



# ARAB UNITY SCHOOL

CURRICULUM OVERVIEW OF

YEAR -11, PHYSICS

2019 – 2020

# A guide for Parents and Students

Subject: Physics

Year: 11

## Overview of the year:

Cambridge Physics syllabus is designed to support learners in becoming:  
**confident** in working with information and ideas – their own and those of others  
**responsible** for themselves, responsive to and respectful of others  
**reflective** as learners, developing their ability to learn  
**innovative** and equipped for new and future challenges  
**engaged** intellectually and socially, ready to make a difference.

TERM ONE	Topic	
<p>Main topic</p> <p><b>Thermal physics</b></p>	<p><b><u>Thermal physics</u></b></p> <p>2.1 Simple kinetic molecular model of matter</p> <p>2.1.1 States of matter</p> <p>2.1.2 Molecular model</p> <p>2.1.3 Evaporation</p> <p>2.1.4 Pressure changes</p> <p>2.2 Thermal properties and temperature</p> <p>2.2.1 Thermal expansion of solids, liquids and gases</p> <p>2.2.2 Measurement of temperature</p> <p>2.2.3 Thermal capacity (heat capacity)</p> <p>2.2.4 Melting and boiling</p> <p>2.3 Thermal processes</p> <p>2.3.1 Conduction, Convection and Radiation</p> <p>2.3.2 Convection</p> <p>2.3.3 Radiation</p>	<p><b>ASSESSMENTS:</b></p> <p><b>Internal assessment -1 ( Sept 4<sup>th</sup> week)</b></p> <p>Students should:</p> <ul style="list-style-type: none"> <li>* demonstrate organizational skills showing time- and self-management</li> </ul> <p><b>Independent learning submission– (Sep 4<sup>th</sup> week)</b></p> <p><b>Internal assessment -2 ( Oct 4<sup>th</sup> week)</b></p> <p>Students should:</p> <ul style="list-style-type: none"> <li>• demonstrate information literacy, thinking and reflection</li> </ul>
<p><b>Magnetism and Electricity</b></p>	<p><b><u>Magnetism and Electricity</u></b></p> <p>4.1 Simple phenomena of magnetism</p> <p>4.2 Electrical quantities</p> <p>4.2.1 Electric charge</p> <p>4.2.2 Current</p> <p>4.2.3 Electromotive force</p> <p>4.2.4 Potential difference</p> <p>4.2.5 Resistance</p> <p>4.2.6 Electrical working</p> <p>4.3 Electric circuits</p> <p>4.3.1 Circuit diagrams</p> <p>4.3.2 Series and parallel circuits</p> <p>4.3.3 Action and use of circuit components</p>	<p><b>Project submission – ( Nov 1<sup>st</sup> week)</b></p> <p><b>Winter Assessment (Nov 3<sup>rd</sup> week)</b></p>

<p><b>TERM TWO</b></p> <p>Main topic</p> <p><b>Magnetism and Electricity</b></p> <p><b>Nuclear Physics</b></p>	<p><b>4.4 Digital electronics</b></p> <ul style="list-style-type: none"> <li>Describe the action of NOT, AND, OR, NAND and NOR gates.</li> </ul> <p><b>4.5 Dangers of electricity</b></p> <p>State the hazards of:</p> <ul style="list-style-type: none"> <li>– damaged insulation – overheating of cables – damp conditions</li> </ul> <p><b>4.6 Electromagnetic effects</b></p> <p>4.6.1 Electromagnetic induction</p> <p>4.6.2 a.c. generator</p> <p>4.6.3 Transformer</p> <p>4.6.4 The magnetic effect of a current</p> <p>4.6.5 Force on a current-carrying conductor</p> <p>4.6.6 d.c. motor</p> <p><b>5. Atomic Physics</b></p> <p>5.1.1 Atomic model</p> <p>5.1.2 Nucleus</p> <p>5.2.1 Detection of radioactivity</p> <p>5.2.2 Characteristics of the three kinds of emission</p> <p>5.2.3 Radioactive decay</p> <p>5.2.4 Half-life</p> <p>5.2.5 Safety precautions</p>	<p><b>ASSESSMENTS:</b></p> <p><b>Project submission ( Jan 1<sup>st</sup> week)</b></p> <p><b>Physics creative writing competition ( Jan 1<sup>st</sup> week)</b></p> <p><b>Independent learning submission ( Jan 4<sup>th</sup> week)</b></p> <p><b>Internal assessment-3 ( Jan 4<sup>th</sup> week)</b></p> <p><b>Independent learning submission ( Feb 4<sup>th</sup> week)</b></p> <p><b>Internal assessment-4 ( Feb 4<sup>th</sup> week)</b></p> <p><b>Mock exam – March 2020</b></p>
<p><b>TERM THREE</b></p>	<p><b>Revision</b></p>	<p><b>ASSESSMENTS</b></p>

PLEASE USE THE FOLLOWING WEBSITES FOR SOLVING PAST PAPER QUESTIONS AND FOR DETAILED NOTES TOPIC WISE –

- <https://znotes.org/cie-igcse/physics-0625>
- <https://www.physicsandmathstutor.com/physics-revision/igcse-cie/>
- <https://www.savemyexams.co.uk/igcse-physics-cie-new/>
- <http://www.oxnotes.com/igcse-physics.html>
- <https://www.physicsclassroom.com/>
- <https://gcsephysicsninja.com/>

**SIMULATIONS –**

- <https://phet.colorado.edu/en/simulations/category/physics>
- <https://interactives.ck12.org/simulations/physics.html>

