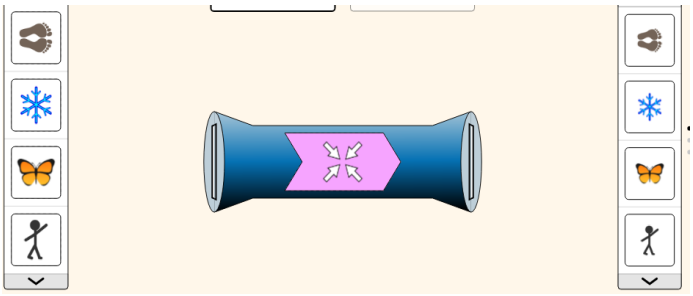
Funky Functions! Name:_____

Learning Goals:

- Describe properties of transformations(changes in size, shape, orientation).
- Relate functions to transformations.
- Create definitions/working understanding of input, output, function rule, reflection, rotation, dilation.

1. **Explore** the Function Builder simulation for a few minutes, building whatever functions you choose. Write down 1-3 observations you have about building a function.

2. **Label** the parts of this function: **input, output, function rule**.



3. **Describe** how each function rule **transforms** the shapes.

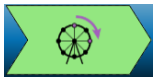
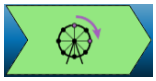
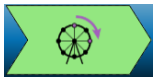
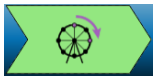
Function rule	What happens? Check any that apply.	Describe/name the function in your own words.
	[ ]Changes size [ ]Changes direction [ ]Changes shape [ ]Changes color	
	[ ]Changes size [ ]Changes direction [ ]Changes shape [ ]Changes color	
	[ ]Changes size [ ]Changes direction [ ]Changes shape [ ]Changes color	
	[ ]Changes size [ ]Changes direction [ ]Changes shape [ ]Changes color	
	[ ]Changes size [ ]Changes direction [ ]Changes shape [ ]Changes color	

4. Perform the **transformation**, and **check yes or no** in the table.

Input Shape	Function Rule	Output shape changes?
		[ ] Yes [ ] No
		[ ] Yes [ ] No
		[ ] Yes [ ] No
		[ ] Yes [ ] No

5. **Explain** why some shapes change when **reflected by the mirror** and others do not.

6. Perform the **transformation**, and **check yes or no** in the table.

Input Shape	Function Rule	Output shape changes?
		❑ Yes ❑ No
		❑ Yes ❑ No
		❑ Yes ❑ No
		❑ Yes ❑ No

7. **Explain** why you think some shapes change when **rotated by the Ferris wheel** and others do not.

8. What do you think the **difference** is between these two transformations?

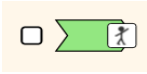
 

9. **Describe** what happens to the shape when you use this **sequence of transformations.**

1._____

2._____

3._____

(Hint: Use this button for step-by-step help: )

10. Is the output shape from #9 **completely different** than the input shape? How are they **alike**?

11. **Early Finisher Challenge**: What happens with each of the mystery functions?!

Mystery A	
Mystery B	
Mystery C	