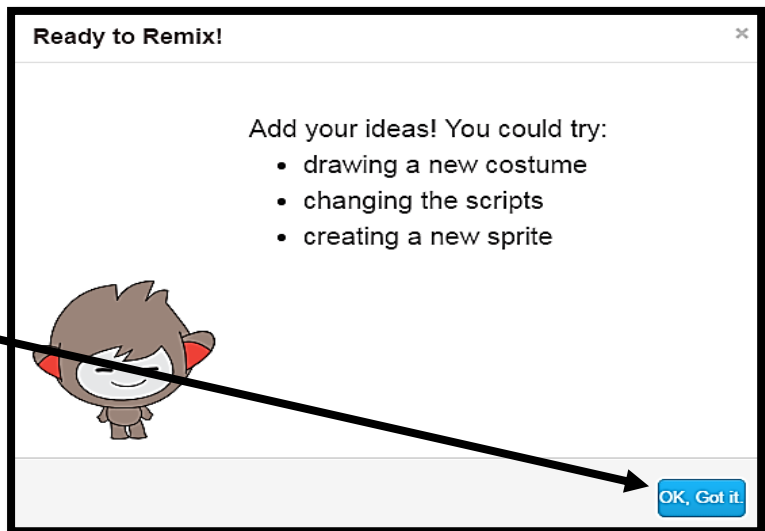
**Step #2:** Have students click on the "See inside" icon. You can find it in the upper right hand corner of the screen.



**Step #3:** Have students click on the orange "Remix" button.



**Step #4:** The screen will ask students if they are "Ready to Remix!" Have the students click on the "OK, Got it." blue button.



**Step #5:** Have students complete the student worksheets on the next page. When you see the \* symbol before the project name, this means that it has been STRETCh'ed to help support ESL students and/or struggling learners. If you see the \* symbol after the project name, this means it has been STRETCh'ed to support advanced learning.

# \*Present Participle Project

Student Name: \_\_\_\_\_

PART 1: You will click on the green flag and run the program four times.



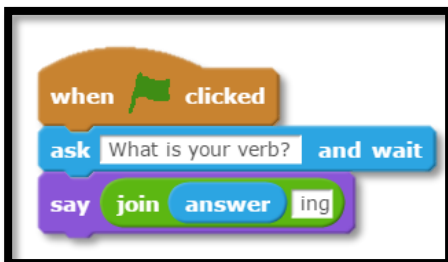
INPUT - Enter the verb	OUTPUT
play	
make	
create	
sing	

Circle the words in the output column that are incorrectly spelled. What do these words have in common?

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Describe the algorithm (procedures) that the program blocks follow to create the present participle of a verb (verb + 'ing').



First you need to click on the \_\_\_\_\_ flag.

Then, the computer \_\_\_\_\_ 'What is your verb'

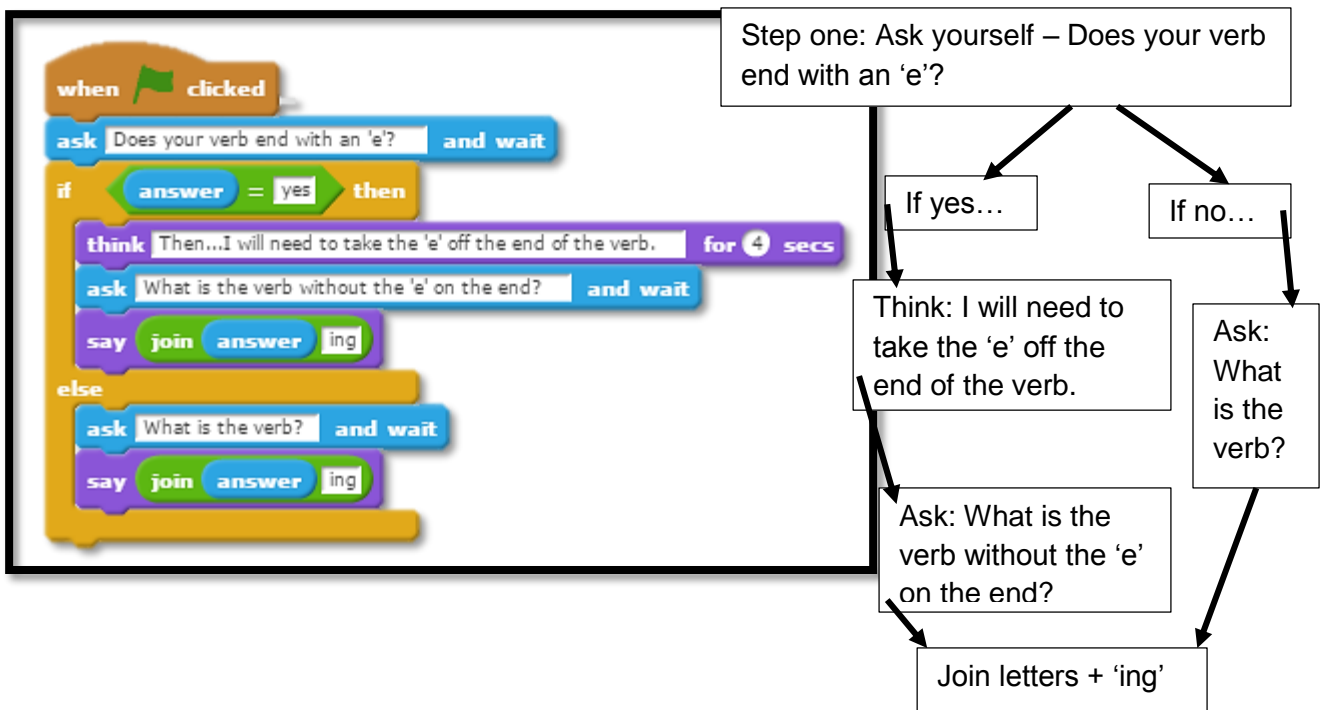
and \_\_\_\_\_ for the answer. \_\_\_\_\_,

the computer adds \_\_\_\_\_ to the word.

What additional procedure (rule) do we need to tell the Scratch program so that it will spell each result above correctly?

In order for the Scratch \_\_\_\_\_ to spell the word \_\_\_\_\_, we need to add a \_\_\_\_\_. The computer must ask the user if the verb \_\_\_\_\_ with an 'e.'

The algorithm to determine if the word does or does not end with an "e" looks like this:



Now - change the programming blocks in your project to match these by moving the



from the top set of blocks to the bottom set of blocks - PART 2.

TRY IT OUT: You will click on the green flag and run the program five times.



INPUT - Enter the verb	OUTPUT
make	
sing	
talk	
walk	
create	

Does your program work correctly? Why or why not...

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Extending your learning: Try your program with these words...

INPUT - Enter the verb	OUTPUT	Correct spelling - if output wrong
run		
learn		
jump		
stop		
see		

In the chart above, circle the verbs with misspelled results. Correct the spelling if needed.

# Present Participle Project

Student Name: \_\_\_\_\_

You will click on the green flag and run the program four times.



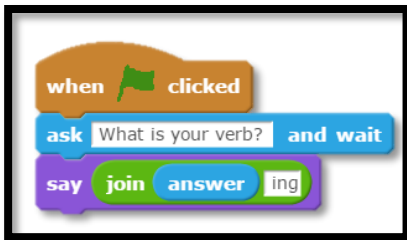
INPUT - Enter the verb	OUTPUT
play	
make	
create	
sing	

Circle the words in the output column that are incorrectly spelled. What do these words have in common?

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Describe the algorithm that the program blocks follows to create the present participle of a verb.



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What additional rule do we need to tell the Scratch program so that it will spell each result above correctly?

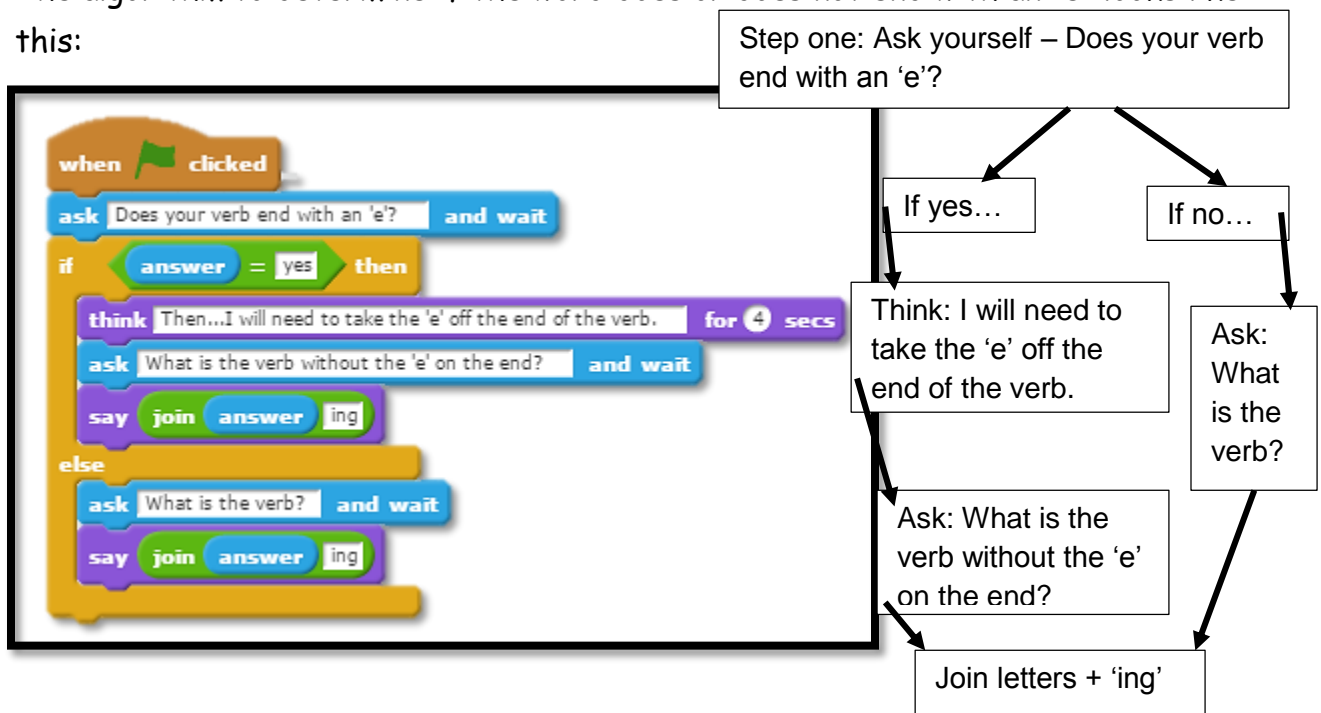
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The algorithm to determine if the word does or does not end with an "e" looks like this:



Now - change the programming blocks in your project to match these.

TRY IT OUT: You will click on the green flag and run the program three times.



INPUT - Enter the verb	OUTPUT
make	
sing	
talk	
walk	
create	

Does your program work correctly? Why or why not...

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Extending your learning: Try your program with these words...

INPUT - Enter the verb	OUTPUT	Correct spelling - if output wrong
run		
learn		
jump		
stop		
see		

In the chart above, circle the verbs with misspelled results. Correct the spelling if needed.



What do the misspelled verbs have in common? What do the correct spellings of the present participle have in common? Hint: focus on the ending letters of each word.

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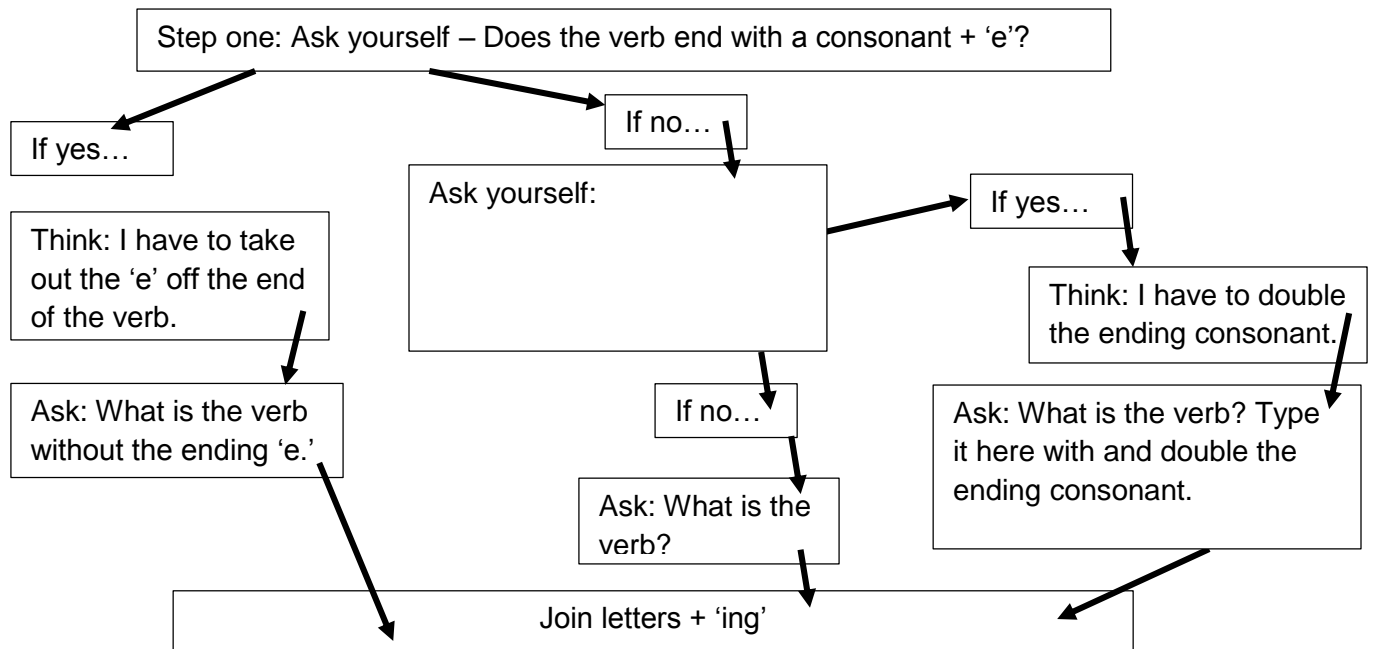
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In your own words, write an algorithm that yields the correct spelling of the present participle of a verb. Your algorithm should account for verbs that end in the following patterns:

- consonant + consonant
- consonant + e
- vowel + consonant
- vowel + vowel



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when clicked
ask Does your verb end with an 'e'? and wait
if answer = yes then
think Then...I will need to take the 'e' off the end of the verb. for 4 secs
ask What is the verb without the 'e' on the end? and wait
say join answer ing
else
ask and wait
if answer = then
ask and wait
say join answer ing
else
ask What is the verb? and wait
say join answer ing

```

Now, create the program using Scratch. Here are some hints...

Use the flowchart you created to help you construct your program.

Now test your program to make sure all the errors are accounted for. **STICK** with it...perseverance is key!

INPUT - Enter the verb	OUTPUT	Correct spelling - if output wrong
run		
learn		
jump		
stop		
see		

How many times did it take you to get the program to run correctly? \_\_\_\_\_

What did you learn throughout this process? \_\_\_\_\_

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# Present Participle Project\*

Student Name: \_\_\_\_\_

You will click on the green flag and run the program four times.



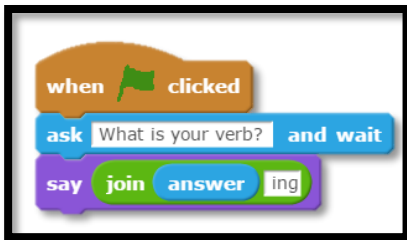
INPUT - Enter the verb	OUTPUT
play	
make	
create	
sing	

Circle the words in the output column that are incorrectly spelled. What do these words have in common?

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Describe the algorithm that the program blocks follows to create the present participle of a verb.



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What additional rule do we need to tell the Scratch program so that it will spell each result above correctly?

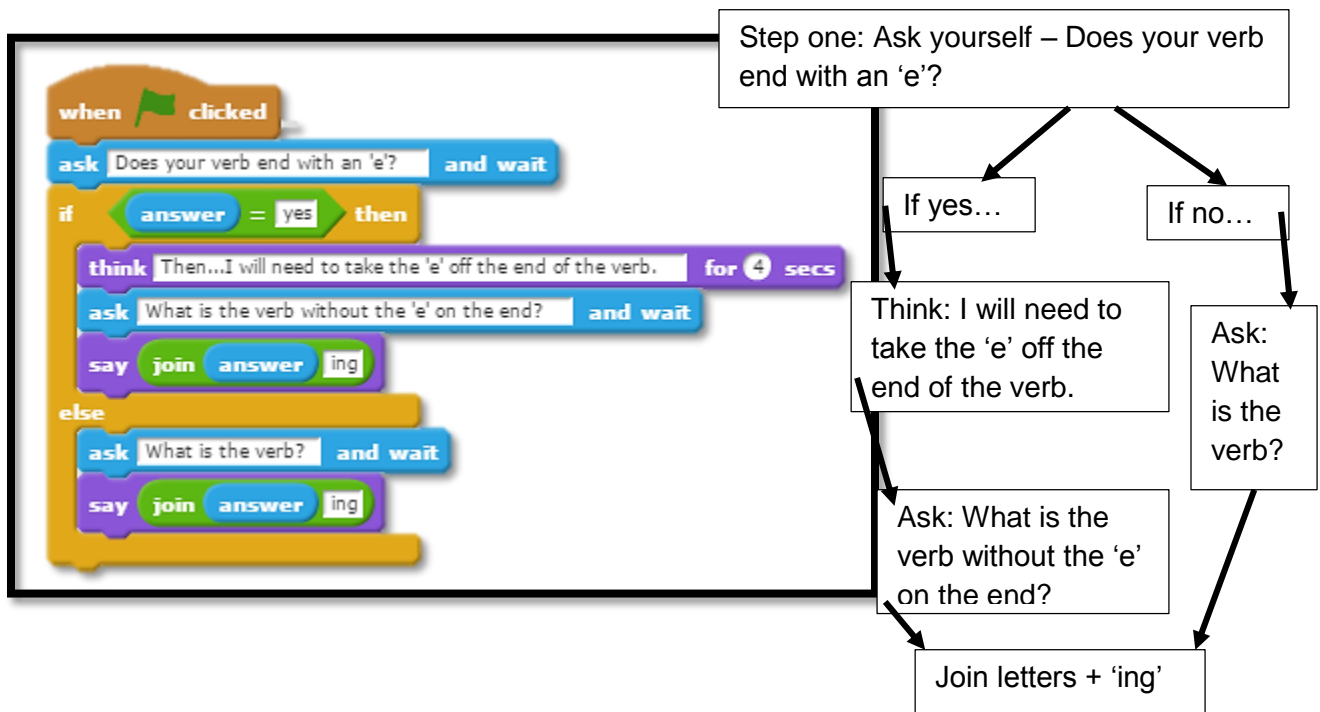
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The algorithm to determine if the word does or does not end with an "e" looks like this:



Now - change the programming blocks in your project to match these.

TRY IT OUT: You will click on the green flag and run the program three times.



INPUT - Enter the verb	OUTPUT
make	
sing	
talk	
walk	
create	

Does your program work correctly? Why or why not...

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Extending your learning: Try your program with these words...

INPUT - Enter the verb	OUTPUT	Correct spelling - if output wrong
run		
learn		
jump		
stop		
see		

In the chart above, circle the verbs with misspelled results. Correct the spelling if needed.

What do the misspelled verbs have in common? What do the correct spellings of the present participle have in common? Hint: focus on the ending letters of each word.

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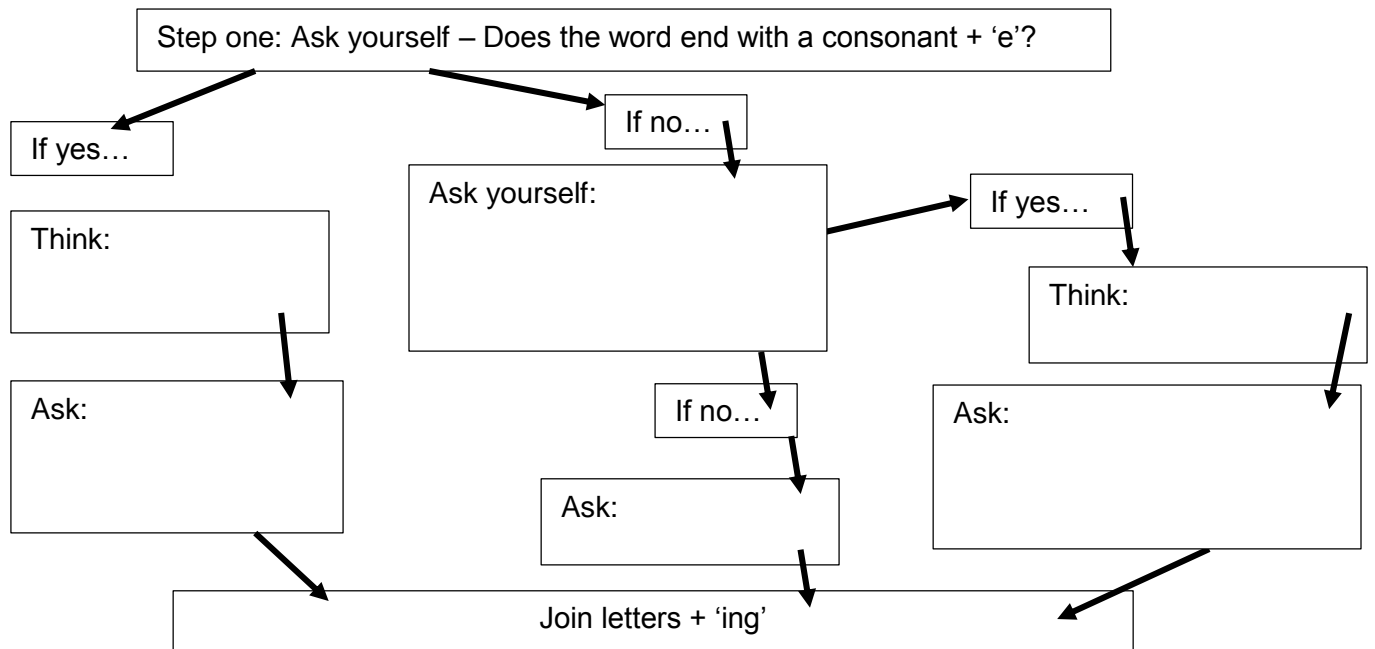
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In your own words, write an algorithm that yields the correct spelling of the present participle of a verb. Your algorithm should account for verbs that end in the following patterns:

- consonant + consonant
- consonant + e
- vowel + consonant
- vowel + vowel



Now, create the program using Scratch. Here are some hints...

\* You will need an 'if - else' statement inside another 'if - else' statement.

\* Use the flowchart you created to help you construct your program.

Draw (or cut and paste) your final programming blocks in the box.

Now test your program to make sure all the errors are accounted for. **STICK** with it...perseverance is key!

INPUT - Enter the verb	OUTPUT	Correct spelling - if output wrong
run		
learn		
jump		
stop		
see		

How many times did it take you to get the program to run correctly? \_\_\_\_\_

What did you learn throughout this process? \_\_\_\_\_

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**Answers:**

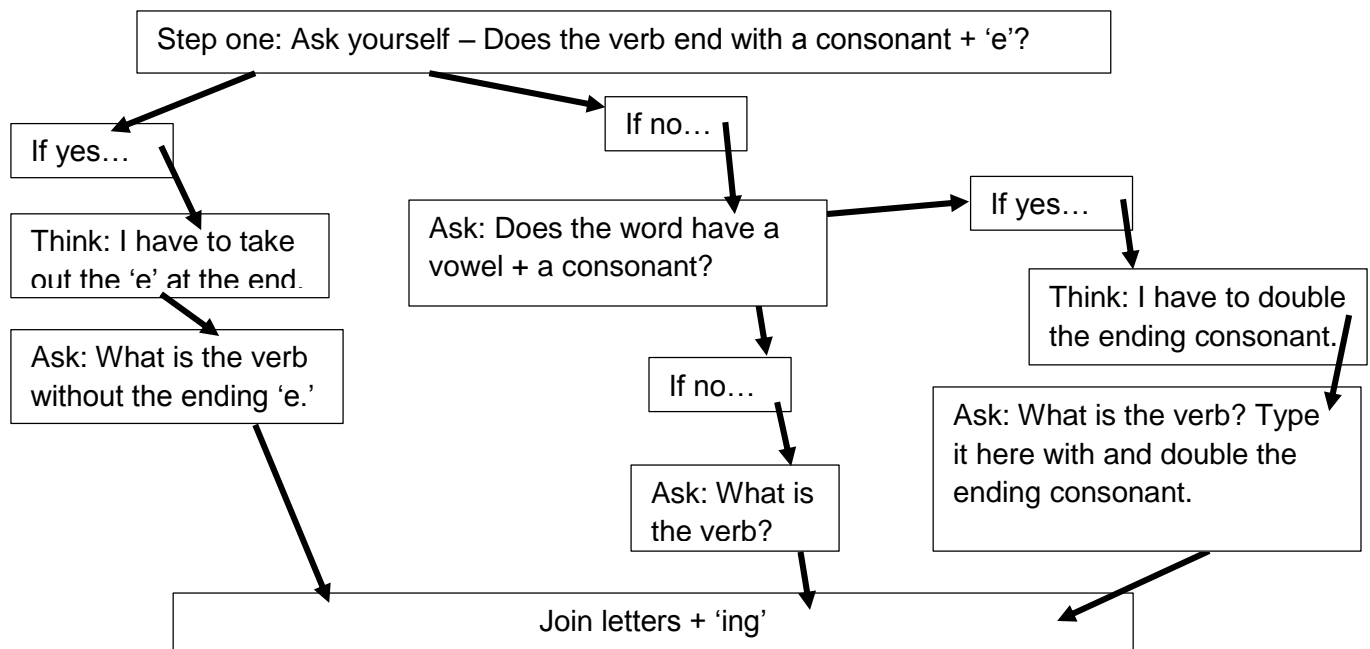
Circle the words in the output column that are incorrectly spelled. What do these words have in common? **The results of 'make' and 'create' are spelled incorrectly; they both end in 'e'.**

Describe the algorithm that the program blocks follows to create the present participle of a verb. **The program adds 'ing' to the end of a word to create the present participle.**

What additional rule do we need to tell the Scratch program so that it will spell each result above correctly? **The algorithm does not account for the special case of verbs that end in 'e'. We need to tell Scratch to 'drop the e' before adding 'ing'.**

In the chart above, circle the verbs with misspelled results. How should the results of those words be spelled? **run → running, stop → stopping**

What do the misspelled verbs have in common? What do the correct spellings of the present participle have in common? Hint: focus on the ending letters of each word. **Each of the incorrectly spelled verbs ends in a consonant preceded by a vowel. To arrive at the correct spelling of the present participle we need to double the ending consonant before adding 'ing'. Students might notice that verbs such as 'see' that end in a double 'e' do not require us to drop the final 'e'.**





Answers may vary depending on how advanced students are with their programming skills. The following represents how most students will arrive at their answers.

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when green flag clicked
ask Does your verb end with an 'e'? and wait
if answer = yes then
  think Then...I will need to take the 'e' off the end of the verb. for 4 secs
  ask What is the verb without the 'e' on the end? and wait
  say join answer ing
else
  ask Does the verb have a vowel + a consonant? and wait
  if answer = true then
    ask What is the verb? Type in the verb and double the ending consonant. and wait
    say join answer ing
  else
    ask What is the verb? and wait
    say join answer ing
```

How many times did it take you to get the program to run correctly? What did you learn throughout this process?

Answers here will vary. It is important for the teacher to stress higher level thinking, attention to perseverance, and stress the computer can only follow the steps we create. These steps (algorithms) are demonstrated on paper through creating a flowchart of decision-making steps.



# Present Participle Project - Rubric



Student Name: \_\_\_\_\_

NOT YET	GOT IT	Next Step...
	I can use conventional spelling patterns for words in which I must add a suffix of 'ing' to a base word.	
	I understand the connection between computer science algorithms and finding spelling patterns in words I use in my writing.	
	I can create a flowchart of my thinking when looking for exceptions to the rules in spelling patterns.	
	I can create a Scratch program to test my thinking when looking for exceptions to the rules in spelling patterns.	

Feedback: