CSE 2300W: Lab 1 - Sample Report
“How to change oil in your car”

Section No.: _____

Name: ____________________

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1 Objectives

Periodically the oil in your car needs to be changed to keep your engine running in peak performance. At the end of this lab, you will know how to change the oil in your vehicle and dispose of the dirty oil properly. You will also know how to change the oil filter that should be replaced with each oil change.

2 Background

Oil is used in the vehicle to lubricate the moving parts in the engine. Some of the oil will be burned in the engine as it slips past the piston rings...

To complete this project, you will need the following tools and parts. Five quarts of oil, ...

3 Procedure (or Design and Implementation)

In this section we explain in detail how to change the oil. We begin with the explanation of the preparation procedure and conclude with the explanation of the oil change.

3.1 Preparation

Necessary preparation procedure before the oil change.

• Gather necessary tools and materials. If you plan to change your oil regularly, consider investing in jack stands, a socket set and an oil drain pan.

• Run the car’s engine for ten minutes before you drain the oil. Warm oil drains faster than cold oil.

• Park the car on a level surface, engage the parking brake and turn off the engine. If your car has a low clearance, raise it by driving it onto a ramp or by jacking it up and supporting it securely.

• Open the hood and place the new oil and funnel on top of the engine to ensure that you won’t forget to add oil afterward (an expensive mistake that happens to some).

3.2 Changing Oil

Next we provide a detailed explanation of the procedure itself.

• Crawl under the car once it is securely supported.

• Locate the oil drain plug on the underside of the engine, usually near the front center of the car. Consult your owner’s manual for the exact location.
• Place the oil drain pan under the plug and loosen the plug with a socket wrench. Remember: turn counterclockwise to remove bolts.

• Remove the plug by hand. Be prepared for the rush of hot oil!

• ...

Figure 1: This is how the oil filter looks like.

Figure 1 depicts how an oil filter looks like. Filters come in different colors and sizes, but they are very similar in shape.

4 Results

Upon successfully removing the oil from the vehicle you should have between three and five quarts of dirty oil that must be disposed of. Observe any drips on the ground. Fresh oil is clear in color and may be the result of a spill while filling. If additional fresh oil is found later, make sure the oil plug is secure...

5 Conclusion

By properly changing the oil in your vehicle periodically, you will help prevent engine wear and tear. The above procedure demonstrates how to change the oil in the vehicle...
6 Notes

This section will not appear in your report. Here we would like to point out a few things to keep in mind while writing a technical report.

1. Don’t use “I”. It is better to use “we.”

2. Avoid verbosity, keep your explanation clear and to the point.

3. Definitions of terms. Assume that your grader knows nothing. If you use a technical term in your report, make sure that this term is previously introduced.

4. Avoid use of color. There are few things about color. First it diverts the reader from the technical content, and when printed (usually in black and white) the colored text does not serve the purpose that may have been intended.

5. Feel free to use subsections when the main section has sub topics. This usually helps you and the reader to follow the flow of the report.

6. Use pictures when it helps the presentation. Pictures can be a powerful tool, but don’t fall into the trap of explaining every little detail of the picture to the reader.