

Colorful Nuts and Bolts Assembly

This turning task is a shape matching, color relevant assembly.



Materials

- 32 plastic bolts (A)
- 32 plastic nuts (B)
- 1 blue single-compartment bin
- 1 small single-compartment bin
- 1 3-compartment bin
- 1 red storage bin



Setup

Place the blue single-compartment bin with all the bolts on the table to the left. Place the small single-compartment bin and the 3-compartment bin with all the nuts, separated by shape, on the table to the right. Colors of the nuts are irrelevant for the standard task. Place the red storage bin in the center, behind the other bins.

Procedure

- Take a bolt of any color or shape with the left hand. Make note of the shape of the base of the bolt.
- With the right hand, take a nut of any color that matches the shape of the base of the bolt.
- Engage and turn the nut on the bolt until it is tight.
- Place the assembled unit in the storage bin.
- Repeat all the previous steps for the remaining bolts.

Note

Attending to the shape but ignoring the color makes this a challenging task for some workers. Once the nut is engaged, spinning the nut will improve time performance.

Variations

- For a more basic task, use the nuts only as a color or shape sort.
- For a more complex task, have the worker assemble the units so both shape and color match.

Norms:

Per unit – 5.5 seconds
Per task (32 units) – 5 minutes

Quality Criteria

The nut and bolt base must match in shape. Assembled nuts and bolts must not rattle when shaken.

Colorful Nuts and Bolts Disassembly

Setup

Arrange the materials as in the assembly task.

Procedure

- Remove an assembled unit from the storage bin.
- Disengage the nut by holding the bolt and turning the nut.
- Place the bolt in the blue single-compartment bin.
- Place the nut in the small single-compartment bin or 3-compartment bin, a different shape in each compartment.
- Repeat all the previous steps for the remaining units.

If a cue is necessary for sorting the nuts in the appropriate compartments, rather than using 4 units to model the sorting, photocopy or trace the four nut shapes on paper and tape the paper to the back or bottom of the bins.

Norms:

Per unit – 4 seconds
Per task (32 units) –
2 minutes, 15 seconds

Quality Criteria

All the units must be completely disassembled. All the bolts must be in the blue single-compartment bin. All the nuts must be in the small single-compartment or 3-compartment bin, separated according to shape.