



# Activity Guide - Loops Make

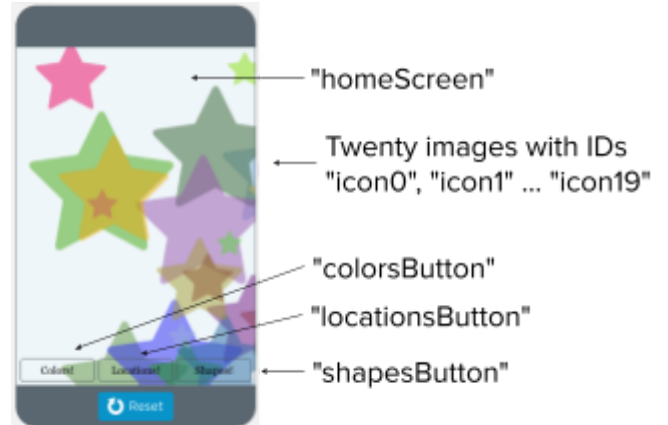
## Step 1 - Try the app

Try using the different combinations of inputs.

- What does each button change and what does it not change?

Discuss with a Partner

- Where (if at all) do you think this app is using a list?
- Where (if at all) do you think this app is using a loop?



## Step 2 - Plan

Fill in the information in the table below for each event handler you'll need to create

Element ID	Description of What the Event Handler will Do

Fill in the table below for each variable you'll need to create.

Variable Name	What the Variable Stores

**Step 3 - Write Your Code**

- Write the code for the app, using your plan above and the comments provided in Code Studio to help
- Steps You Can Follow
  - Create all the variables from your table above.
  - Give your variables a starting value using the assignment operator (=).
  - Create blank event handlers (onEvent) for each screen element in your table above.
  - Write the code to make each of the three buttons work.
  - Hint: in order to create random colors use the rgba() block with randomNumber(). Read the documentation for those blocks if you need more help.
  - Use your debugging skills to identify unexpected behavior and fix your program.
  - Comment your code as you go, explaining what each event handler does.
- Extension Ideas
  - Create a way to hide the three buttons when you have a lock screen that you like
  - Add sounds to each button.
  - Change the code for the "shapes" button to guarantee that you never randomly get the same shape twice in a row.

**Step 4 - Submit**

Before you submit, check the rubric below to make sure your program meets the requirements of the task.

Category	Extensive Evidence	Convincing Evidence	Limited Evidence	No Evidence
Input	onEvents are created for all the required inputs.	onEvents are created for most of the inputs.	onEvents are created for some of the inputs.	onEvents are not created for any inputs.
Variables and Lists	Variables and lists are created and appropriately used for all pieces of information used in the app.	Variables and lists are created and appropriately used for most pieces of information used in the app.	Some information is stored in variables and lists and appropriately updated throughout the app.	There are no variables or lists which store the necessary information for the app to work correctly.
Loops	The program correctly uses loops for all three buttons to generate the expected output.	The program correctly uses a loop for two of the buttons to generate the expected output.	The program correctly uses lists for one of the buttons to generate the expected output.	The program does not include or correctly use any loops.
Output	All three buttons work as expected to move icons, change their colors, and change their icon to a random new icon.	Only two of the buttons work as expected.	Only one of the buttons work as expected.	None of the buttons work as expected.
Code runs without errors.	No errors are present in the required code.	Some errors are present in the required code.	Many errors are present in the required code.	The code does not run.
Comments	Comments are used to correctly explain the purpose and functionality of both the function and event handlers.	Comments are used to explain the purpose and functionality of either the function or event handlers.	Comments are present, but are not used to explain the purpose or functionality of the function or event handlers.	Comments are not present.