



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

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| Name(s) Daniel J. Barton | Project Number J0802 |
| Project Title What Material Absorbs Motor Oil Spills the Best? | |
| Abstract Objectives/Goals The purpose of my science project is to determine what material absorbs motor oil spills the best. I believe that cat litter will absorb the motor oil spill the best because it is made to be absorbent. Methods/Materials Take measuring spoons and pour 1 tablespoon oil in all 4 plastic lids. Let oil spread in base of lid. Take measuring spoon and pour 1 tablespoon of material in heap on top. Wait 24 hours. Measure amount absorbed by scooping material off with spoon then sucking up oil left with dropper. Subtract amount of oil left from the total amount poured in the beginning (1 tablespoon). Repeat the process for 6 trials. Results Dirt was the most absorbent in 3 of the 6 trials with sawdust a very close second. Sawdust proved most absorbent in the other 3 trials. Cat litter was less absorbent than the dirt and sawdust but also exhibited good absorption. Sand was by far the least absorbent of all the materials tested. Conclusions/Discussion After my investigation I learned the dirt was the most absorbent material out of the four I used. I was amazed that regular dirt from your yard can be used to absorb oil. Based on the results of Trial 1 where the dirt proved to be the least absorbent, I concluded that the moisture content of the dirt may have affected its ability to absorb the oil. The sawdust was next in line. It did a good job and would be my second recommendation. The cat litter did a fair job but I guess it depends on the type you use. I used clay cat litter. Other types that have a silica/sand base might absorb better. The sand was the worst absorbing material. The oil just puddled around the sand instead of absorbing into the grains. I learned that the dirt is the most efficient material to absorb motor oil spills. I believed that the cat litter would be the most absorbent material, but now I know that the dirt is best. Different types of dirt could change the absorption level though. If the dirt is more clay-like, it won't absorb as much as if it were a more dry type of dirt. In conclusion you don't need to go out and buy cat litter, sand or sawdust. All you need to do is dig some extra dry dirt from your garden, sprinkle it on top of your motor oil spill, and the problem will be solved. | |
| Summary Statement My project is to determine what material absorbs motor oil spills the best. | |
| Help Received Mother applied title and data onto the board. | |