**Iona Prep STEP PHYSICS Syllabus 2023-2024**

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**Extra Help : Almost any school day at 3 PM by appointment.**

**Your lab day is \_Day 6**

**We move to room 115 for lab, when necessary**

**Course description:**  **: The STEP Physics class will investigate the physical laws governing matter and energy. The focus will be on developing an understanding of the qualitative and quantitative aspects of physics, as well as applying mathematical thinking to problems. Throughout this course, emphasis will be placed on observation, interpretation, and reasoning. We will model physical interactions using algebra, geometry, and trigonometry. This is a lab course, and many of the objectives are aligned with the New York State Physical Settings / Physics.**

**The course incorporates traditional units and Problem-Based, Pursuit-Based, or Project-Based Learning Units where students investigate, create, and apply what they know to learn these ‘Big Ideas’ of physics:**

**1 – Matter & Measurement**

**2 – Vector and Scalar quantities and mathematics**

**3 – Kinematics**

**4 – Dynamics**

**5 – Conservation laws**

**6 – The mathematics of waves**

**7 – Electric charges, forces, and circuits**

**TEXTS & MATERIALS**

* **Textbook: Pearson Physics by Walker (should be downloaded to your iPad)**
* **Calculator – Ti Nspire (be familiar with its functions especially exponents**
* **iPad with SPARKvue App installed. Stylus and headphones.**

**Behavior :** Minds are **ON Physics** in the physics classroom for 42 minutes! This means

Respecting yourself, your peers, and all adults in our classrooms. Always.

Do NOT be distracted by your phone!

Focus **your** brain to make meaning; Use all lab materials safely; follow directions.

Make significant contributions in your lab group.

ALL Student Handbook rules are expected to be followed including no headphone use in the hallways outside of lunch periods. In addition, Science Department Lab Safety guidelines are in force.

**Curricular Content:**

**Work to achieve your goals**. Do take time to read, take notes, and reflect on the concepts as you study those notes.

|  |  |
| --- | --- |
| **QUARTER 1** | *Textbook chapters* |
| **Matter, Measurement, Scalars/Vectors,** | **1,2** |
| **Kinematics and Dynamics** | **3,4** |
| **Newton’s Laws** | **5** |
| **Work and Energy (Conservation of energy)** | **6** |
| **QUARTER 2** |  |
| **Linear Momentum, Impulse** | **7** |
| **Conservation of Momentum** | **7** |
|  |  |
|  |  |
| **QUARTER 3** |  |
| **Waves: parameters; Light and Sound;** | **13,14,15** |
| **Reflection and mirrors; Refraction and lenses** | **16,17** |
| **Interference and Diffraction** | **18** |
| **QUARTER 4** |  |
| **Electric Charges and forces (Conservation of charge)** | **19** |
| **Electric Fields and Energy** | **20** |
| **Electric currents and circuits** | **21** |

Midterm and final exams are cumulative. During each quarter the following assessments are planned:

|  |  |
| --- | --- |
| **# of** | **Assignments and Assessment Opportunities Each Quarter** |
| *3* | *Tests (approximately 20 points ea)* |
|  | *HW, in-class work (3-5 points ea), assignments, (5 points ea),Quizzes (5-10 points ea)*  *Lab reports (10 points ea)* |

**GRADES** Your grade for the Year is averaged: **20% from each quarter 10% midterm 10% final exam**

55% is the lowest quarter score but midterm and final exams are the score earned with no minimum. In addition Honors students receive the Honors weighting in their grade average for transcripts.

**RUBRIC Generally, assignments (homework, labs and projects) are graded with three factors: completeness, accuracy, and neatness. An assignment may have a specific, individualized rubric.**

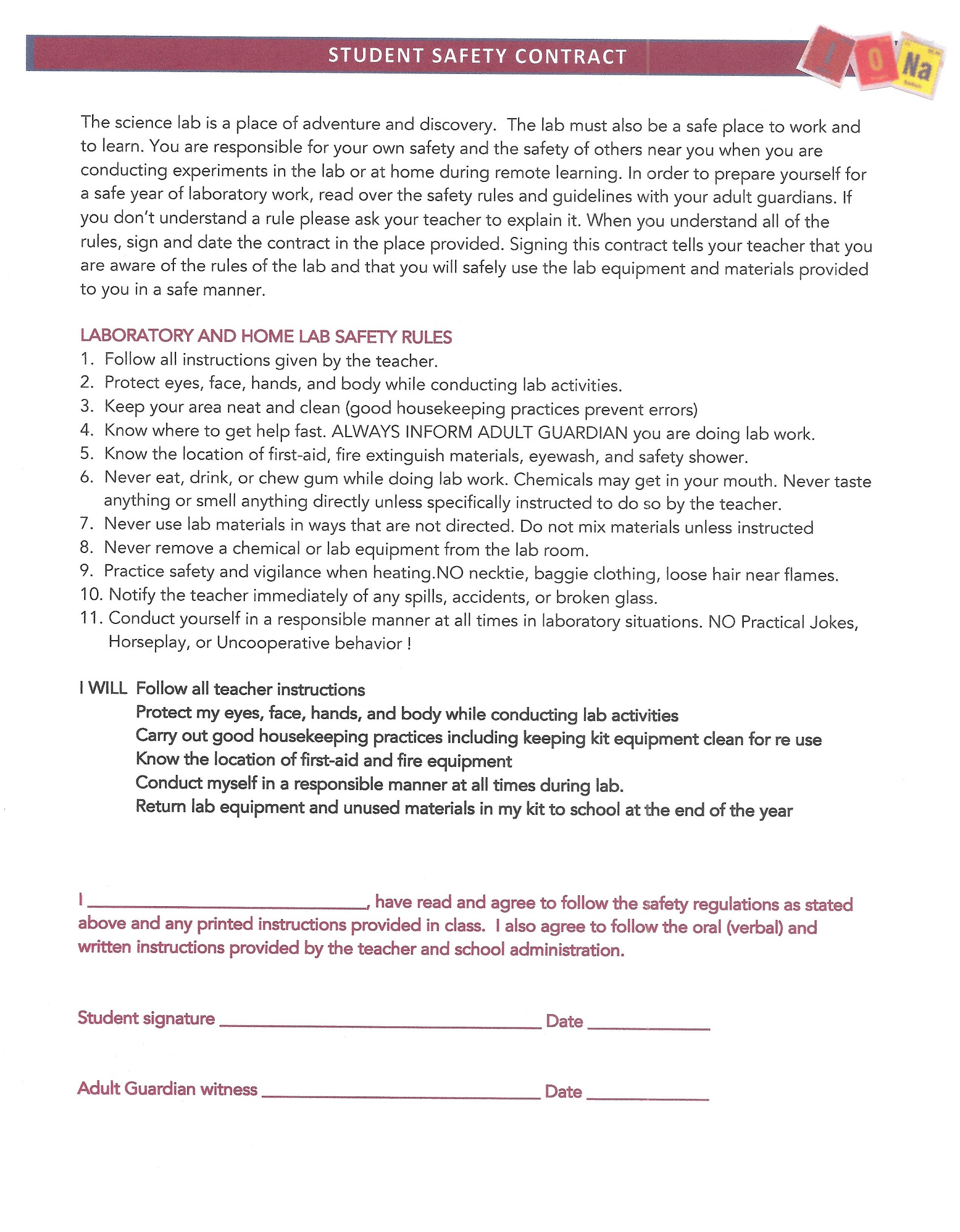
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Beginning 1** | **Developing 2** | **Accomplished 3** | **Exemplary 4** |
| **Completeness** | **Most tasks were not completed** | **Less than 50% of lab tasks/writeup completed** | **Most of tasks completed** | **All tasks completed; no omissions.** |
| **Accuracy** | **Presents illogical explanation of findings** | **Presents an illogical explanation of findings and addresses few questions** | **Most tasks completed** | **All tasks completed and properly explained** |
| **Neatness** | **Illegible writing, loose items** | **Legible, but had many typos** | **Legible, few typos, all units specified correctly** | **Extreme care taken. All elements correctly placed and well thought out all units are correct** |

Students at Iona Prep are to be prepared for academic work each and every day. Formative assessments take place and may include a quiz, classwork assignment, the collection of homework, and homework quizzes. In addition, each quarter includes summative assessments, which will include unit tests, projects, lab reports, and presentations. Throughout the year collaboration is necessary and group work will happen but **students are evaluated on *individual* work**. LAB PARTNERS MAY NOT SUBMIT COPIES OF THEIR PARTNER’S OR ANY OTHER STUDENT’S LABS. A student’s score on a group project or lab may be scored differently than their partner’s.

**ABSENCES AND LATE WORK Consult the Student Handbook for All School Absence Policies**

STEP Physics is a fast paced course in which students are responsible for learning concepts whether in class or not. Keep track of your progress in each unit; check your google classroom page for assignments to complete; and submit all work on time. In case of an absence, tests and quizzes are completed the day the student returns to school. Absences on lab days and test days are especially discouraged.

**CHEATING OR PLAGIARISM ON EXAMS, LABS, QUIZZES - Iona Prep’s Academic Integrity Policy as detailed in the student Handbook is clear. The consequences there will be followed and the Dean of Academics will be involved. NEVER COPY/PASTE. Not EVEN on LAB REPORTS. Your lab assignments are NOT identical to your partner’s.**

**I UNDERSTAND That I must conduct myself in a responsible manner at all times in the lab.**

**That if I am playing around, are inattentive, or unsafe I will have to sit down.**

**That I may receive a zero on the lab assignment, my parents contacted, and/or**

**My lab privileges may be revoked for the remainder of the school year.**

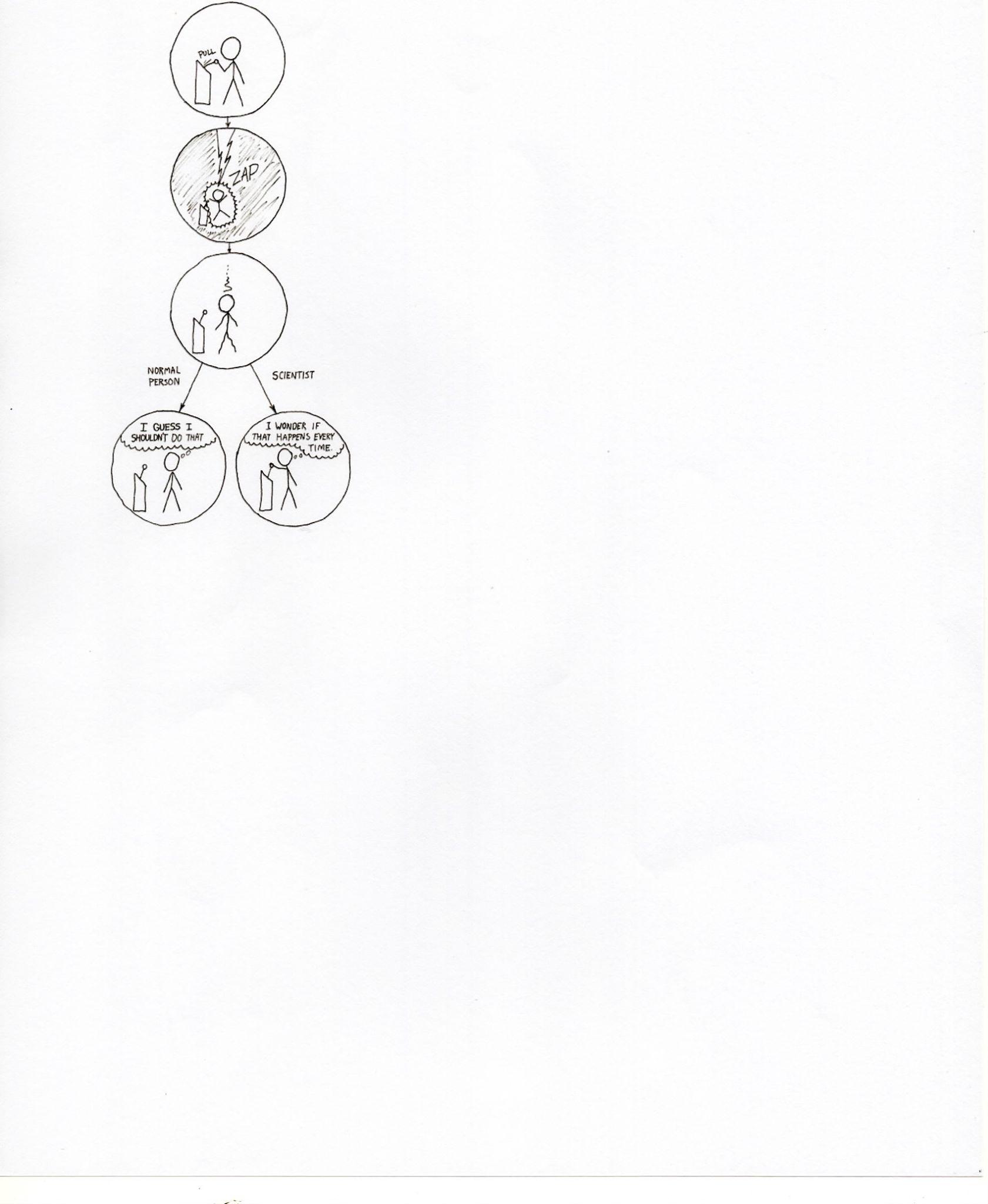
**I WILL Follow all teacher instructions**

**Behave appropriately and carefully to safeguard myself and my fellow students**

**Protect my eyes, face, hands, and body while conducting lab activities.**

**Carry out good housekeeping practices including keeping equipment clean for re-use.**

**Leave all lab materials and equipment in the lab classroom.**

**Learn the location of all first aid and fire equipment.**

**I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_have read and agree to follow the safety regulations as stated above and any printed or verbal instructions provided by the teacher and school administration.**

**Student Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_**

**Adult Guardian witness \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date \_\_\_\_\_\_\_\_\_\_\_**