Name _____ **Date** _____ **Class** _____

Chemical Testing Lab

Materials needed

- everyday chemicals
  - dish soap
  - laundry soap
  - bleach
  - drain cleaner
  - acetone (CH3)2CO (paint thinner or nail polish remover)
- lab chemicals
  - hydrochloric acid (HCl)
  - sodium hydroxide (lye) (NaOH)
- grease
- cooking, motor, or vegetable oil
- polluted water (can be made with water plus soil, pesticide, herbicide, or waste products).
- polluted salt water (can be made with water plus oil, pesticide, herbicide, or waste products, and salt such a table or sea salt to mimic brackish water.)

Testing equipment (per group)

- goggles (1 per person)
- protective gloves
- 12 pipettes
- up to 12 test tubes, beakers, or cups
- up to 12 pieces of their material

Chemical properties tests

As a materials engineer, you must make sure that your material can withstand chemicals with which it may come in contact. (Dried cement is fairly unreactive.)

Procedure

1. Obtain and wear goggles and gloves
2. Place a sample of the material into a small beaker or test tube
3. Add a chemical
4. Record observations
5. Repeat for each material
6. At the end of testing, dispose of the tested materials properly

Name _____ **Date** _____ **Class** _____

Observations

Material 1

Dish Soap	Polluted Salt Water
Bleach	Oil
Polluted water	Vinegar
Nail Polish Remover	Grease
Sodium Hydroxide	Drain Cleaner
Hydrochloric Acid	Laundry Soap

Material 2

Dish Soap	Polluted Salt Water
Bleach	Oil
Polluted water	Vinegar
Nail Polish Remover	Grease
Sodium Hydroxide	Drain Cleaner
Hydrochloric Acid	Laundry Soap

Name _____ Date _____ Class _____

Material 3

Dish Soap	Polluted Salt Water
Bleach	Oil
Polluted water	Vinegar
Nail Polish Remover	Grease
Sodium Hydroxide	Drain Cleaner
Hydrochloric Acid	Soap

Questions/Conclusions:

In two paragraphs or more, explain which of your samples is best and why. Make sure you include information from your data tables.