

Activity Sheet

1 What problem are you solving?

Ensure that my 6th grader gets everything they need, while turning in/giving everything they need in order to have no points left by the end.

2 Criteria and Constraints

Define criteria: _____

Define constraints: _____

Solution criteria for your design:

a) Receive items on list, give items on list.

b) Have no points left by the end.

Solution constraints for your design:

a) Must travel on a line.

b) Maximum of 5 points.

c) If 0 points, Ozobot stops.

d) No line switch codes.

3 Brainstorm

Use the back of this sheet to write all the ideas no matter how crazy, complicated, or simple they seem.

4 Select a Solution

The solution I chose is: Switch back and forth between +1 and -1 codes, then -1 three times, +1 and -1 until I get to Home Room, write in pencil my points to make sure I keep at least 1 point all the time.

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5 Develop your engineering model

The simple plan for my model is: Switch back and forth between +1 and -1 codes, then -1 three times,
+1 and -1 until I get to Home Room.

6 Test the Model

When I tested my model, I found that: I needed to adjust my +1's and -1's so that I didn't run out of points
before I returned to Home Room.

7 Modify the Model

I will modify my model by: Changing my +1's and -1's to make sure I have one point to take me to
Home Room.

8 Communicate the results of your engineering design

My plan of switching back and forth between -1 and +1 worked until I needed to do a lot of -1's in
a row to get to 0. It took a couple of tries, and then I decided to work backward from Home Room
which made it a little easier.

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Starting with 5 points, the goal is to have 0 points at the end. You need to maintain at least 1 point to continue, but you can't ever have more than 5 points. You may not use all the items in the list below. Hint: #13 should be a -1 point code in order to finish.

+1 Point (Color Code )	-1 Point (Color Code )
- Pick up class schedule - Get encouragement from a friend - Signature from Math Teacher - Signature from Science Teacher - Signature from ELA Teacher - Signature from teacher of favorite subject - Receive issued books - Receive issued Chromebook - Receive issued Ozobot	- Turn in supplies from supplies list - Spend money on lunch - Share a pencil with a friend - Put textbooks in your locker - Give a nice note to the school secretary - Give encouragement to a friend - Turn in summer writing assignment - Help the janitor clean up a water spill - Turn in form signed by all teachers

1	Turn in supplies from supplies list	+1	-1	Color Code 
2	Pick up class schedule	+1	-1	Color Code 
3	Share a pencil with a friend	+1	-1	Color Code 
4	Signature from Science Teacher	+1	-1	Color Code 
5	Give a nice note to the school secretary	+1	-1	Color Code 
6	Receive issued books	+1	-1	Color Code 
7	Spend money on lunch	+1	-1	Color Code 
8	Put textbooks in your locker	+1	-1	Color Code 
9	Help the janitor clean up a water spill	+1	-1	Color Code 
10	Receive issued Ozobot	+1	-1	Color Code 
11	Give encouragement to a friend	+1	-1	Color Code 
12	Turn in summer writing assignment	+1	-1	Color Code 
13	Turn in form signed by all teachers	+1	-1	Color Code 

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