Procedure Template

The following provides an opportunity for students to work as an industrial laboratory technician by writing a procedure for testing.

You work for the International Standards Organization. Your task is to develop a test procedure, which can be done by a technician working in industry. Your goal is to be clear and concise, providing all essential information. The following template prompts you for each section and provides an exemplar for each section.

Rationale:

This should be a one to two sentence explanation of what this test is measuring or going to tell the technician. For Example:
Abrasion is caused by three main factors: the type of abradant, the surface area, and the force of abrasion. This procedure determines the abrasion resistance of vinyl floor tile using various types of abradants keeping the surface area and load constant.
Materials Needed:

This should be a list format of everything that will be needed to do the test procedure. A list format or bulleted list is preferable. The technician should be able to gather all the necessary materials for the test using this list. For example:

- Self-adhesive Vinyl Floor Tiles (1sq. ft.)
- Heavy-duty Scissors or utility knife
- Ruler (able to measure to + 0.1 cm)
- 1 kg weight
- Various Grit Sandpaper (No. 60, 100, 150)
- Heavy-duty double-sided tape

Sample Preparation:

This section provides exact instructions on how the technician is to prepare the test samples. Included should be exact measurements and tolerances. For example:
Cut the floor tile into 5 cm + 0.1 cm strips the full length of the tile (12 inches).

Testing Procedure:
This section should include exact step-by-step instructions such that someone else could replicate the test. Generally, the steps are numbered or bulleted and written as a command statement. For example:

1. Remove protective paper from the back of the tile sample, so the adhesive is uncovered.
2. Adhere the sample to the tabletop.
3. Cut a strip of sandpaper (no. 60 grit) that is the same size as the bottom of the 1 kg weight.
4. Adhere the sandpaper to the bottom of the 1 kg weight using the double-sided tape. Make certain the sandpaper is securely attached to the weight.
5. Place the weight on the end of the tile strip such that the sandpaper is in contact with the surface of the tile.
6. Pull the weight across the tile, from top to bottom, adding no additional load.
7. Continue this procedure until abrasion is noticed.
8. Record the number of pulls it took before abrasion was noticed.
9. Describe the surface of the sample including texture, color, surface destruction, etc.
10. Repeat the procedure with a new tile sample and different grit sandpaper.

11. Record data for each sample tested.
12. Compare and contrast the final tested samples.
13. Write a conclusion that describes the abrasion resistance of the floor tiles tested.

What and How Should Data Be Reported:

This section of the procedure tells what should be included in the final report after testing is complete. Writers often get confused with this section and write the actual data and results that they obtain from testing. To help eliminate confusion, testing should not begin until the full procedure is written. The Report section of a procedure would look like this:

- Name of technician
- Date of testing
- Description of sample (Material composition, not size)—for example: Brand X floor tiles with a wood grain pattern. Color is various shades of brown to simulate natural wood.
- Type of abradant used (Company and grit sizes)
- Data table: sample, grit size, number of strokes, and description of abraded area
- Final conclusions based on knowledge of abrasion resistance and data collected

To determine how well you have done writing the procedure have a novice try to do the test as you have written it. Can they do the test accurately? Make corrections and edits based on their performance.

When students write procedure good writing skills are necessary. In science, Word Choice is very important. Sentence Fluency, Conventions, and Organization are also important. The following rubric, based on the Six Traits of Writing may prove a useful tool when helping students to improve their writing skills in science class.