Sludge Test – Lab Practical

Introduction / Information

The sludge test is the final lab for the physical science portion of NGS. Everything that we have done so far in class has been leading up to this and most of the concepts you have learned will be involved in one way or another. So, why are are we doing this? I want to see you apply what you have learned to challenging situation. If you have been completing all of the labs, but more importantly UNDERSTANDING the labs, then this should be relatively easy. Without further ado, here are a couple of questions and answers that you might be interested in:

Q: Am I doing this alone?
A: No, you have already been assigned a partner, or in some cases 2 partners, in which you will be working with to complete the sludge test.

Q: How long will I have to complete the sludge test?
A: First, you will have 1 day in class to prepare for the sludge test. Then, you will have a total of **five (5)** class periods to complete all of the experiments. Finally, you will have 2 full days to complete the post lab write up.

Q: What exactly will I have to do?
A: Within your sludge you have anywhere between 5 – 10 substances. Your job is to determine what the substances are and then determine the properties of EACH substance.

Q: What materials will be available to me?
A: You may use any of the lab equipment that is in the room.

Q: Can I take the lab reports home?
A: NO. You may not take ANYTHING home with you. This is a test and everything must be completed in the classroom. HOWEVER, during class you can use any resources that you have from your BINDER. Phones will not be allowed out during the class. Furthermore, the only person you should be talking with is your partner. Everybody in the class has a different sludge so asking them isn't going to help you anyways. Binders, folders and materials must all be left in the classroom at the end of the period.

Q: Can I ask the teacher questions:
A: Yes, you may ask the teacher 3 questions.

1. Where is _____. (ex. Where are the thermometers?)
2. Is it safe to _____. (ex. Is it safe to light my alcohol burner?)
3. Can you light my burner?

Q: How much is this worth?
A: The sludge test is going to be worth 200 points and it will go towards a test grade

Sludge Test Lab Write Up

Title

What is this all about?

Purpose

What is the purpose of the sludge test? What are we trying to figure out?

Materials

What materials did you use to complete each experiment? It will be easier for you to write these down as you go, not at the very end or very beginning.

Procedure

Each experiment should have a procedure that tells me how you completed it, and each one should be clearly labeled.

Data Table

You should have a data table that is ready before class, that way you are not wasting time in class making a data table. Here are a couple of hints for the data table:

For each **solid**

- What is the solid?
- What is the density?

For each **liquid**

- What is the liquid?
- What is the density?
- What does it smell like?
- Is it flammable?
- What is the boiling point?

For each **color**

- Calculate the Rf Value

Graph

All the boiling point graphs should be on one graph using Excel.

Calculations

All necessary calculations that SHOW YOUR WORK for each substance.

Conclusion

For each substance that your sludge contains, you need to write a paragraph or two telling me what the substance is, what **PIECES OF EVIDENCE** do you have that makes you believe it is that substance, and what is your reasoning for thinking it is that substance.

For example:

Substance 1 - _____

The first substance in my sludge is _____. I know that it is _____ because it has a density of _____, a boiling point of _____, and is _____. I found the density by …….