

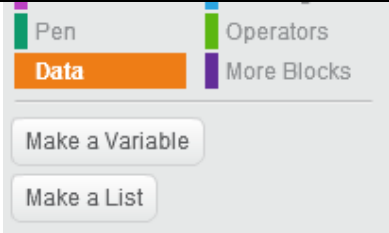
Lists-Storing multiple, related values

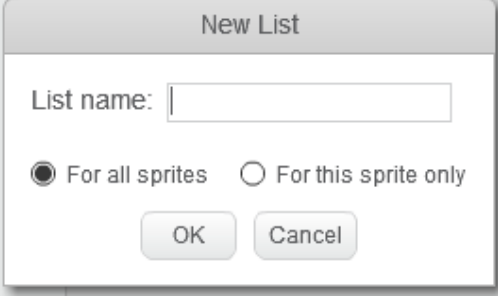






Variables give you more flexibility in your scripts, but are limited to storing a single value at any one time. What if you need to store multiple, related values, such as a wish list or a grocery list? You could use several separate variables, but you'd have to create them all ahead of time, which takes time and guess work. Scratch offers another, easier solution: you can create a list. Just like the kind you write on paper, **a list in Scratch can store multiple values in one place**. Like variables, a list can contain either strings of characters (letters, numbers, or symbols) or numeric values.






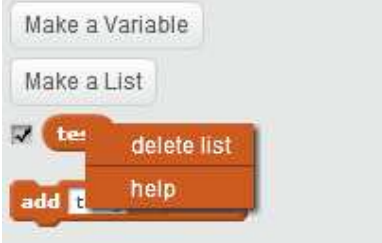

Each value in a list also has a position, referred to as its **index number**. For example, a list called grocery could include the following:

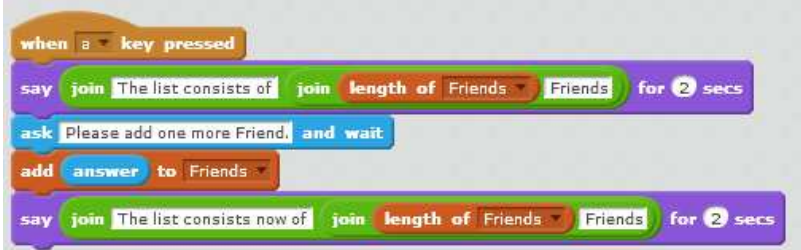

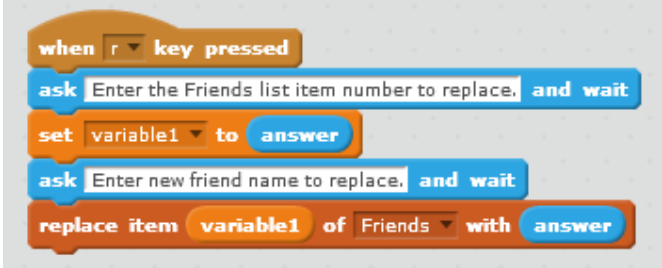

- Bread
- Water
- Peanuts


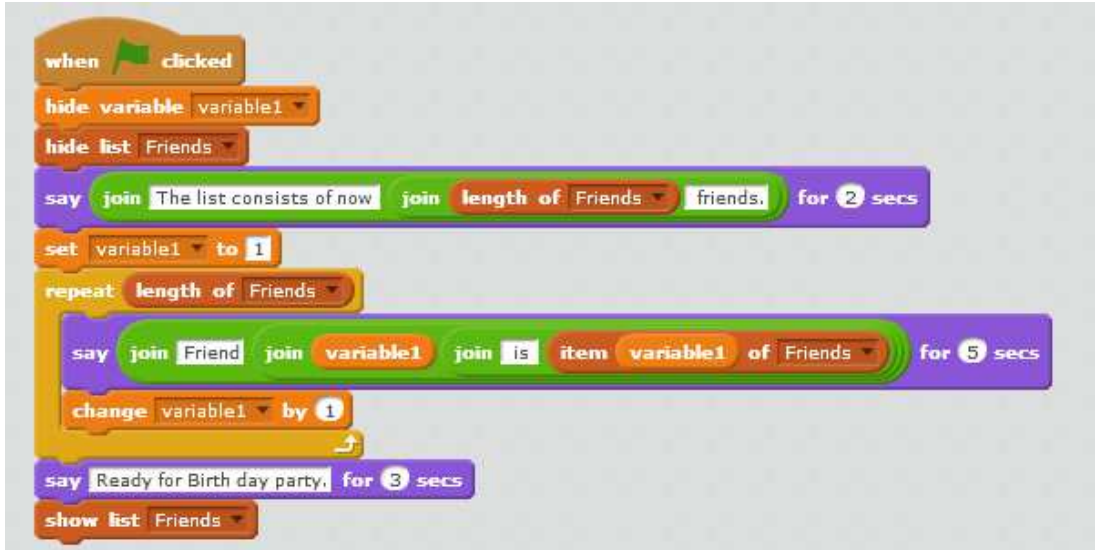
The Bread value is at the first position in the list with index number 1, the Water value is at the second position (index number 2), and the Peanuts value is at the third and last position (index number 3) in the list. In Scratch, you can modify a list by applying several different actions to it, such as adding, removing, or replacing values. In this chapter, you'll learn all about putting lists to work.

Sl. No.	Activity Name	Activity Image
1	<p>Creating and Working with Lists</p> <p>i) To create a new list in Scratch, you need to go to the block palette and select the Data blocks category.</p> <p>ii) Once here, you click the Make a List button to open the New List window</p> <p>iii) Here you enter a name for the List and select if you want the List to be available</p>	

	<p>for this sprite only or for all sprites.</p> <p>iv) Click the OK button when ready.</p> <p>v) After you create a List, Scratch adds several other blocks of code to the Data category. These new blocks enable you to work with your List.</p>	 
2.	<p>Know List blocks</p>	<p> list reporter block that holds and reports the current values of the list. In this example, the name of the list is List . There is no limit to the length of an item in a list. There's also no limit to the number of items that a list can hold.</p> <p> Adds the value you specific to the end of the list.</p> <p> Removes the values from specified index numbers in a list.</p> <p> Inserts a value in a list at the specified position in the list.</p> <p></p>

		<p>Replaces the value at a specified position in a list with another value you provide.</p> <p> Holds and reports the value at a specified position in a list.</p> <p> Holds and reports the length of the specified list.</p> <p> Searches the specified list for a value you supply. If the value is in the list, the block returns a result of true, otherwise it will return false.</p> <p> Show the specified list's monitor in the stage area.</p> <p> Hides the specified list's monitor in the stage area.</p>
<p>3.</p>	<p>Deleting a List.</p> <p>Right click on the List and select Delete List.</p>	
<p>4</p>	<p>Friends List for Birth day Party.</p>	 <p>The script starts with a 'when space key pressed' event. It then performs the following steps: <ul style="list-style-type: none"> delete all of Friends show list Friends say I need to create a friends list for Birth day party, for 2 secs repeat 5 times: <ul style="list-style-type: none"> ask Please add a friend for Friends List, and wait add answer to Friends say Thank you the List is ready, for 2 secs say join The List includes the following: Friends for 5 secs </p>

5	<p>Add one more</p>  <pre> when a key pressed say join The list consists of join length of Friends Friends for 2 secs ask Please add one more Friend, and wait add answer to Friends say join The list consists now of join length of Friends Friends for 2 secs </pre>
6	<p>Search List</p>  <pre> when s key pressed ask Enter a friend name for Search and wait say join If join answer is not there in the list, I will add to the list. for 2 secs if not Friends contains answer ? then say join answer join is not in the list. Included in the List. for 3 secs add answer to Friends </pre>
7	<p>Replacing a friend</p>  <pre> when r key pressed ask Enter the Friends list item number to replace, and wait set variable1 to answer ask Enter new friend name to replace, and wait replace item variable1 of Friends with answer </pre>
8	<p>Deleting a Friend</p>  <pre> when d key pressed ask Enter the friends list item number to delete and wait delete answer of Friends say join The list contains Friends for 5 secs </pre>
9	<p>Add Items at Specific Positions</p>

	 <pre>when key pressed ask Enter the position to add a friend and wait set variable1 to answer ask join Enter the friend name to add at position variable1 and wait insert answer at variable1 of Friends</pre>
10	<p>Read the list back to me.</p> <p>.</p>  <pre>when clicked hide variable variable1 hide list Friends say join The list consists of now join length of Friends friends. for 2 secs set variable1 to 1 repeat length of Friends say join Friend join variable1 join is item variable1 of Friends for 5 secs change variable1 by 1 say Ready for Birth day party. for 3 secs show list Friends</pre>