Icebreaker: Peanut Butter and Jelly Robot

In this activity, students will write instructions for a “program” that will instruct someone on how to make a peanut butter and jelly sandwich.

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Grades 5 - 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Time</td>
<td>20 minutes</td>
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<tr>
<td>Preparation Time</td>
<td>10 minutes</td>
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<tr>
<td>Grouping</td>
<td>Groups of no more than 4 students per group</td>
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</tbody>
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Objective

As a result of this activity, students will be able to:

- Work effectively as a team towards a common goal
- Write clear and concise directions
- Understand the basics of programming

Materials

Per Class:

- 2 jars of peanut butter
- 2 jars of jelly
- 1 loaf of bread
- 2 butter knives

Directions

1. Break the class into groups of 4 or fewer students.
2. Instruct the students to write instructions to “program” a robot to make a peanut butter and jelly sandwich.
3. Once all the groups are finished, have the groups take turns reading the directions to the “robot.”
4. You, the facilitator, may play the robot. Follow the directions EXACTLY as read aloud. (If the student reads “spread jelly on bread” use your fingers to spread the jelly on the bread as there was no mention of a knife!)
5. By allowing each group to read aloud, the other groups can be editing their directions as they go. The last group to go should have the clearest directions because they will have learned what the other groups did wrong.
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Discussion Questions

- Why did the directions need to be exact?
- Why do computers need exact directions?
- Are more steps or fewer steps better? Why?

*Adapted from Educator's Cheapbook, Museum of Science, Boston