Bexley City School District
A community of learners becoming productive global citizens and leaders

Physical Science **Curriculum Map and Pacing Guide** **Semester 1** **2015**

Quarter 1 (45 Days)

Chapter	Topic	Dates	# Days
1	**Nature of Science** • The Methods of Science • Standards of Measurement • Communicating with Graphs • Science and Technology	8-12 To 9-4	18
2	**Motion** • Introduction to One-Dimensional Vectors • Displacement and Distance • Velocity (constant, average, and instantaneous) • Acceleration • Interpreting Position vs. Time and Velocity vs. Time Graphs	9-8 To 9-18	8
3	**Forces** • Force Diagrams • Types of Forces (gravity, friction, normal, tension) • Field Model for Forces at a Distance • Newton's 3 Laws of Motion • Dynamics (how forces affect motion) • Forces on Objects at Rest • Forces on Objects Moving with Constant Velocity • Forces on Accelerating Objects	9-21 To 10-2	9
4	**Work and Energy** • Conservation of Energy • Quantifying Kinetic Energy • Quantifying Gravitational Potential Energy	10-5 To 10-13	7
5	**Thermal Energy** • Specific Heat • Transfer and Transformation of Energy (including work)	10-14- 10-20	5 (overlaps and goes into Q2)

	Quarter 2 (35 Days, 4 Exam Days)		
6	**Electricity and Magnetism** • Movement of Electrons • Current • Electric Potential (voltage) • Resistors and Transfer of Energy • Electric Circuits • Electrical Conductors and Insulators • Overview of Magnetism	10-21 To 11-13	16
9 **10.1; 10.2** **11.1; 11.2**	**Waves** • Wavelength, Frequency, and Speed of a Wave • Wave Reflection • Wave Refraction • Wave Diffraction • Absorption • Superposition (constructive and destructive interference) • Radiant Energy and the Electromagnetic Spectrum • Doppler Shift	11-16 To 12-9	15
	Semester 1 Exam Review and Exam • Chapters 1-5, 9-10	12-10 To 12-17	6

Physical Science **Curriculum Map and Pacing Guide** **Semester 2** **2016**

Quarter 3 (45 Days)

Chapter	Topic	Dates	# Days
14-1; 15	**Classification of Matter** • Heterogeneous vs. Homogeneous Mixtures • Physical and Chemical Properties of Matter • Solutions • Phase Changes • Endothermic and Exothermic Processes of Phase Changes • Calculation of Density from Mass vs. Volume Graphs of Substances	1-4 To 1-26	16
16	**Atoms and the Periodic Table** • Models of the Atoms and its Components • Atomic Number and Mass Number • Ions (cations and anions) • Isotopes • The Periodic Table and Periodic Law • Representative Groups in the Periodic Table	1-27 To 2-18	15
18	**Chemical Bonds and Compounds** • Ionic Bonding • Covalent Bonding • Prediction of Ionic Charge and Formulas of Ionic Compounds using Elements from Groups 1, 2, 17, Hydrogen and Oxygen • Naming a Chemical Compound when given a Chemical Formula	2-19 To 3-11	16

Quarter 4 (46 Days)

19	**Chemical Reactions** • Conservation of Mass • Writing Balanced Chemical Equations • Identifying Reactants and Products in a Chemical Reaction • Balancing Chemical Equations • Endothermic and Exothermic Chemical Reactions	3-21 To 4-8	14
20	**Nuclear Reactions** • Strong and Weak Nuclear Forces • Radioactive Decay • Application of Radioactive Isotopes in Medicine • Half-life of a radioisotope • Nuclear Fissions and Fusion	4-11 To 4-26	12
31	**Stars and Galaxies** • History of the Universe • Galaxy Formation and Classification • Star Formation and Evolution • Nuclear Fusion in Stars • How Stars are Classified	4-27 To 5-18	16
	Semester 2 Exam Review and Exam (Chapters 14-1, 15, 16, 18, 19, 20, 31)	5-19 To 5-25	5