

Weekend AS Physics Practical schedule at 30 A Tullyallen Road, Rondebosh, starting Saturday 8TH February 2025

Each session is done on Saturday from **13:15 – 15:15**

➤ Students must bring:

- Scientific calculator
- Exam pad
- HB pencil
- Pencil sharpener
- Transparent 30 cm rule

Date and time	Practical skill(s) to be taught	Practical activities <i>NB: These planned activities can change depending on the progress of the students</i>
<p>Lesson 1 Saturday 8th February; 13:15 to 15:15</p>	<p>Data collection and recording</p> <ul style="list-style-type: none"> • Introduction to Physics practicals • Accuracy and precision • Uncertainty • Choice of instruments • Systematic and random uncertainty • Collection and recording data in a table • Draw a graph and determine gradient & intercept • Identify limitations of experimental procedure • Suggesting possible improvements to experimental procedure 	<p>Simple experiment: micrometer – diameter of wires. Density cube and Vernier calliper, set squares, glass marbles, meter rules</p> <p>Compare precision of meter rule to Vernier calliper</p> <p>Main practical: Determination of the spring constant k of a spring using the principle of moments</p> <p>NB: Please ensure that you try to finish your experiment write-up as we will discuss it next week.</p>
<p>Lesson 2 Saturday 15th February; 13:15 to 15:15</p>	<p>Data processing</p> <ul style="list-style-type: none"> • Significant figures in processed data • Presentation of processed data • Plotting graphs 	<p>Teacher-student discussion of last week practical.</p>

<p>Lesson 3 Saturday 22nd February; 13:15 to 15:15</p>	<p>Planning and common equipment for experiments</p> <ul style="list-style-type: none"> • Methods and techniques • Length – already covered – just a recap here. • Mass – Triple beam, beam balance and digital balance • Time – stopwatch and light gate – need a laptop (+electromag) • Temperature – thermometer and sensors + ice • Current and potential difference – simple I-V circuit • Planning and experiment 	<p>Main experiment: Investigating how the motion of a pendulum.</p> <p>A circus of experiments to show students common equipment that is used in experiments</p> <p>We will go over an Example practical to learn how to evaluate an experiment.</p> <p>Main experiment: We will investigate how the period of oscillation of a bent metal wire varies with the angle between the straight parts of the wire.</p>
<p>Lesson 4 Saturday 1st March; 13:15 to 15:15</p>	<p>Evaluation and communication</p> <ul style="list-style-type: none"> • The evaluation of graphs • The evaluation of experimental procedures • Communicating your work • Introduction to electricity (Ohm’s Law Experiment) 	<p>We will go over the practical done last week on oscillations.</p> <p>Ohm’s Law experiment</p> <p>Main practical: Determination of the spring constant k of a spring using an oscillating system</p>
<p>Lesson 5 Saturday 8th March; 13:15 to 15:15</p>	<p>Skills needed for question 2</p> <ul style="list-style-type: none"> • Collection of data • Mathematical evaluation of data • Limitations of procedures • Improvements to procedures 	<p>We will start with a recap of last week’s practical. Ensure that you have finished this practical</p> <p>A question 2 type experiment will be done</p> <p>Main practical: How the torsional motion of a disc depends on its mass and diameter</p>

<p>Lesson 6 Saturday 15th March; 13:15 to 15:15</p>	<p>Assessments and tasks</p> <ul style="list-style-type: none"> Assessments of experimental skills 	<p>An electrical experiment will be done in the last hour</p>
<p>Lesson 7 Saturday 22nd March; 13:15 to 15:15</p>	<p>Exam preparations</p> <ul style="list-style-type: none"> Two exam style practicals for 2 hours 	<p>A full AS Physics paper 3</p>
<p>Lesson 8 Saturday 29th March; 13:15 to 15:15</p>	<p>Exam preparations</p> <ul style="list-style-type: none"> Two exam style practicals for 2 hours 	<p>A full AS Physics paper 3</p>
<p>Lesson 9 Saturday 5th April; 13:15 to 15:15</p>	<p>Exam preparations</p> <ul style="list-style-type: none"> Two exam style practicals for 2 hours 	<p>A full AS Physics paper 3</p>
<p>Lesson 10 Saturday 12th April; 13:15 to 15:15</p>	<p>Exam preparations</p> <ul style="list-style-type: none"> Two exam style practicals for 2 hours 	<p>A full AS Physics paper 3</p>