

Funky Functions!

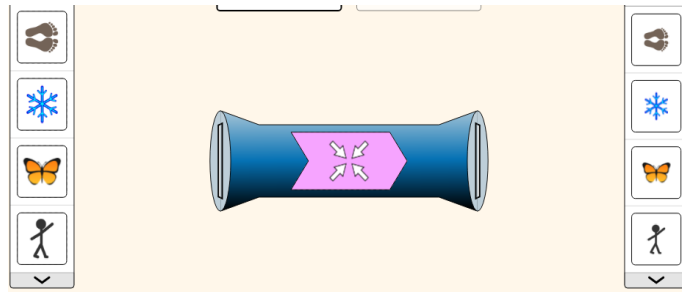
Name: _____

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	
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	☐ Changes size ☐ Changes direction ☐ Changes shape ☐ Changes color	

4. Find three shapes that **do not appear to change** with the mirror .

Input Shape	Function Rule
	
	
	

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

6. **Predict** if the shapes will change with this function rule, then **test your prediction** with the sim.

Input Shape	Function Rule	Will the output shape change?
		☐ Yes ☐ No
		☐ Yes ☐ No
		☐ Yes ☐ No
		☐ Yes ☐ No

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

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

Mystery A	
Mystery B	
Mystery C	