



Blueprint Assembly Line Activity

Objective: Students will demonstrate their understanding of what cell machinists do by building a structure according to a blueprint and working together to organize an assembly line.

Materials:

- 10 building blocks per student group.
- Plastic Rulers
- Pencils
- Notebook Paper

Activity Instructions:

1. Create a simple 2D blueprint drawing a simple structure built using the blocks. Include specific dimensions such as total height requirements and specific colors of the blocks for students to reference.
2. Divide students into groups. Each group should have assigned roles: Setup Specialist, Operator, Quality Control. Multiple students may share one role.
 - Setup Specialist - Reads the blueprint and organizes the blocks.
 - Operator - Assembles the parts exactly as specified.
 - Quality Control - Uses the ruler to measure the final product against the blueprint's dimensions and checks for defects
3. Groups are given their raw materials and the blueprint. They must build 3 identical copies of the structure as quickly and accurately as possible. The Quality Control inspector must verify and "sign off" on each part.

4. Challenge the groups to rearrange their physical workspace (the desks, the block layout, the hand-off process) to shave 30 seconds off their production time despite the hand restriction.

Post Activity Discussion Questions:

What did you like most about this activity?

What did you like the least about this activity?

What qualities or habits did you use during this activity that would also be important in the trade of a craftsman?

Extension Activities:

Students can create a simple blueprint of the structure using exact measurements.

Create an Assembly-Line Rhythm: Each station chooses a sound (such as clapping, stomping, or snapping). Students then combine their sounds in sequence to create a collaborative rhythm.

Compare assembly lines from the past with modern assembly lines, discussing how the processes, technology, and roles of workers have changed over time.