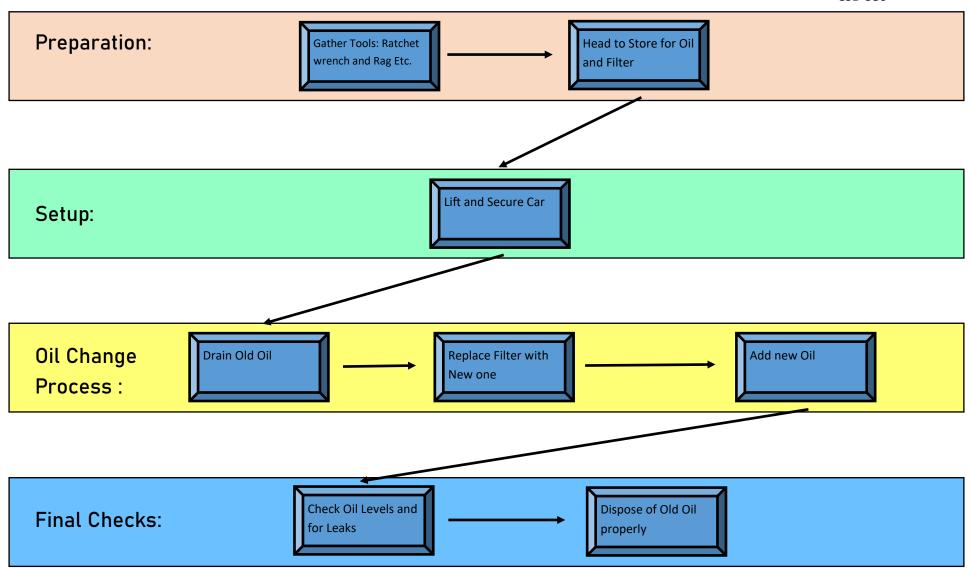
**CSD 380** 



Step	Current Time	Optimization Strategy	Optimized Time
Gather Tools:	5 Minutes	Store Tools in one kit for Easy Access	2 Minutes
Gather supplies (Go to AutoZone)	30 minutes	Order online for pickup or buy in ad-	15 minutes
Lift & Secure Car	10 Minutes	Use a hydraulic jack instead of a manual jack	5 minutes
Drain Old Oil	10 Minutes	Warm up the engine for 5 min before draining and opening hood and oil	5 minutes
Replace oil filter	5 Minutes	Pre-loosening filter or using an oil filter wrench may speed up the pro-	3 minutes
Add New Oil	5 Minutes	Use a funnel with a large spout	3 minutes
Check Oil Levels & Leaks	5 Minutes	Have paper towels and flashlight	3 minutes
Dispose of Old Oil Properly	10 Minutes	Use a sealed container and drop it off	5 minutes

## Optimized Total Time: 41 Minutes

## **Analysis & Recommendations**

- Ordering supplies online can save up to 15 minutes by reducing store visit time.
- Using a hydraulic jack instead of a manual jack can cut lifting time in half.
- Pre-warming the engine before draining can speed up oil flow, reducing waiting time.
- A dedicated oil change kit helps reduce tool searching time.

Sealed containers for oil disposal make transportation easier and faster.

By implementing these optimizations, changing oil can become a faster and more efficient process, cutting total time from 80 minutes to just 41 minutes.