Logo Blocks Activities: Advanced Mode

These activities use the Advanced mode blocks in Logo Blocks as well as the ones in the Intermediate section.

Sample solutions are provided at the end. Your students' solutions may vary, of course.

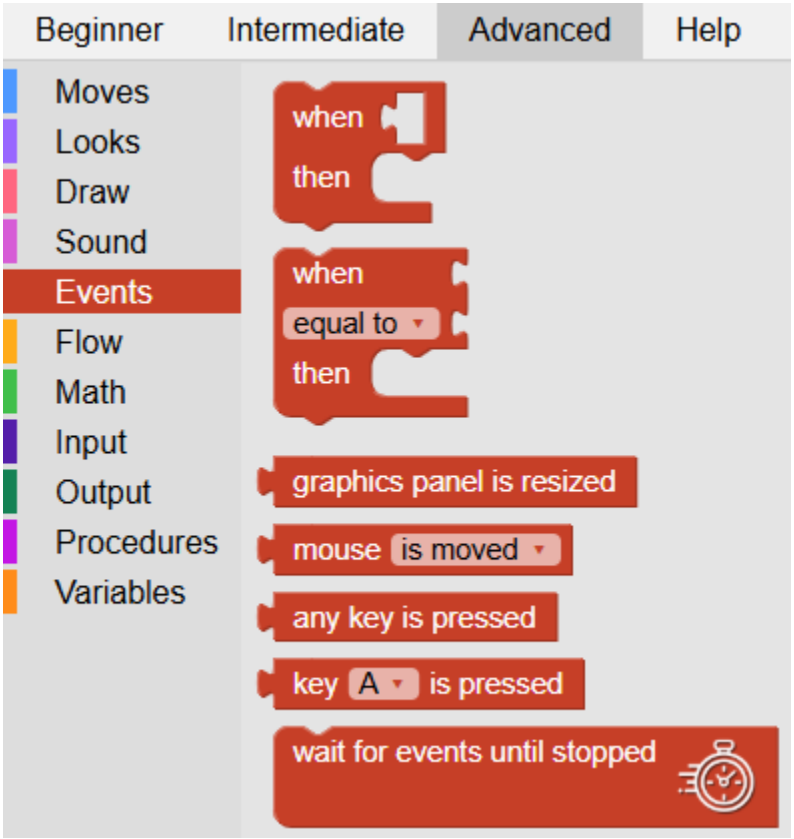
Encourage your students to send us their programs. No code is too simple to share with others. We want to build a community of users and you and your students can help do that.

To send us your program, please use the Customer Contribution Form on our website. https://www.terrapinlogo.com/forms/share.html

Under topic, please choose "I would like to share my Logo program."

Shortly after we receive your form, we will be in touch with you!

Thank you for using Logo Blocks!



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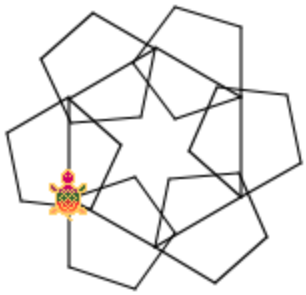
Advanced

Logo Blocks Activity Card #1

Nested Repeats

You can make interesting designs by placing one ***repeat*** block inside another one.

Here is an example. Try some of your own!



How many ***repeat*** blocks can you nest?

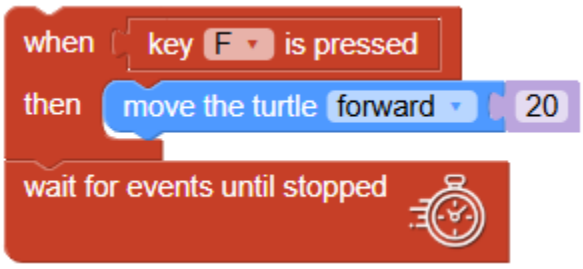
Advanced

Logo Blocks Activity Card #2

Single Key Logo

Can you write a program that makes it easy for young children to move the turtle around the screen? They could just type letters.

Here's a start. What other keys can you add?
Be sure to add the ***wait for events until stopped*** block at the end.



Advanced

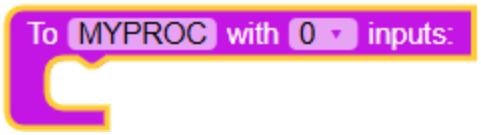
Logo Blocks Activity Card #3

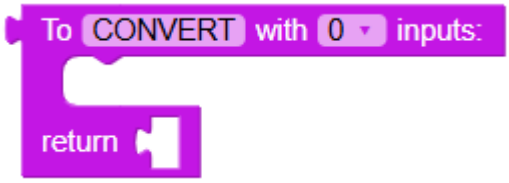
Convert Inches to Centimeters

Can you write a procedure that converts inches to centimeters?

One inch = 2.54 centimeters.

You can use the standard procedure block
or the one that gives you a result.





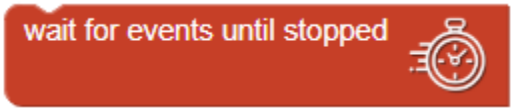
Advanced

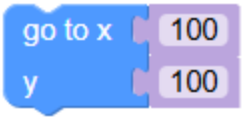
Logo Blocks Activity Card #4

Draw With the Mouse!

Can you write code that lets you draw when you drag the mouse?

You will need these blocks, among others:





The ***mouse position*** block reports a list of two numbers. That is why you need the ***item*** and ***go to x y*** blocks. Be sure to include the ***wait for events until stopped*** block at the end of your code.

Advanced

Logo Blocks Activity Card #5

Heads or Tails?

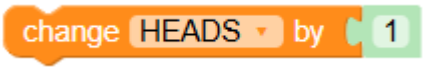
Write a program that flips a coin many times and tells you how many were Heads and how many were Tails.

Make variables called HEADS and TAILS.

Use the ***random*** block to choose either 1 or 2.

Use ***If/Then/Else*** to change the value of one or the other variable.

This block will come in handy.



Don't forget to start the variables at 0!

Advanced

Logo Blocks Activity Card #6

Pick One!

Can you tell Logo Blocks to pick an item at random from a list?

The list could contain 3 items: the words Rock, Paper, and Scissors.

Or the list could be the names of people in a group.
You could use this program to pick a leader!

The code should:

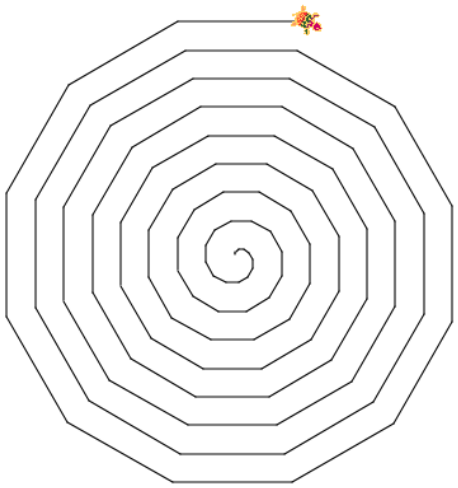
1. set up a list
2. pick a random item from the list
3. display the result

Advanced

Logo Blocks Activity Card #7

Create a Spiral

Can you write a program that results in something like this?



Tip: Create variables for DISTANCE and ANGLE.
Change their values to vary the design.

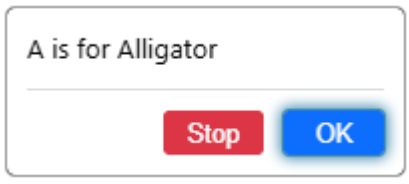
Advanced

Logo Blocks Activity Card #8

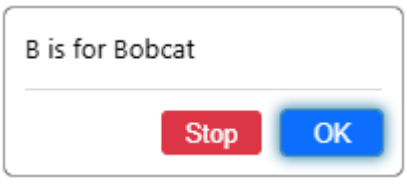
Make an Animal Alphabet

Write a program that names an animal for each letter you press.

type: **A**



type: **B**



How many animals can you come up with for this alphabet?

Advanced

Logo Blocks Activity Card #9

Create a Math Quiz

Can you code a quiz that does this?

- picks two numbers at random
- tells the player what the numbers are
- asks the player to enter what the two numbers add up to
- says whether their guess was the correct answer

You will need to use some variables for this project.
Use the ***create variable…*** button in the Variables section.

Then change it to practice multiplication tables.

This is a challenging project. Good luck with it!

Advanced

Logo Blocks Activity Card #10

Resizable Letters

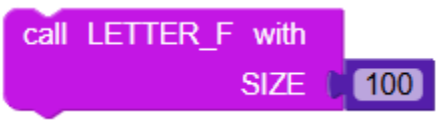
Pick and letter and create block code to draw it.

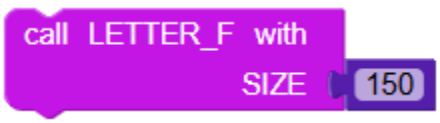
Then add variables so you can draw the letter in any size you want.

Here is an example using the letter F.

What letters can you make?

Some will be easier than others!





Advanced

Logo Blocks Activity Card #11

Count the Money

Can you write a program that asks you how many quarters, dimes, nickels, and pennies you have, and then tells you how much money that is?

Advanced

Logo Blocks Activity Card #12

Spelling Bee!

Can you code a spelling bee that does this?

- sets up a list of words (start with a small number for testing)
- picks a word at random
- speaks the word (use the ***Say*** block)
- asks the player to type the word they heard
- says whether they spelled the word correctly
- repeats the program (the same word might be chosen again)

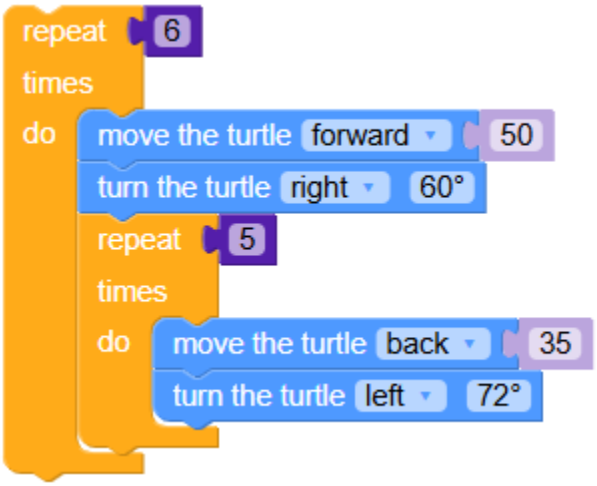
Good luck with this challenging program!
Perhaps work with another student on it.

Solutions

There are usually many ways to solve each activity. Below is the code we used for each one. Any code that produces the correct result is fine! Students may learn new ideas by looking at solutions that are different from theirs.

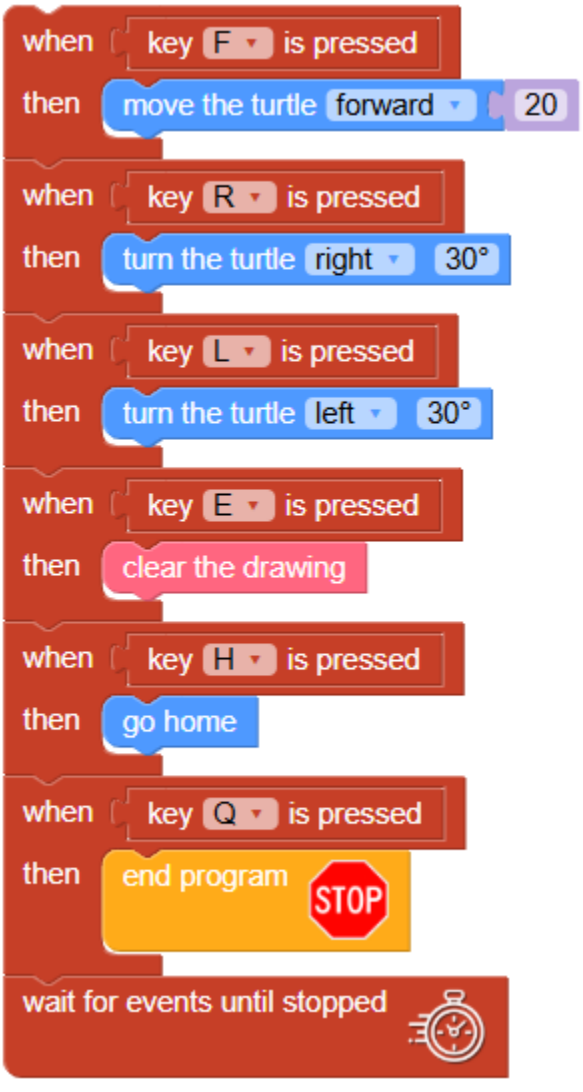
Activity Card #1: Nested Repeats

Here is one example. Any solution that uses nested repeats is fine!



Activity Card #2: Single Key Logo

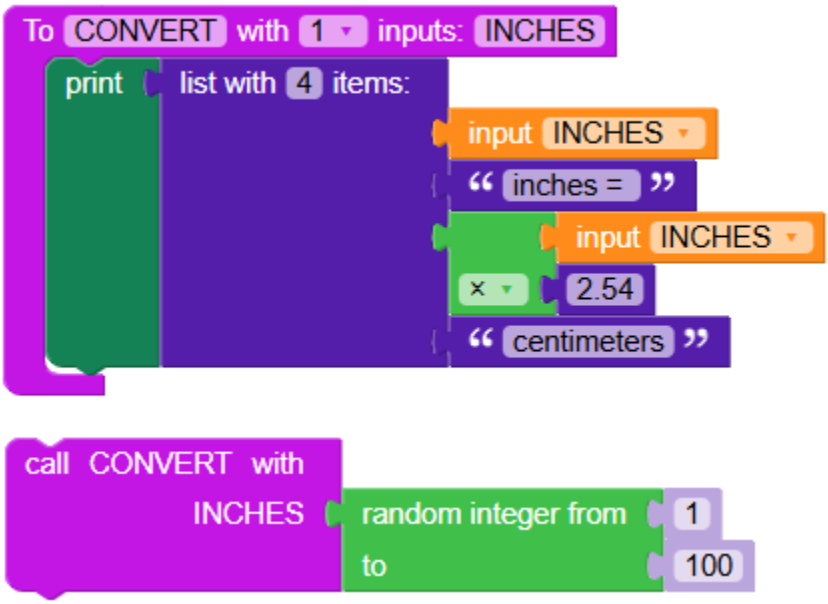
Here is a starter set of blocks.
You can continue to add to this program.



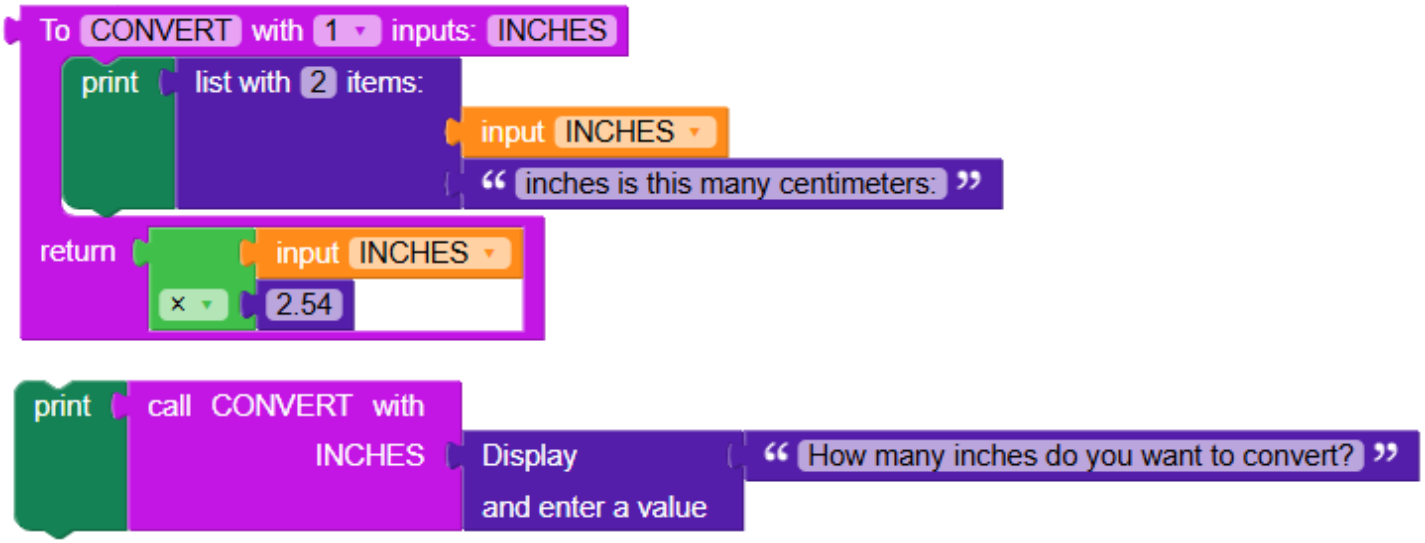
Activity Card #3: Convert Inches to Centimeters

Here are two solutions using different types of procedures.

Solution #1

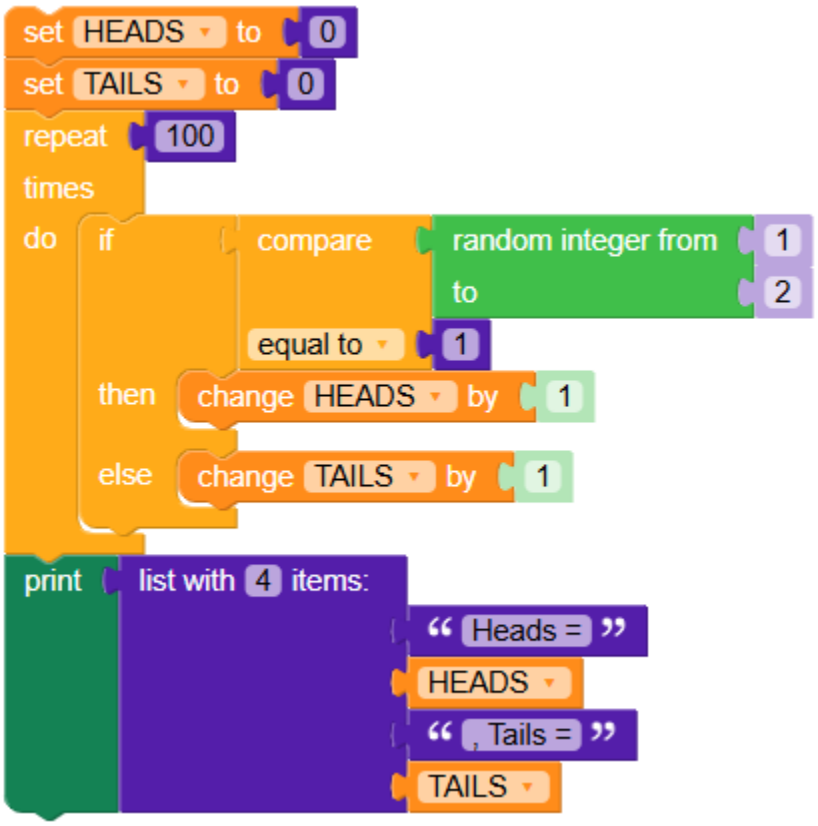


Solution #2

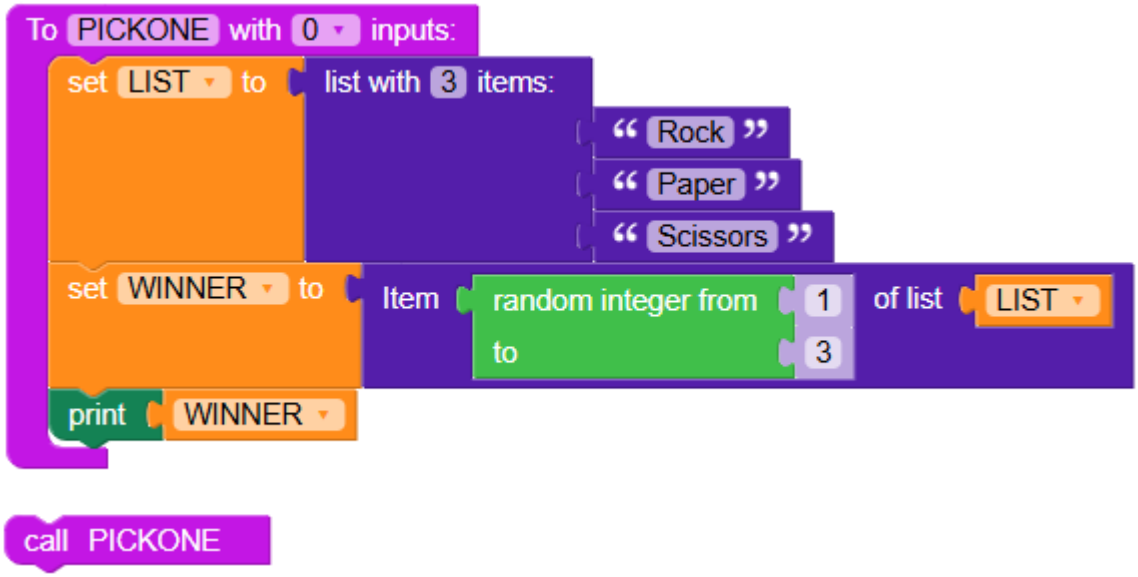


Activity Card #4: Draw with the Mouse

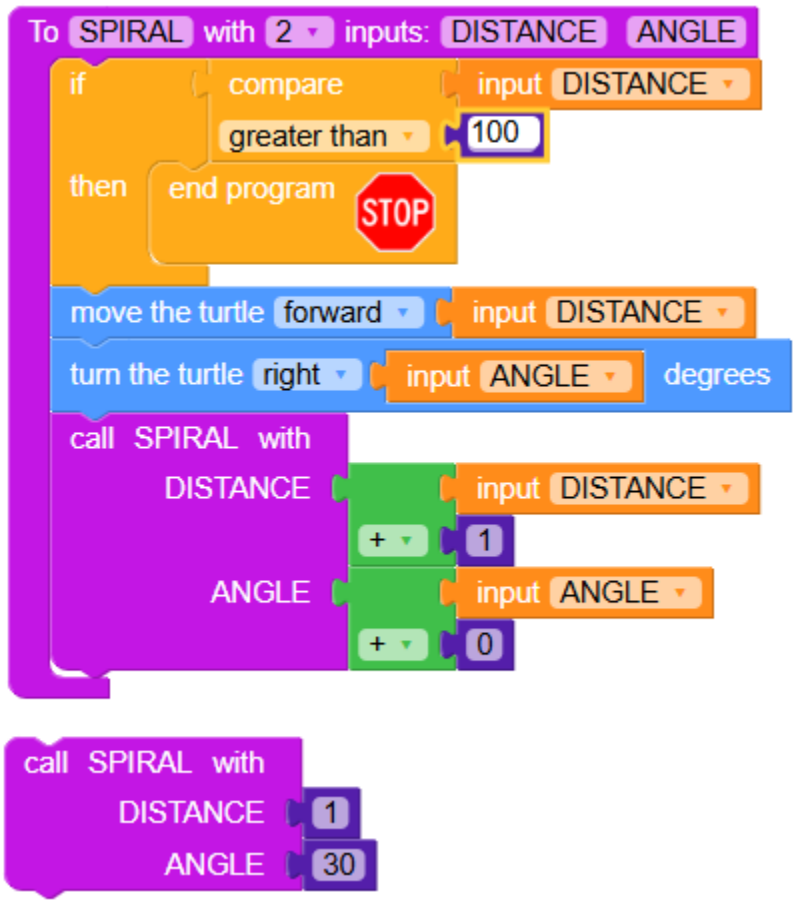
Activity Card #5: Heads or Tails?



Activity Card #6: Pick One!

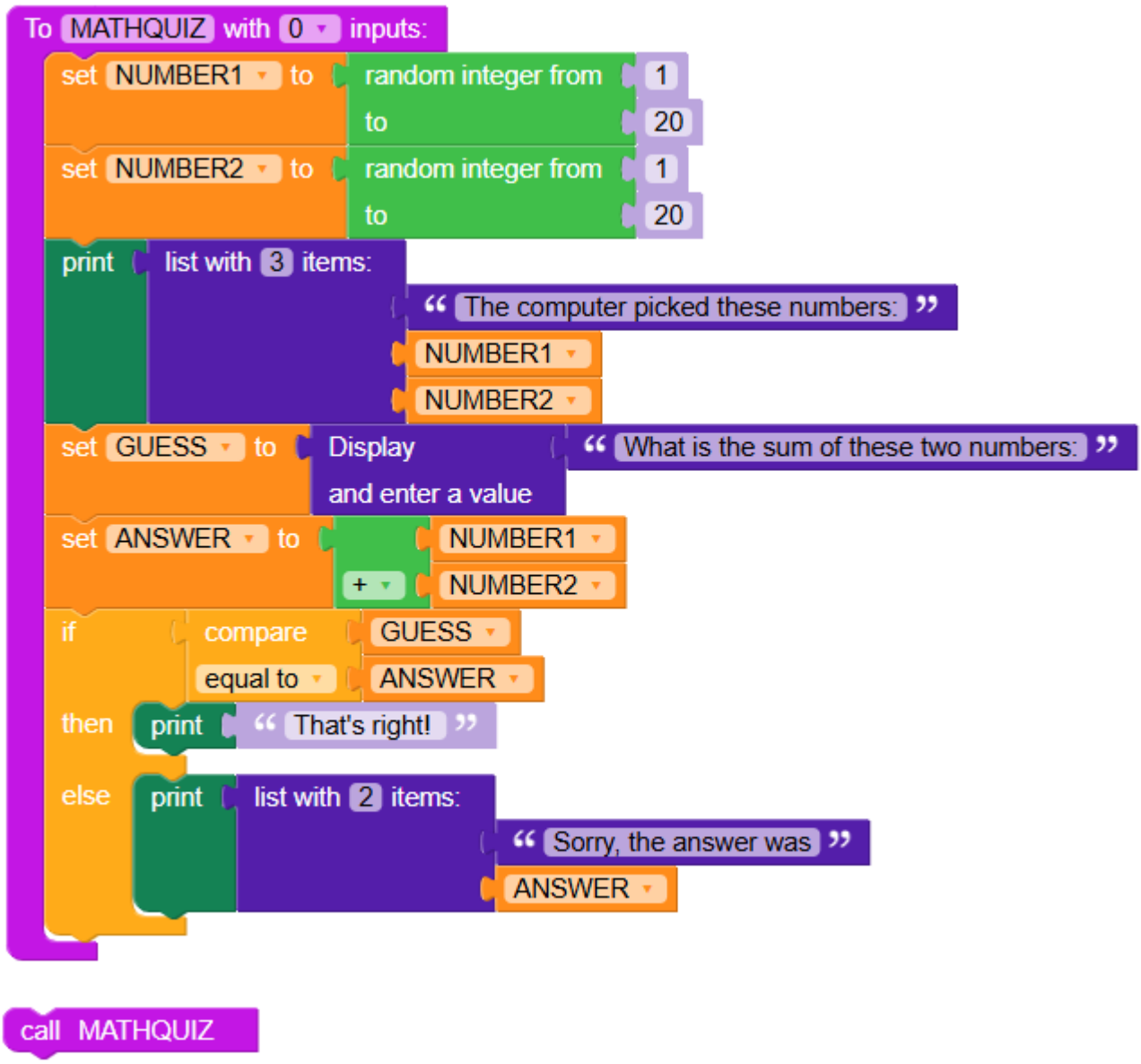


Activity Card #7: Create a Spiral

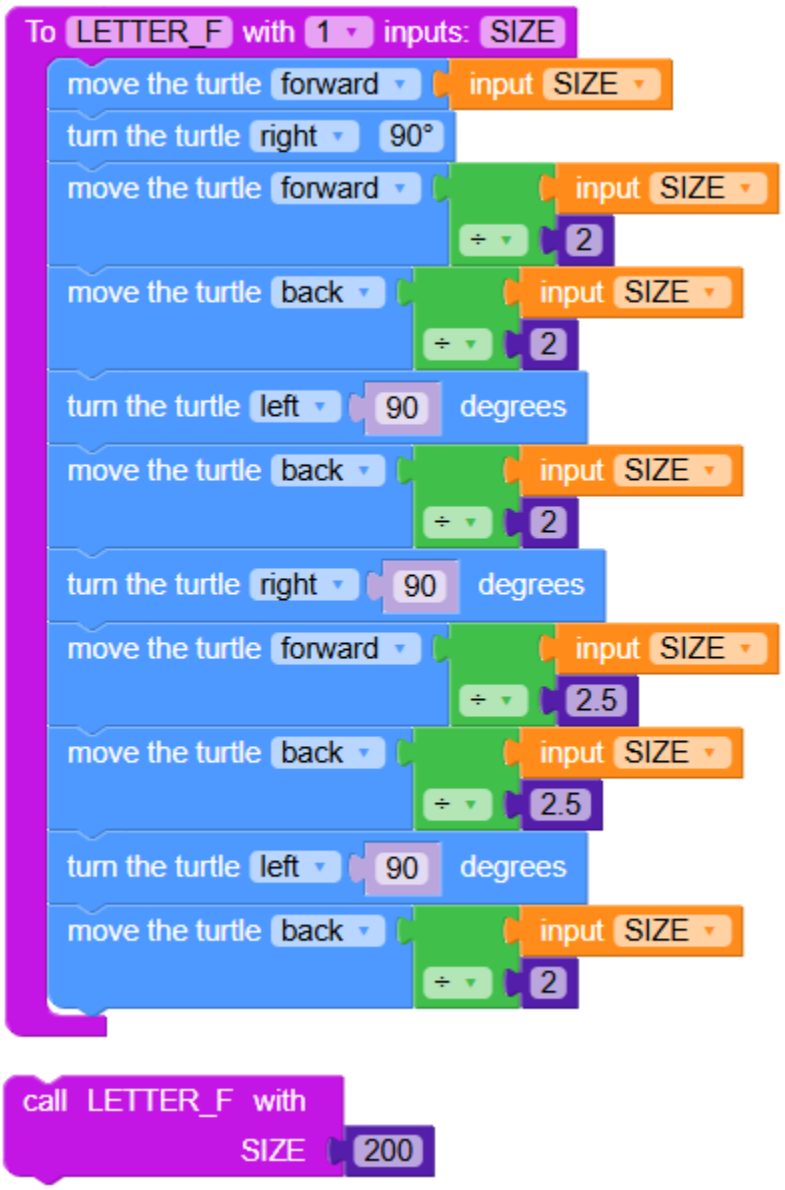


Activity Card #8: Make an Animal Alphabet

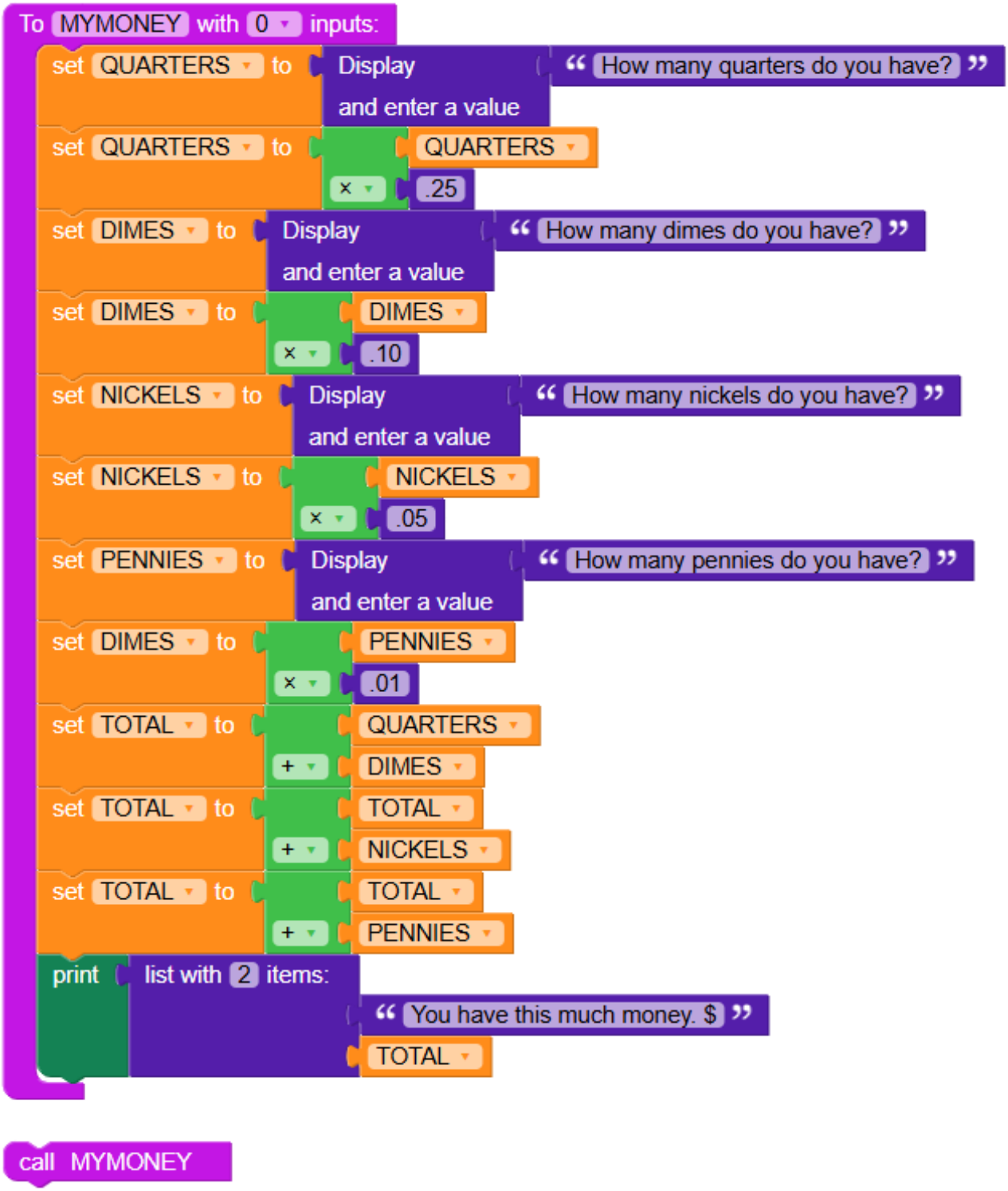
Activity Card #9: Create a Math Quiz



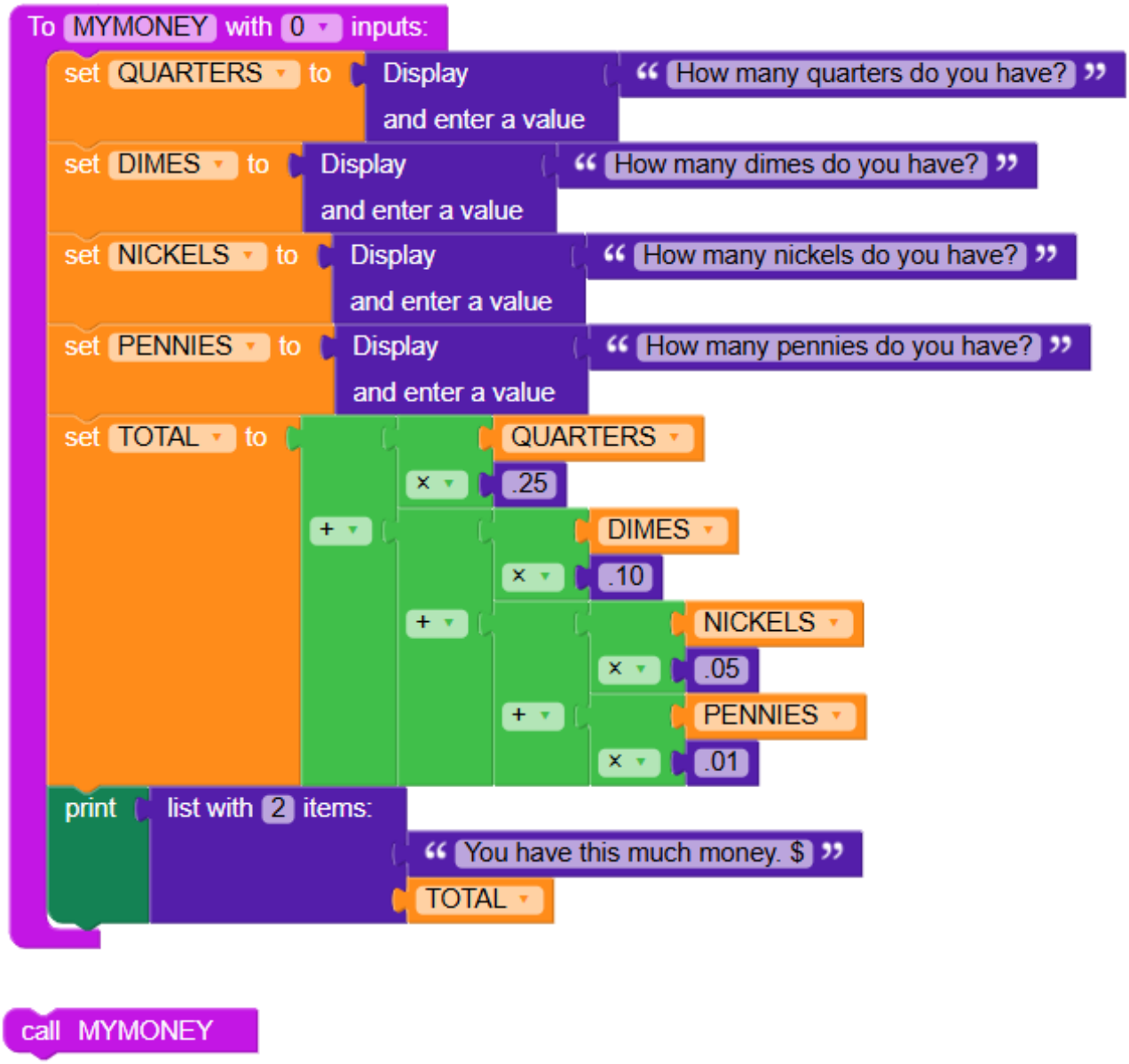
Activity Card #10: Resizable Letters



Activity Card #11: Count the Money

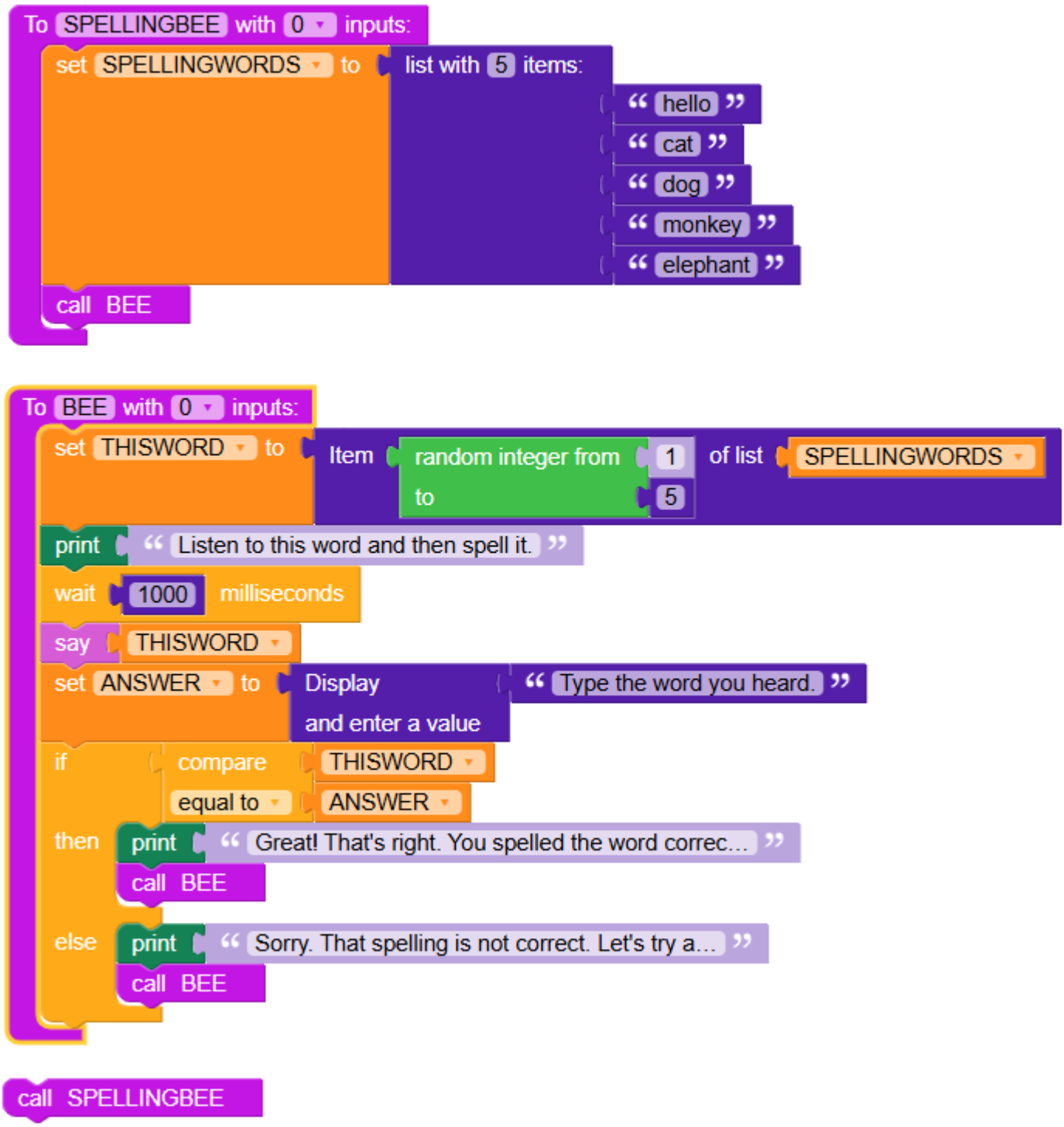


Below is a slightly more efficient way to code it:


To MYMONEY with 0 inputs:
set QUARTERS to Display and enter a value "How many quarters do you have?"
set DIMES to Display and enter a value "How many dimes do you have?"
set NICKELS to Display and enter a value "How many nickels do you have?"
set PENNIES to Display and enter a value "How many pennies do you have?"
set TOTAL to QUARTERS × .25 + DIMES × .10 + NICKELS × .05 + PENNIES × .01
print list with 2 items: "You have this much money. $" TOTAL

call MYMONEY

Activity Card #12: Spelling Bee!



Don't forget to send us block code that you have created!

To send us your code, use the Customer Contribution Form on our website.
https://www.terrapinlogo.com/forms/share.html
Under topic, please choose "I would like to share my Logo program."

We look forward to hearing from you!

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