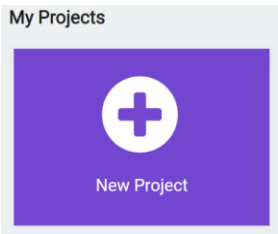
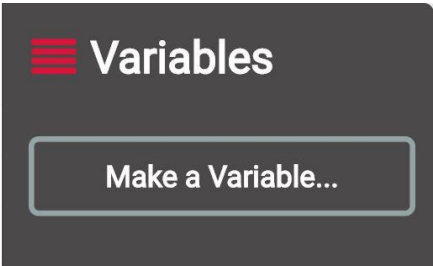
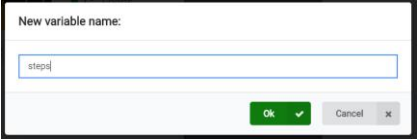


Video walkthrough: <http://explorecuriosity.org/Explore/ArticleId/6341/step-counter-walkthrough.aspx>

Goal: To create a step counter.

Instructions – Step Counter Part 1: Counting Steps	Blocks
Get onto the internet and go to: https://makecode.microbit.org/	
Click on the <i>New Project</i> button under My Projects. Delete the <i>on start</i> block and the <i>forever</i> block.	
First you will need to create a variable. Under Variables, select <i>Make a Variable</i>	
Type in the name steps and click on the <i>Ok</i> button.	

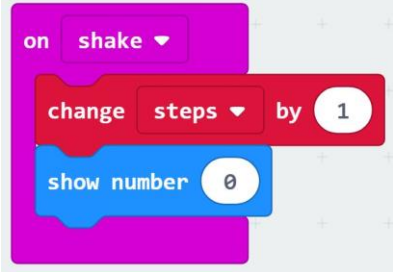
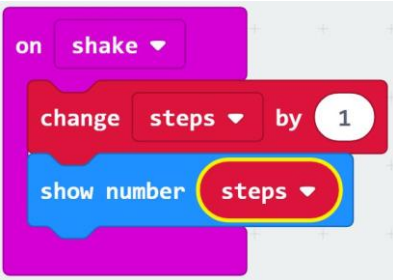
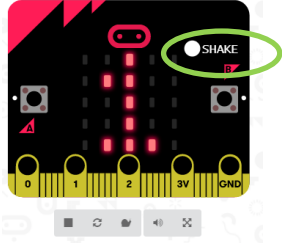





<p>You will now see that you have a variable called <i>steps</i>.</p>	
<p>Under <i>Variables</i>, click and drag a <i>change steps by</i> block onto the screen.</p> <p>You will note that it is shaded out at this point.</p>	
<p>Under <i>Input</i>, select the <i>on shake</i> block and drag it on to the screen. Click on the <i>change steps by</i> block and snap it into the <i>on shake</i> block.</p>	
<p>Tip: Always pull in a block from the right-hand side.</p>	
<p>If you click on the small downward arrow beside the word <i>steps</i>, you will see that the variable <i>steps</i> is checked.</p>	
<p>Now every time you shake the micro:bit it will increase the number of <i>steps</i> by 1.</p> <p>But there is no way yet to see the number of steps. For this you need to add code to display a number.</p>	



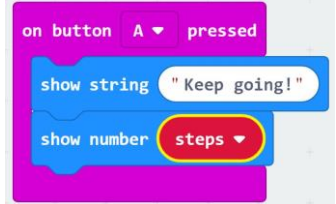
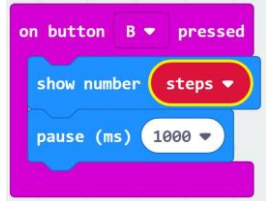




<p>Under <i>Basic</i>, click and drag a <i>show number</i> block onto the screen and place it under the <i>change steps by 1</i> block.</p>	
<p>Under <i>Variables</i>, click and drag the <i>steps</i> variable block onto the screen and snap it into the <i>show number</i> block where the 0 is.</p>	
<p>Notice how the <i>steps</i> variable is shaped like a puzzle piece that fits into the <i>show number</i> block.</p>	
<p>You can test out the code using the virtual Micro:bit beside your working area by clicking on the white circle beside the word SHAKE. You should see the number go up by one each time you click SHAKE.</p>	
<p>Save your work and upload the code to the micro:bit</p>	
<p>Instructions – Step Counter Part 2: Showing a message</p>	<p>Blocks</p>
<p>In this next part you will add a way to give the user an encouraging message.</p> <p>Under <i>Input</i> select the <i>on button A pressed</i> block and drag it into the empty space on your working area.</p>	
<p><i>Did you know?</i> In coding, a “string” is a sequence of characters that can contain letters, numbers and punctuation.</p>	


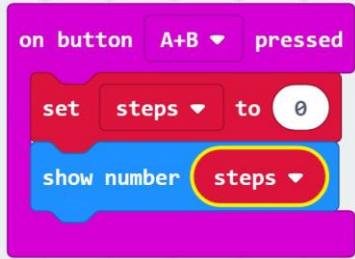




<p>Under <i>Basic</i>, select the <i>show string</i> block and snap it into the <i>on button A pressed</i> block.</p>	
<p>Change the word "hello!" in the <i>show string</i> block to a word or phrase of encouragement, such as "Keep going!"</p> <p>You can test this to see if it works by clicking on the A button on the micro:bit simulator. You should see the words scrolling across the screen.</p>	
<p>Duplicate the <i>show number</i> block from Part 1 by right-clicking on the block and selecting <i>Duplicate</i> from the top of the menu. Drag the block so that it is beneath the <i>show string</i> block.</p>	
<p>Save your work and upload the code to the micro:bit</p>	
<p>Instructions – Step Counter Part 3: Clearing the screen</p>	<p>Blocks</p>
<p>Under <i>Input</i>, select the <i>on button A pressed</i> block and drag it into an empty space on your working area. In the pull-down menu, change <i>on button "A" pressed</i> to <i>on button "B" pressed</i>.</p>	
<p>Duplicate the <i>show number</i> block from Part 1 by right-clicking on the block and selecting <i>Duplicate</i> from the top of the menu. Snap it into the <i>on button B pressed</i> block.</p>	
<p>Under <i>Basic</i>, select the <i>pause (ms)</i> block and place it beneath the <i>show number</i> block. Adjust the value to 1000 ms (1 second).</p>	





<p>Under <i>Basic</i> and ...<i>More</i> select the <i>clear screen</i> block. Snap it in beneath the <i>pause</i> block.</p> <p>Save your work and upload the code to the micro:bit</p>	
<p>Instructions – Step Counter Part 4: Resetting the step counter</p>	<p>Blocks</p>
<p>Under <i>Input</i>, select the <i>on button A pressed</i> block and drag it into the empty space on your working area. In the pull-down menu, change <i>on button "A" pressed</i> to <i>on button "A+B" pressed</i>.</p>	
<p>To have the display reset to 0, under <i>Variables</i>, select the <i>set steps to</i> block and snap it into the <i>on button "A+B" pressed</i> block.</p>	
<p>Make sure the variable is still called <i>steps</i>.</p>	
<p>To display the value 0 to the user, duplicate the <i>show number</i> block from Part 1. Drag the block so that it is beneath the <i>set steps to</i> block.</p>	
<p>You can test this to see if it works by clicking A+B button on the simulator. A zero (0) should be displayed.</p>	
<p>Save your work and upload the code to the micro:bit.</p>	

