**Physics Syllabus- Mr. Valle 2017-18**

**Quarter 1**

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| Week of:  | Chapter | Topics |
| July 31-Aug 4 | 1. About Science
 | Metric System, Measurement, Trig Review |
| Aug 7-11 | 1. Newton’s 1st Law
 | Inertia, movement, Equilibrium |
| Aug 14-18 | 1. Linear Motion
 | Speed, Velocity, Acceleration |
| Aug 21-25 | 1. Newton’s 2nd Law
 | Force, Mass, Acceleration |
| Aug 28- Sep 1 | 1. Newton’s 3rd Law
 | Force Interaction, Vectors |
| Sep 5-8 | 1. Momentum
 | Momentum, Impulse, Collisions, Conservation |
| Sep 11-15 | 1. Energy
 | Potential, Kinetic, Work, Power |
| Sep 18-22 | Simple Machines | Wedge, Lever, Pulley, Wheel and axle, inclined plane, screw |
| Sep 25-29 | NA | Exam review, Exam |

**Quarter 2**

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| Week of:  | Chapter | Topics |
| Oct 16-20 | 1. Rotational Motion
 | Circular Motion, Torque, Centripetal Force |
| Oct 23-27 | 1. Gravity
 | Universal Constant, Law of Gravity, Black Holes |
| Oct 30- Nov 3 | 1. Projectile and

Satellite Motion | Horizontal vs Vertical, Elliptical Orbits, Kepler’s Laws |
| Nov 6-9 | 1. Atomic Nature of Matter
 | Atoms, Elements, Isotopes, Compounds, Mixtures |
| Nov 13-17 | 1. Solids
 | Crystal Structure, Density |
| Nov 27- Dec 1 | 1. Liquids
 | Pressure, Buoyancy, Pascal |
| Dec 4-8 | 1. Gases
 | Atmosphere, Boyle’s Law, Bernoulli’s principle |
| Dec 11-15 | 1. Temperature, Heat and Expansion
 | Temperature vs Heat, Specific Heat, Thermal Expansion |
| Dec 18-22 | NA | Exam review, Exam |

**Quarter 3**

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| Week of:  | Chapter | Topics |
| Jan 9-12 | 1. Heat Transfer
 | Conduction, Convection, Radiation |
| Jan 16-19 | 1. Change of Phase
 | Phase of Matter, Evaporation, Condensation, Freezing, Boiling |
| Jan22-26 | 1. Thermodynamics
 | Thermodynamics, Absolute Zero, Adiabatic Processes |
| Jan 29-Feb 2 | 1. Vibrations and Waves
 | Good Vibrations, Pendulum, Transverse, Longitudinal |
| Feb 5-9 | 1. Sound
 | Media, Transmission, Speed of Sound |
| Feb 12-16 | 1. Musical Sounds
 | Music, Pitch, Loudness, Fourier Analysis |
| Feb 20-23 | 1. Electrostatics
 | Electricity, Forces, Charges, Coulomb’s Law |
| Feb 26- Mar 2 | 1. Electric Current
 | Flow, Voltage, Resistance, Ohm’s Law |
| Mar 5-Mar 9 | NA | Exam review, Exam |

**Quarter 4**

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| Week of:  | Chapter | Topics |
| Mar 26-29 | 1. Magnetism
 | Magnetic Force, Poles, Fields, Electromagnets |
| Apr 2-6 | 1. Electromagnetic Induction
 | Induction, Faraday’s Law, Generators, AC Current |
| Apr 9-13 | 1. Properties of Light
 | Electromagnetic Waves, Transparent, Opaque |
| Apr 16-20 | 1. Color
 | Selective Reflection, Pigments, Mixing Colors |
| Apr 23-27 | 1. Reflection and Refraction
 | Reflection, Refraction, Plane Mirrors |
| Apr 30-May 4 | 1. Light Waves
 | Huygen’s Principle, Diffraction |
| May 7-11 | 1. Light Emission
 | Excitation, Emission Spectra, Incandescence |
| May 14-18 | 1. Light Quanta
 | Quantum Theory, Planck’s Constant |
| May 21-25 | NA | Exam review, Exam |