Name_____ Date_____

Master 8a

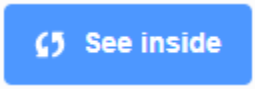
# Classifying Triangles by Side Lengths

## Using a Block-Coding Program

Follow the link to access the file: What type of triangle?

https://scratch.mit.edu/projects/552987916/

Click **See Inside**.




The code for this application is incomplete.

**Here is a description of the application:**

- Cat asks the user to enter the number of EQUAL sides on the triangle.
- The application checks to make sure the user doesn't enter a value greater than 3. If a value greater than 3 is entered, it can't be a triangle.
  - If 0 is entered, then the triangle will be scalene.
  - If 2 is entered, then the triangle will be isosceles.
  - If 3 is entered, then the triangle will equilateral.

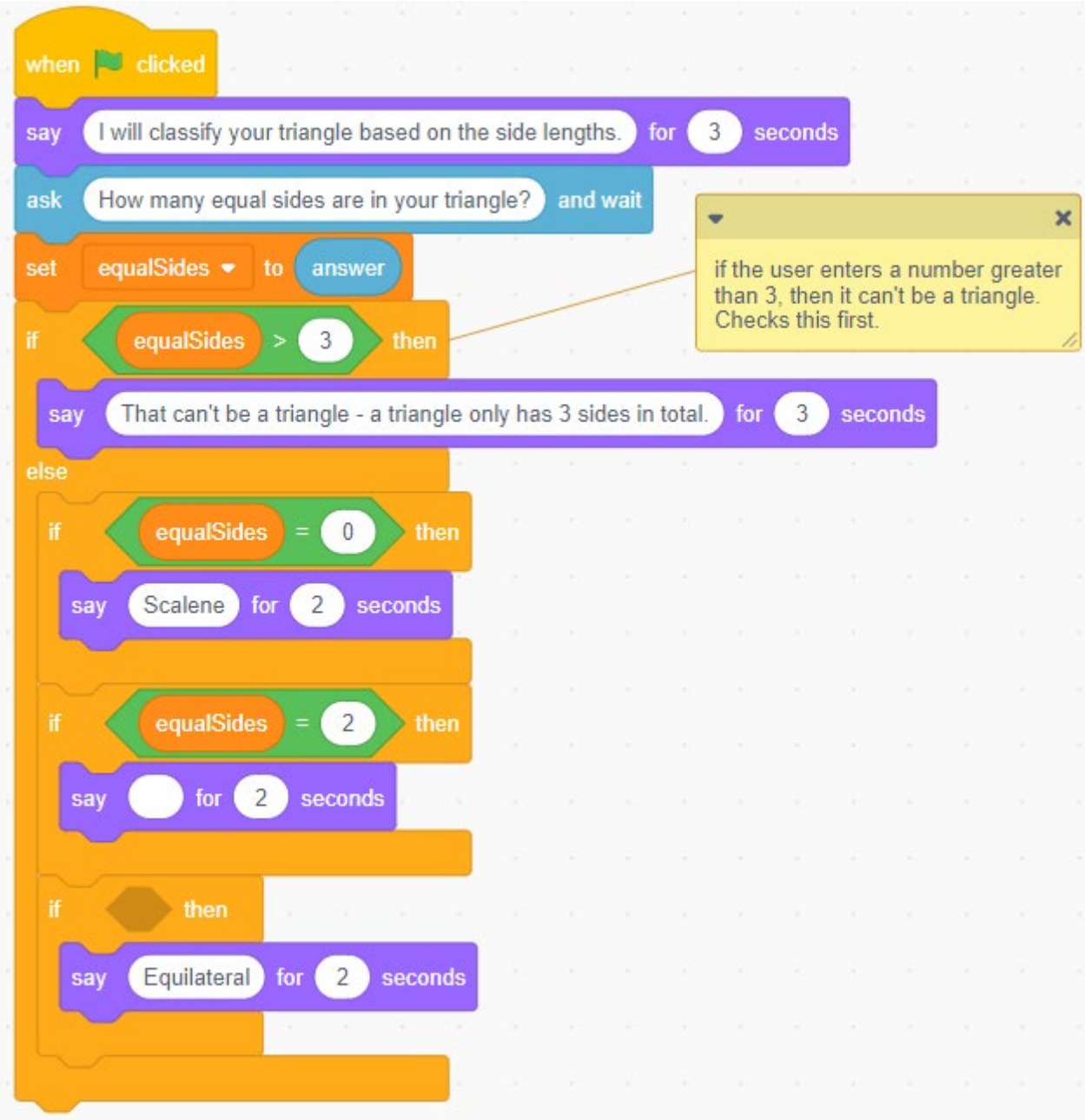
Name_____ Date_____

Master 8b

# Classifying Triangles by Side Lengths (cont'd)

## Using a Block-Coding Program

Here is the code for the partially completed application:



Name_____ Date_____

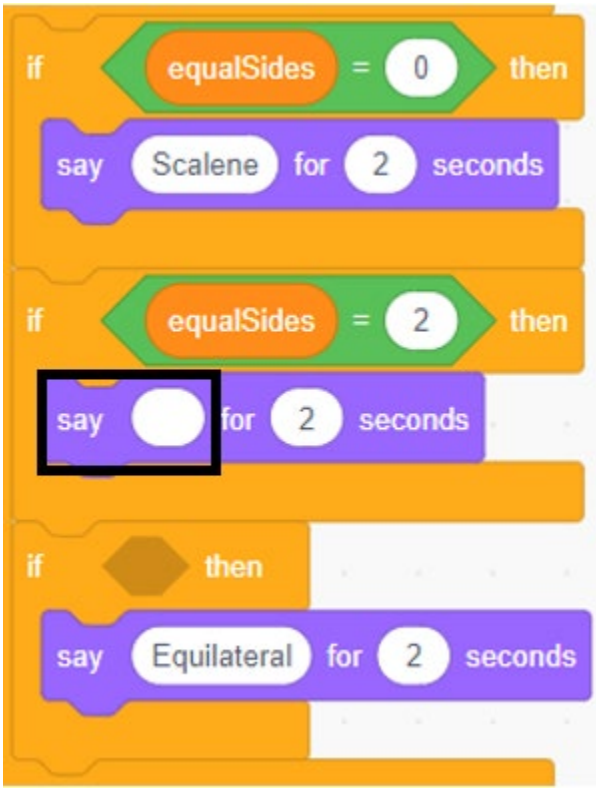
Master 8c

# Classifying Triangles by Side Lengths (cont'd)

## Using a Block-Coding Program

Your task is to complete the code for the application:

Complete the **Say** block to indicate the type of triangle if the user enters 2 for number of equal sides.



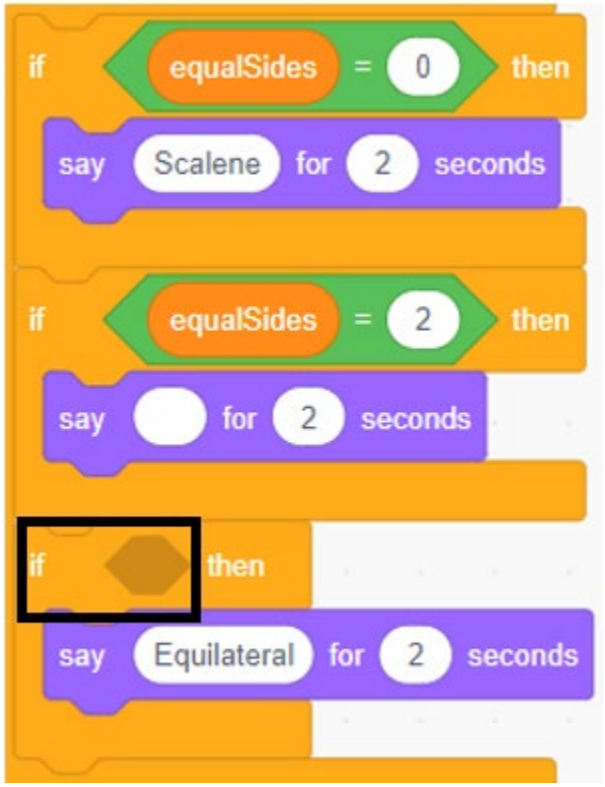
Name_____ Date_____

Master 8d

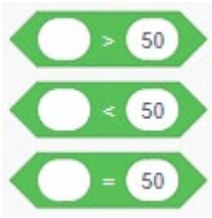
# Classifying Triangles by Side Lengths (cont'd)

## Using a Block-Coding Program

Provide the correct condition for the equilateral triangle in the **If** statement shown:




**Tips:**

- The **conditional operator** blocks (  )


  can be found under **Operators** (  ).


- The variable **equalSides** block can be found under **Variables** (  ).

Name_____ Date_____

Master 8e

# Classifying Triangles by Side Lengths (cont'd)

## Using a Block-Coding Program

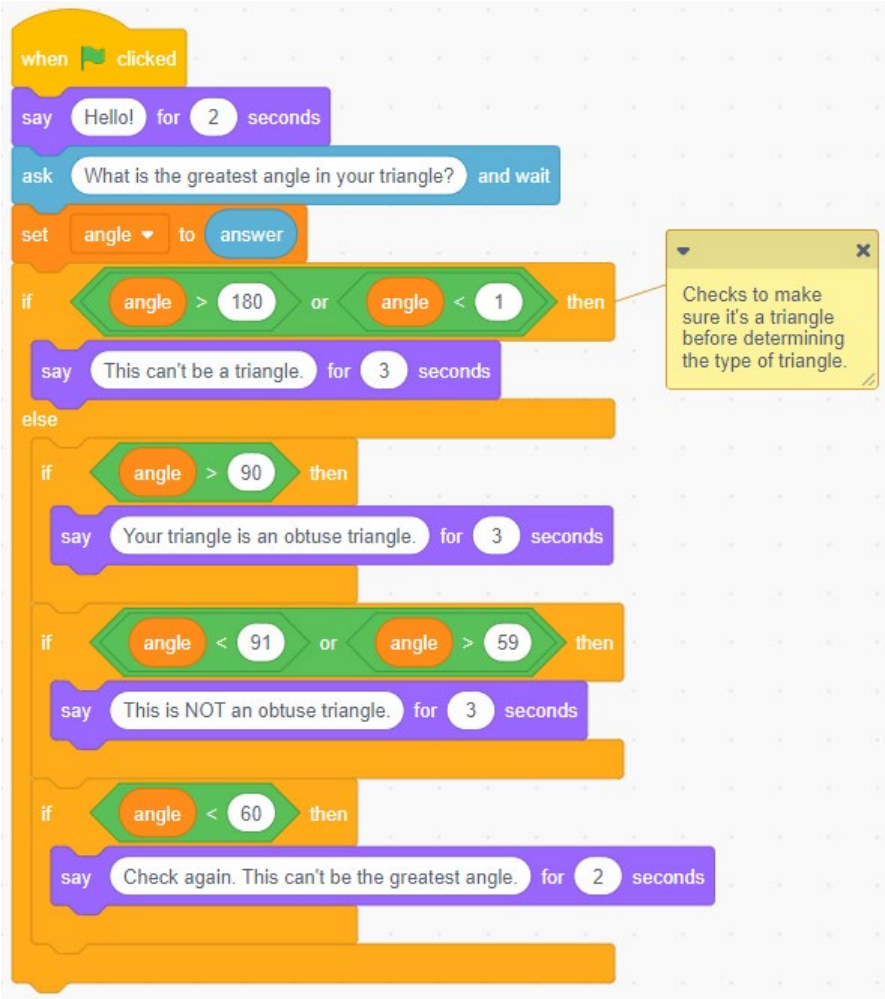
Follow the link to access the file: What type of triangle?

https://scratch.mit.edu/projects/552694138/

Test out the application by executing the code.

Click the green flag.

What do think this application does?



Name_____ Date_____

Master 8f

# Classifying Triangles by Side Lengths (cont'd)

## Using a Block-Coding Program

Currently, the application shows if the triangle is obtuse or not obtuse, based on the measure of the greatest interior angle.

The greatest interior angle must be greater than a certain measure for the triangle to be considered obtuse. What is that measure?

How does the application know that the user has entered a measure that can't possibly be the greatest interior angle?
Consider what the interior angles in a triangle add to.

Try to make sense of the program by testing different measures to see what happens.

Name_____ Date_____

Master 8g

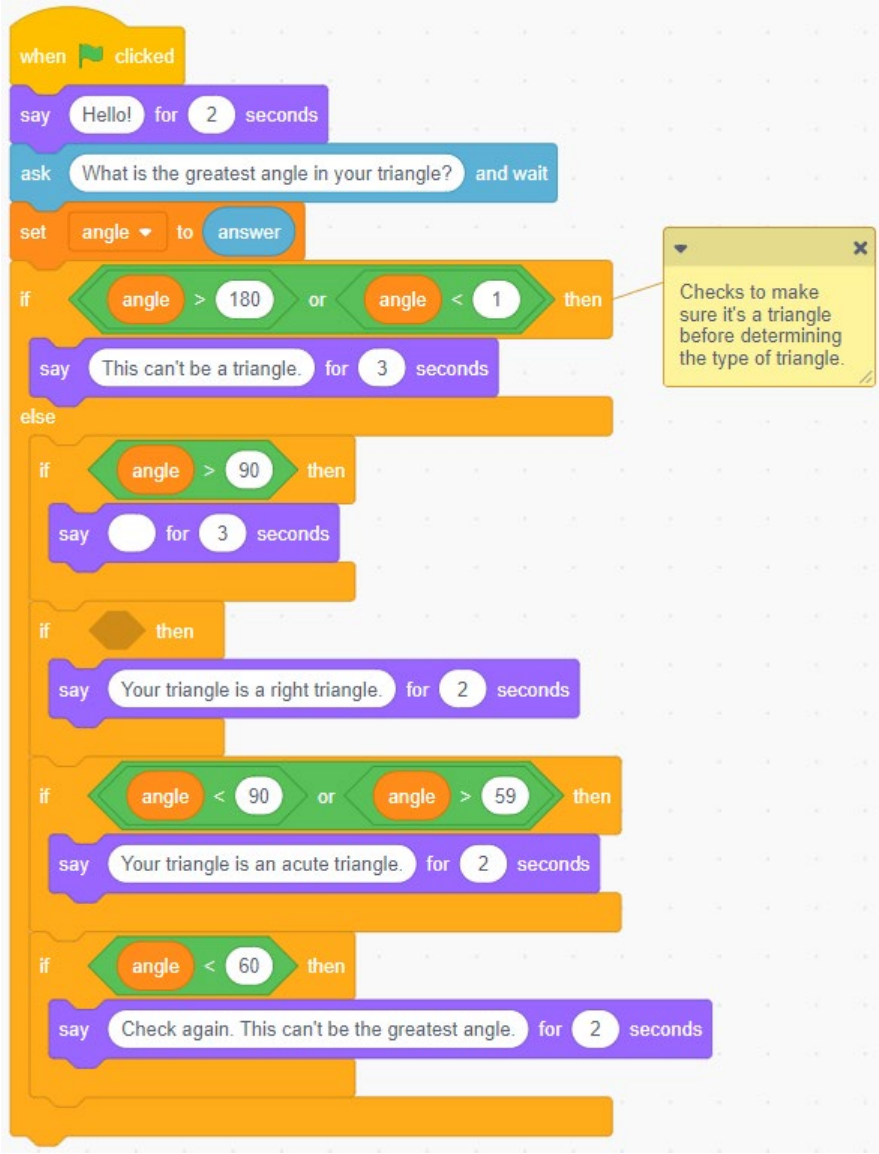
# Classifying Triangles by Side Lengths (cont'd)

## Using a Block-Coding Program

Follow the link to access the file: What type of triangle?

https://scratch.mit.edu/projects/552997968/

Notice that additional conditional statements (**If … then**) have now been added, but the program is incomplete.



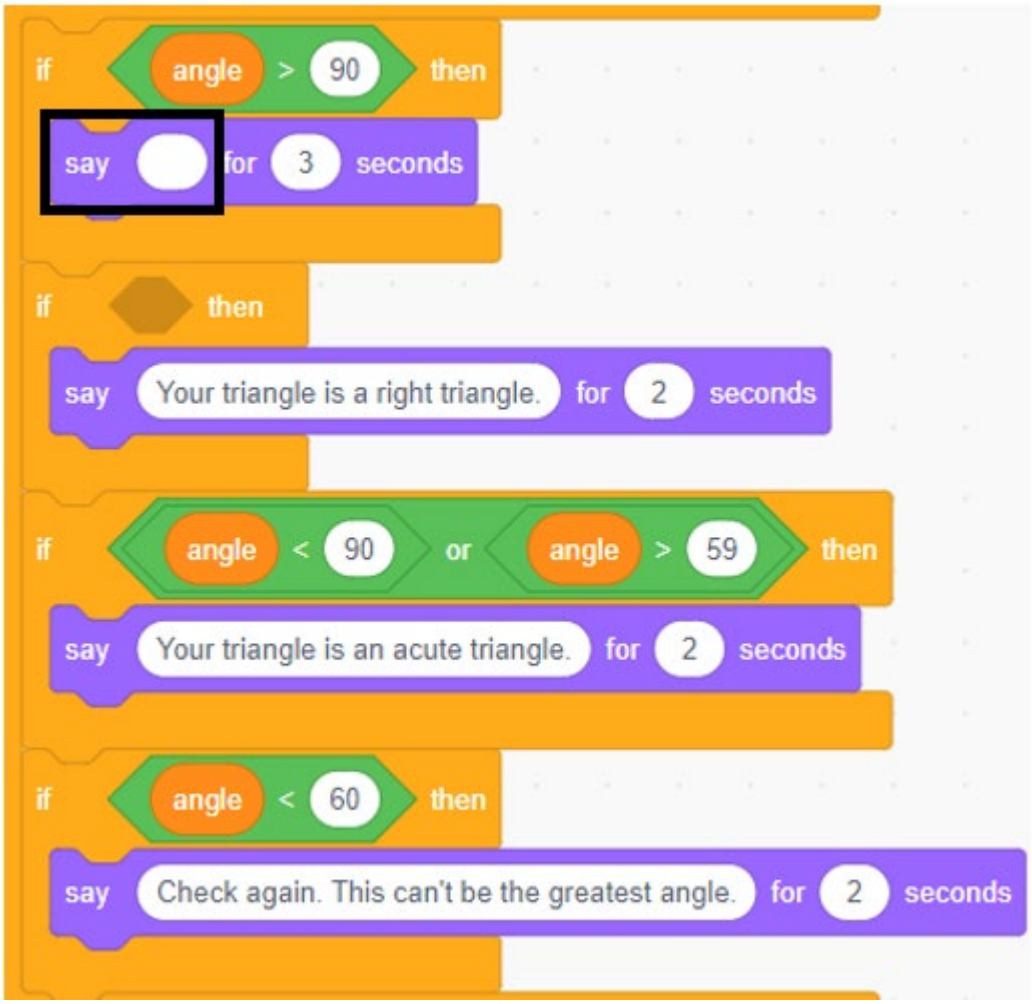
Name_____ Date_____

Master 8h

# Classifying Triangles by Side Lengths (cont'd)

## Using a Block-Coding Program

Your task is to complete the code for the application:




Complete the **Say** block to indicate the type of triangle if the user enters a measure greater than 90 for the greatest interior angle:

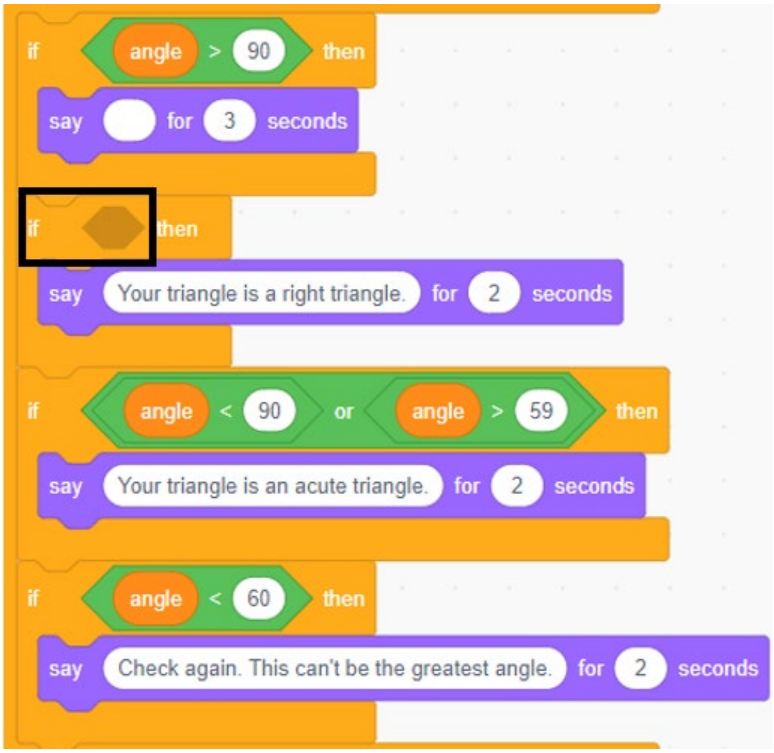
Name_____ Date_____

Master 8i

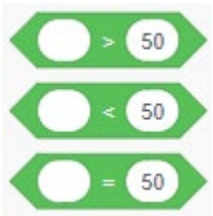
# Classifying Triangles by Side Lengths (cont'd)

## Using a Block-Coding Program

Provide the correct condition for the Right triangle in the **If** statement shown:




**Tips:**

- The **conditional operator** blocks (  )


  can be found under **Operators** (  ).


- The variable **equalSides** block can be found under **Variables** (  ).

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Master 8j

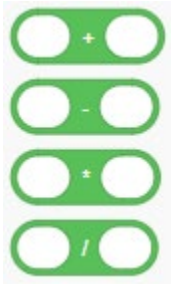
# Classifying Triangles by Side Lengths (cont'd)

## Using a Block-Coding Program

### Challenge A

Alter the code in the *Classifying Triangles* based on Angles program (https://scratch.mit.edu/projects/552694138/) so that it determines the sum of the other two angles.

### Tips:

- You will need to use an operator variable to subtract the measure of the greatest angle from 180 to determine what is left for the other two angles.
- The operators blocks (  ) are located under **Operators** (  ).
- The variable angle block can be found under **Variables** (  ).
- You can output this information using a **Say** block, found under **Looks** (  ).

Name_____ Date_____

Master 8k

# Classifying Triangles by Side Lengths (cont'd)

## Using a Block-Coding Program

### Challenge B

Alter the code to draw the type of triangle (scalene, isosceles, or equilateral) based on the number of equal sides entered by the user for the Classifying Triangles by Side Length application. (https://scratch.mit.edu/projects/552987916/)
It might take a few tries to draw isosceles and scalene triangles so that they are closed completely.

### Challenge C

Alter the code to draw each type of triangle (right, obtuse, or acute) based on the angle entered by the user for the *Classifying Triangles by Angle* application (https://scratch.mit.edu/projects/552997968/).

It might take a few tries to draw the right, obtuse and acute triangles so that they are closed completely. You do not have to draw the exact triangles based on the greatest angle measures, but be sure to draw examples of each type of triangle.

### Self-check in

What have you learned about conditions so far?

Did you get stuck? If so, what did you do?

Did you turn to your classmates for help? If so, how did they help?

What are you doing to help the learning of others?

This is "hard fun." What do you think we mean by "hard fun"?
What other activities do you do that are "hard fun"?

Go on "spy walks" to see what your classmates have done.