

Date ____ Class 1.1

Directions For homework, please read the following short story, and then answer the reflection questions at the end of the reading.

Why Should I Study Chemistry?

Oh boy, there's my alarm. Six-thirty, the morning I've dreaded all week - the day of my first big chemistry exam. I should get ready. Where's the toothpaste? Fluoride sounds familiar; I wonder why that's in there? There's baking soda and peroxide too. Why would they put those in toothpaste?

It's time for a shower. I wonder why soap and water clean so much better than just plain water. How is shampoo different from soap? I wonder why I feel so cool before I dry off. There's isobutane in this mousse. I wonder if that's anything like the butane in lighters. Why would something like that be in this hair styling stuff?

It's time for some tunes. The news is on. They say this beautiful late summer morning will become an ozone action day. I wonder what ozone is. How does it get into the air? Why is it a problem? They keep telling us not to stay out in the sun too long because the ozone layer is disappearing. How can it just disappear, and how is the ozone layer different from the ozone they tell us we shouldn't breathe? I wonder how sunblock works.

I had better turn on the light. I wonder what's in a light bulb that lets it get so hot and still not melt or catch on fire. It's time to check the laundry and get dressed. How does a detergent work? Maybe I'll wear that tie-dyed T-shirt. I wonder how they tie-dye clothing. How do dyes stay on the clothes without coming off onto my skin? Boy, these jeans are really faded. I wonder what made them fade so much. My socks came out nice and white. What is bleach, and how does it work? My new cross training shoes sure are comfortable. I wonder how they made that foam rubber.

I should fuel up with some breakfast. Maybe I'll fry an egg. I wonder why a fried egg tastes so much better than a raw egg. How does cooking change the egg? It's getting late; I'll just have some orange juice and cereal. Wait, every time I drink orange juice after I brush my teeth, it tastes really strange. I wonder why that is. I think I'll just try the cereal and skip the juice. I know it has vitamin C, but what does that do for me anyway? This cereal is 'fortified with iron'. I wonder what kind of iron they put in there; it couldn't be those iron filings we used in chemistry lab, could it? This milk has calcium in it; it surely isn't those little lumps we saw bubbling in water the other day in class. The milk says that it has vitamin D added. I wonder what vitamin D is and why it's good for me. There's the calorie count. I wonder if that has anything to do with those energy measurements we read about in the chemistry book.

Time to leave for school. I hope the car starts this morning. I wonder how a battery works. Oh great, the car needs gas. I'll pull in to the mini-mart and fill up the tank. The pump says something about octane rating. I wonder what octane is and what the octane rating really means. This gas is unleaded; how could they put lead in gasoline? Why would it be used in gasoline anyway? It looks like that tire is a little low. This pressure gauge is reading lower than it did yesterday afternoon. I wonder if it's because it's so much cooler this morning.

Before I leave, I think I'll get a can of soda. Oops, I dropped it; I better not open it until later. I wonder what those bubbles are and how they get them in there.

I made it to school on time. It's supposed to be really hot today. I've heard of car windows popping when it gets really hot, so I'd better open them a little bit. I wonder why they sometimes break when the car gets really hot. I'm glad the windows are coated to shade the inside. That should help, too. I wonder what the coating is, and how they get it in the glass.

It sure is bright out this morning; I'm glad my glasses darken in the sun. I wonder how they do that. The air conditioning sure will feel good this afternoon. I'm glad I had my air conditioner fixed. What is the refrigerant that the service technician refilled? I wonder how air conditioning works.

Well, here I am in chemistry class. Worrying about this exam is giving me heartburn. I wonder how this antacid works. Why do I have to study chemistry anyway? When will I ever use chemistry in my everyday life? What good is it to me? Why can't I study something that's practical-like biology?

- i. Gore, G. R. Phys. Teach. 1997, 35, 378. 1300 Journal of Chemical Education. Vol. 77 No. 10 October 2000 .JChemEd.chem.wisc.edu

Reflection Questions

- i. What are your initial feelings after reading this? (can be a list of thoughts)

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- ii. List 3-5 words or phrases that you have never heard before or didn't understand.

- iii. After reading this, do you think it is important to learn Chemistry? Why or why not? (3-4 sentences)

- iv. Can you think of something in your life where chemistry is used that wasn't mentioned in the story? What is it and why do you think it involves chemistry? What evidence can you use to support this?
(2-3 sentences)
