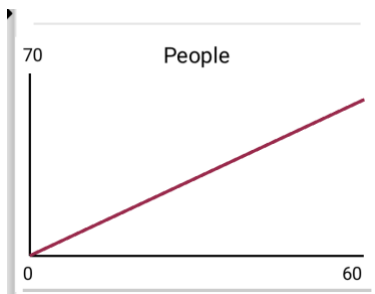


## Micro-Lesson: Beyond the In and Out Game

*The Shape of Change* has long been a staple for introducing basic systems concepts to people from 5-years old through adult learners. The first activity, "[The In and Out Game](#)<sup>1</sup>," simplifies challenging concepts of accumulation, rates of flow, and patterns of behavior into a fun experience for both small and large groups. Don't stop there, though. Learners can continue to build understanding through individual experiments with a model that represents the physical experience. You can build it (see below) and/or you can use a pre-built [simulation](#)<sup>2</sup>. Either way, you can explore how simple changes to the numbers can create similar patterns over time.

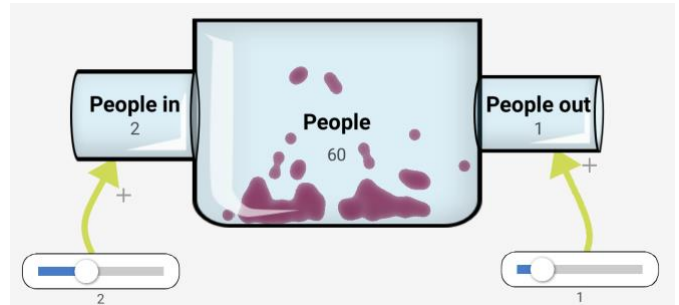
### INSTRUCTIONS

1. Get *Splash!: A New Way to Play* on your mobile device or tablet.
2. Create this model<sup>3</sup> as shown.  
People = 0  
In = 2  
Out = 1  
Stop time (in Settings): 60
3. Run the model. You should see a graph similar to the one here.



4. Explore questions and ideas.

To learn more about the Splash! app, to order instructional materials, or to donate to support continuing development, click [here](#)<sup>4</sup>.



### Questions/ideas to consider:

1. What happens on the graphs if more people go out than in? More people go in than out? The same number goes in and out?
2. What happens if you already have some people in the container to begin?
3. What happens if there's a bigger difference between "In" and "Out"?
4. How many different patterns of behavior can you create? Why are all the lines straight?
5. How is this model similar to other situations in which people go in and out of something, a building for example?
6. How would a real system behave differently than this model?
7. Other than people, what else works like this?

<sup>1</sup> <http://static.clexchange.org/ftp/documents/x-curricular/CC2010-11Shape1InAndOutSF.pdf>

<sup>2</sup> [http://www.clexchange.org/curriculum/shapeofchange/soc\\_1\\_InOut.asp](http://www.clexchange.org/curriculum/shapeofchange/soc_1_InOut.asp)

<sup>3</sup> To see all the models in the micro lesson series, visit <http://www.clexchange.org/splash/use>

<sup>4</sup> <http://www.clexchange.org/splash/>