**International Baccalaureate**

School name: Tualatin High School

Subject: Physics Level: Candidate name: Session Number: 0671

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Date(s)** | **Outline of experiments/investigations/projects**  (include title and a brief description) | **ICT** | **Topic/ option** | **Time**  **(hrs)** | **Levels Awarded** | | |
| **D** | **DCP** | **CE** |
| Sep. | Millikan Prep - Concept of data analysis for oil drop experiment | - | 1.2  6.2 | 1.5 |  |  |  |
| Oct. | Millikan Oil Drop Experiment - simulated on computer | 2,3,5 | 6.2 | 4.5 |  |  |  |
| Oct. | Electric Field Mapping – Using water to map out lines of equipotential. | - | 6.2  9.3 | 1.0 |  |  |  |
| Nov. | Oscilloscope Lab – Simple measurement of peak voltage and period | - | 5.1 | 0.5 |  |  |  |
| Nov | Circuit Spreadsheets – using a spreadsheet to simulate series and parallel circuits. | 5 | 5.1 | 0.75 |  |  |  |
| Nov. | Light bulb – Graphing an I vs V curve for a non-ohmic material | 2 | 5.1 | 1.5 |  |  |  |
| Dec. | Graphing Lab – Students determine the slope of a set of data and its uncertainty |  | 1.2 | 1.0 |  |  |  |
| Dec. | Resistance of a wire – Determining the resistance of a piece of NiChrome wire | 2 | 5.1 | 2.0 |  |  |  |
| Jan. | MagnaProbe Lab – students use a hand held magnetic field directional sensor to map common fields | - | 6.3 | 0.5 |  |  |  |
| Jan. | Magnet Lab – Student planned investigation into the magnetism. | 2,3 | 6.3 | 3.0 |  |  |  |
| Mar | Photo-Electric Graph – Students determine the work function and Planck’s Constant from data |  | 13.1 | 0.5 |  |  |  |
| Mar. | Decay Lab – Computer simulation of decay – determination of half-life. | 5 | 13.2 | 1.0 |  |  |  |
| Apr. | Hubble Constant Lab – Students determine the Hubble constant of a micro universe. | 2 | E4 | 1.5 |  |  |  |
| Apr | Stellar Evolution Flowchart | 5 |  | .5 |  |  |  |
| Jan. | Research Project – Semester long research into a real unknown. |  |  | 20 |  |  |  |
| Jan | Area 4 project - Energy | 2,4 |  | 6.0 |  |  |  |