

# Physics Curriculum Map

Standards	Content	Skills/Practices	Materials/ Resources	Assessments (All) Daily/Weekly/ Benchmarks	Timeline (Months/Weeks /Days)
<p><b>NYSSLS</b> HS-PS2-1 PS2.A</p> <p><b>Core Curriculum</b> 5.1d 5.1e 5.1i 5.1l 5.1t M1.1 M2.1 M3.1 S2.1 S2.2 S2.3 S2.4 S3.1 S3.2 S3.3 S3.4</p>	<p><b>Unit 1: Kinematics</b></p> <p>HS-PS2-1.</p> <p>Examples of data could include tables, graphs, or diagrams (vector diagrams) for objects subject to a net unbalanced force (a falling object,) (Newton's First Law), or for forces describing the interaction between two objects (Newton's Third Law).][Assessment Boundary: Assessment is limited to macroscopic</p>	<p><b><u>Science and Engineering Practices:</u></b></p> <p>Planning and Carrying Out Investigations</p> <p>Analyzing and Interpreting Data</p> <p>Using Mathematics and Computational Thinking</p> <p>Constructing Explanations and Designing Solutions</p> <p>Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena</p>	<p>School Issued Chromebooks</p> <p>Teacher generated google slides notes</p> <p>Calculator</p> <p>School Provided Lab equipment</p> <p>Lab Manual Created by Teacher</p> <p>Physics Reference Table</p> <p>Textbook: Physics Principles &amp; Problems</p> <p>Schoology</p> <p>Castle Learning</p>	<p><b>Labs:</b></p> <ul style="list-style-type: none"> <li>● Scalar v. Vector</li> <li>● Roll with it</li> <li>● Waterfall</li> <li>● We all Fall Down</li> </ul> <p><b>Summative:</b></p> <ul style="list-style-type: none"> <li>● Test:Created using previous years regents questions taken from problem attic/castle learning</li> <li>● Quizzes:Created using previous years regents questions taken from problem attic/castle learning</li> </ul> <p><b>Formative:</b></p> <ul style="list-style-type: none"> <li>● Bellringers</li> <li>● Homework</li> </ul>	<p>All of September</p>

	objects moving at non-relativistic speeds whose measured quantities can be classified as either vector or scalar.]	<p><b><u>Crosscutting Concepts:</u></b>  <b>Patterns</b></p> <p><b>Cause and Effect</b></p> <p><b>Systems and Systems Models</b></p> <p><b><u>ELA:</u></b>  11-12.RST.1  11-12.RST.7  9-12.WHST.5  11-12.WHST.6  11-12.WHST.7</p> <p><b><u>Math:</u></b>  MP.2  MP.4  AI-N.Q.1  AI-N.Q.3  AI.SSE.1  AI.SSE.3  AI.CED.1  AI.CED.2  AI.CED.4  AI-F.IF.7  AI-S.ID.1</p>			
<b>NYSSLS</b> HS-PS2-1 PS2.A  <b>Core Curriculum</b>	<b>Unit 3: Projectile Motion-2D motion</b>  HS-PS2-1 PS2.A	<b><u>Science and Engineering Practices:</u></b>  Planning and	School Issued Chromebook  Teacher generated google slides notes	<b>Labs:</b> <ul style="list-style-type: none"> <li>● Shoot For Your Grade</li> <li>● Rocket Science</li> </ul>	First 3 weeks of October

<p>5.1 5.1e 5.1f 5.1g M1.1 M2.1 M3.1 S2.1 S2.2 S2.3 S2.4 S3.1 S3.2 S3.3 S3.4</p>	<p>Examples of data could include tables, graphs, or diagrams (vector diagrams) for objects subject to projectile motion, ] [Assessment Boundary: Assessment is limited to macroscopic objects moving at non-relativistic speeds whose measured quantities can be classified as either vector or scalar.]</p>	<p>Carrying Out Investigations</p> <p>Analyzing and Interpreting Data</p> <p>Using Mathematics and Computational Thinking</p> <p>Constructing Explanations and Designing Solutions</p> <p>Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena</p> <p><b><u>Crosscutting Concepts:</u></b> <b>Patterns</b></p> <p><b>Cause and Effect</b></p> <p><b>Systems and Systems Models</b></p> <p><b><u>ELA:</u></b> <b>11-12.RST.1</b> <b>11-12.RST.7</b> <b>9-12.WHST.5</b></p>	<p>Calculator</p> <p>School Provided Lab equipment</p> <p>Lab Manual Created by Teacher</p> <p>Physics Reference Table</p> <p>Textbook: Physics Principles &amp; Problems</p> <p>Schoology</p> <p>Castle Learning</p>	<p><b>Summative:</b></p> <ul style="list-style-type: none"> <li>● Test: Created using previous years regents questions taken from problem attic/castle learning</li> <li>● Quizzes: Created using previous years regents questions taken from problem attic/castle learning</li> </ul> <p><b>Formative:</b></p> <ul style="list-style-type: none"> <li>● Bellringers</li> <li>● Homework</li> </ul>	
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		<b>11-12.WHST.6</b> <b>11-12.WHST.7</b> <u><b>Math:</b></u> <b>MP.2</b> <b>MP.4</b> <b>AI-N.Q.1</b> <b>AI-N.Q.3</b> <b>AI.SSE.1</b> <b>AI.SSE.3</b> <b>AI.CED.1</b> <b>AI.CED.2</b> <b>AI.CED.4</b> <b>AI-F.IF.7</b> <b>AI-S.ID.1</b>			
<b>NYSSLS</b> HS-PS2-1 PS2.A  NYS 5.1 5.1vi. 5.1a 5.1b 5.1c 5.1i 5.1k 5.1 5.1 v. 5.1j 5.1o M1.1 M2.1	<b>Unit 3:</b> <b>DYNAMICS AND</b> <b>STATICS</b>  Examples of data could include tables, graphs, or diagrams (vector diagrams) for objects subject to a net unbalanced force (a falling object, an object sliding down a ramp, an object being acted on by friction, a moving object being pulled	<u><b>Science and Engineering Practices:</b></u>  Planning and Carrying Out Investigations  Analyzing and Interpreting Data  Using Mathematics and Computational Thinking  Constructing Explanations and Designing Solutions	School Issued Chromebook  Teacher generated google slides notes  Calculator  School Provided Lab equipment  Lab Manual Created by Teacher  Physics Reference Table  Textbook: Physics	<b>Labs:</b> <ul style="list-style-type: none"> <li>• Atwood Lab</li> <li>• Foot Friction</li> <li>• Weight v. Mass</li> </ul> <b>Summative:</b> <ul style="list-style-type: none"> <li>• Test:Created using previous years regents questions taken from problem attic/castle learning</li> <li>• Quizzes:Created using previous years regents questions taken from problem attic/castle learning</li> </ul> <b>Formative:</b>	Last week of October and all of November

M3.1 S2.1 S2.2 S2.3 S2.4 S3.1 S3.2 S3.3 S3.4	by a constant force, for objects in equilibrium (Newton’s First Law), or for forces describing the interaction between two objects (Newton’s Third Law).][Assessment Boundary: Assessment is limited to macroscopic objects moving at non-relativistic speeds whose measured quantities can be classified as either vector or scalar.]	Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena  <b><u>Crosscutting Concepts:</u></b> <b>Patterns</b>  <b>Cause and Effect</b>  <b>Systems and Systems Models</b>  <b>ELA:</b> <b>11-12.RST.1</b> <b>11-12.RST.7</b> <b>9-12.WHST.5</b> <b>11-12.WHST.6</b> <b>11-12.WHST.7</b> <b>Math:</b> <b>MP.2</b> <b>MP.4</b> <b>AI-N.Q.1</b> <b>AI-N.Q.3</b> <b>AI.SSE.1</b> <b>AI.SSE.3</b> <b>AI.CED.1</b> <b>AI.CED.2</b> <b>AI.CED.4</b> <b>AI-F.IF.7</b>	Principles & Problems  Schoology  Castle Learning	<ul style="list-style-type: none"> <li>● Bellringers</li> <li>● Homework</li> </ul>	
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		<b>AI-S.ID.1</b>			
<p><b>NYSSLS</b>  HS-PS2-1  HS-PS2-4  PS2.A  PS2.B</p> <p>Core Curriculum  5.1n  5.1t  5.1u  M1.1  M2.1  M3.1  S2.1  S2.2  S2.3  S2.4  S3.1  S3.2  S3.3  S3.4</p>	<p><b>Unit 4: Uniform Circular Motion &amp; Universal Law of Gravitation</b></p> <p>Examples of data could include tables, graphs, or diagrams (vector diagrams) an object moving in a circular motion)[Assessment Boundary: Assessment is limited to macroscopic objects moving at non-relativistic speeds whose measured quantities can be classified as either vector or scalar.]</p> <p>.Use mathematical representations of Newton’s Law of Gravitation to describe and predict the</p>	<p><b>Science and Engineering Practices:</b></p> <p>Planning and Carrying Out Investigations</p> <p>Analyzing and Interpreting Data</p> <p>Using Mathematics and Computational Thinking</p> <p>Constructing Explanations and Designing Solutions</p> <p>Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena</p> <p><b>Crosscutting Concepts:</b></p> <p><b>Patterns</b></p> <p><b>Cause and Effect</b></p>	<p>School Issued Chromebook</p> <p>Teacher generated google slides notes</p> <p>Calculator</p> <p>School Provided Lab equipment</p> <p>Lab Manual Created by Teacher</p> <p>Physics Reference Table</p> <p>Textbook: Physics Principles &amp; Problems</p> <p>Schoolology</p> <p>Castle Learning</p>	<p><b>Labs:</b></p> <ul style="list-style-type: none"> <li>• The Circle of Life</li> </ul> <p><b>Summative:</b></p> <ul style="list-style-type: none"> <li>• Test:Created using previous years regents questions taken from problem attic/castle learning</li> <li>• Quizzes:Created using previous years regents questions taken from problem attic/castle learning</li> </ul> <p><b>Formative:</b></p> <ul style="list-style-type: none"> <li>• Bellringers</li> <li>• Homework</li> </ul>	<p>All of December</p>

	gravitational forces between objects	<b>Systems and Systems Models</b>  <u>ELA:</u> 11-12.RST.1 11-12.RST.7 9-12.WHST.5 11-12.WHST.6 11-12.WHST.7 <u>Math:</u> MP.2 MP.4 AI-N.Q.1 AI-N.Q.3 AI.SSE.1 AI.SSE.3 AI.CED.1 AI.CED.2 AI.CED.4 AI-F.IF.7 AI-S.ID.1			
<b>NYSSLS</b> HS-PS2-2 HS-PS2-3  <b>Core Curriculum</b> 5.1p 5.1q 5.1r M1.1 M2.1 M3.1	<b>Unit 5: Momentum &amp; Impulse</b>  Use mathematical representations to support the claim that the total momentum of a system of objects is conserved when	<b>Science and Engineering Practices:</b>  Planning and Carrying Out Investigations  Analyzing and Interpreting Data	School Issued Chromebook  Teacher generated google slides notes  Calculator  School Provided Lab equipment	<b>Labs:</b> <ul style="list-style-type: none"> <li>• The Explosion Lab</li> <li>• Impulse Lab</li> </ul> <b>Summative:</b> <ul style="list-style-type: none"> <li>• Test:Created using previous years regents questions taken from problem attic/castle learning</li> <li>• Quizzes:Created</li> </ul>	First 3 weeks of January

<p>S2.1 S2.2 S2.3 S2.4 S3.1 S3.2 S3.3 S3.4</p>	<p>there is no net force on the system.</p> <p>Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision</p>	<p>Using Mathematics and Computational Thinking</p> <p>Constructing Explanations and Designing Solutions</p> <p>Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena</p> <p><b><u>Crosscutting Concepts:</u></b> <b>Patterns</b></p> <p><b>Cause and Effect</b></p> <p><b>Systems and Systems Models</b></p> <p><b><u>ELA:</u></b> <b>11-12.RST.1</b> <b>11-12.RST.7</b> <b>9-12.WHST.5</b> <b>11-12.WHST.6</b> <b>11-12.WHST.7</b></p> <p><b><u>Math:</u></b> <b>MP.2</b> <b>MP.4</b> <b>AI-N.Q.1</b></p>	<p>Lab Manual Created by Teacher</p> <p>Physics Reference Table</p> <p>Textbook: Physics Principles &amp; Problems</p> <p>Schoology</p> <p>Castle Learning</p>	<p>using previous years regents questions taken from problem attic/castle learning</p> <p><b>Formative:</b></p> <ul style="list-style-type: none"> <li>● Bellringers</li> <li>● Homework</li> </ul>	
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		<b>AI-N.Q.3</b> <b>AI.SSE.1</b> <b>AI.SSE.3</b> <b>AI.CED.1</b> <b>AI.CED.2</b> <b>AI.CED.4</b> <b>AI-F.IF.7</b> <b>AI-S.ID.1</b>			
<b>NYSSLS</b> HS-PS3-1 HS-PS3-2 HS-PS3-3 HS-PS3-4 PS3.A PS3.B PS3.C: <b>Core Curriculum</b> 4.1a 4.1b 4.1c 4.1d 4.1e 4.1f 4.1g 4.1h 4.1i M1.1 M2.1 M3.1 S2.1 S2.2 S2.3	<b>Unit 6: Energy</b>  Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.  Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated	<b>Science and Engineering Practices:</b> Developing and using Models  Planning and Carrying Out Investigations  Analyzing and Interpreting Data  Using Mathematics and Computational Thinking  <b>Crosscutting Concepts:</b> <b>Patterns</b>  <b>Cause and Effect</b>	School Issued Chromebook  Teacher generated google slides notes  Calculator  School Provided Lab equipment  Lab Manual Created by Teacher  Physics Reference Table  Textbook: Physics Principles & Problems  Schoology  Castle Learning	<b>Labs:</b> <ul style="list-style-type: none"> <li>• Hooke's Law</li> <li>• Pendulum</li> <li>• Dropper Popper</li> <li>• Who is the Most Powerful?</li> </ul> <b>Summative:</b> <ul style="list-style-type: none"> <li>• Test: Created using previous years regents questions taken from problem attic/castle learning</li> <li>• Quizzes: Created using previous years regents questions taken from problem attic/castle learning</li> <li>• Rube Goldberg Project: Students will design and build a rube goldberg machine</li> </ul>	Last week of January and first 2 weeks of February

<p>S2.4 S3.1 S3.2 S3.3 S3.4</p>	<p>with the motions of particles (objects) and energy associated with the relative position of particles (objects).</p> <p>Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.*</p>	<p><b>Systems and Systems Models</b> <b>Energy and Matter</b></p> <p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b></p> <p><b>ELA:</b> <b>11-12.RST.1</b> <b>9-12.WHST.5</b> <b>11-12.WHST.6</b> <b>11-12.WHST.7</b> <b>11-12.SL.5</b></p> <p><b>Math:</b> <b>MP.2</b> <b>MP.4</b> <b>AI-N.Q.1</b> <b>AI-N.Q.3</b></p>		<p>outside of the classroom</p> <p><b>Formative:</b></p> <ul style="list-style-type: none"> <li>● Bellringers</li> <li>● Homework</li> </ul>	
<p><b>NYSSLS</b> <b>HS-PS2-4.</b> <b>HS-PS2.5</b> <b>PS2.B</b> <b>HS-PS3-5</b> <b>HS-PS3-6.</b></p> <p><b>Core Curriculum</b> 4.1j</p>	<p><b>Unit 7: Electricity and Magnetism</b></p> <p>Analyze data to support the claim that Ohm’s Law describes the mathematical relationship among</p>	<p><b><u>Science and Engineering Practices:</u></b></p> <p>Developing and using Models</p> <p>Planning and Carrying Out Investigations</p>	<p>School Issued Chromebook</p> <p>Teacher generated google slides notes</p> <p>Calculator</p> <p>School Provided Lab</p>	<p><b>Labs:</b></p> <ul style="list-style-type: none"> <li>● Static Electricity</li> <li>● Shocking Pie Pan</li> <li>● Building Series Circuits</li> <li>● Building Parallel Circuits</li> <li>● Mapping Magnets</li> </ul>	<p>Last 2 weeks of February and all of March</p>

<p>4.1k 4.1l 4.1m 4.1n 4.1o 4.1p M1.1 M2.1 M3.1 S2.1 S2.2 S2.3 S2.4 S3.1 S3.2 S3.3 S3.4</p>	<p>the potential difference, current, and resistance of an electric circuit.</p> <p>Develop and use a model of two objects interacting through electric or magnetic fields to illustrate the forces between objects and the changes in energy of the objects due to the interaction</p> <p>Plan and conduct an investigation to provide evidence that an electric current can produce a magnetic field and that a changing magnetic field can produce an electric current.</p> <p>Use mathematical representations of Coulomb's Law to describe and</p>	<p>Analyzing and Interpreting Data</p> <p>Using Mathematics and Computational Thinking</p> <p><b><u>Crosscutting Concepts:</u></b> <b>Patterns</b></p> <p><b>Cause and Effect</b></p> <p><b>Systems and Systems Models</b> <b>Energy and Matter</b></p> <p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b></p> <p><b><u>ELA:</u></b> <b>11-12.RST.1</b> <b>9-12.WHST.5</b> <b>11-12.WHST.6</b> <b>11-12.WHST.7</b> <b>11-12.SL.5</b> <b><u>Math:</u></b></p>	<p>equipment</p> <p>Lab Manual Created by Teacher</p> <p>Physics Reference Table</p> <p>Textbook: Physics Principles &amp; Problems</p> <p>Schoology</p> <p>Castle Learning</p>	<p><b>Summative:</b></p> <ul style="list-style-type: none"> <li>● Test:Created using previous years regents questions taken from problem attic/castle learning</li> <li>● Quizzes:Created using previous years regents questions taken from problem attic/castle learning</li> </ul> <p><b>Formative:</b></p> <ul style="list-style-type: none"> <li>● Bellringers</li> <li>● Homework</li> </ul>	
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	predict the electrostatic forces between objects.	<b>MP.2</b> <b>MP.4</b> <b>AI-N.Q.1</b> <b>AI-N.Q.3</b>			
<p><b>NYSSLS</b> HS-PS4-1 HS-PS4-2 HS-PS4-5 HS-PS4-6 PS3.D: PS4.A PS4.B:</p> <p><b>Core Curriculum</b> 4.3a 4.3b 4.3c 4.3d 4.3e 4.3f 4.3g 4.3i 4.3j 4.3k M1.1 M2.1 M3.1 S2.1 S2.2 S2.3 S2.4 S3.1</p>	<p><b>Unit 8: Waves</b> <b>Simple motion</b></p> <p>HS-PS4-1. Use mathematical representations to support a claim regarding relationships among the period, frequency, wavelength, and speed of waves traveling and transferring energy (amplitude, frequency) in various media.</p> <p>HS-PS4-2. Evaluate questions about the advantages of using a digital transmission and storage of information</p>	<p><b>Science and Engineering Practices:</b> Asking questions and defining problems</p> <p>Using Mathematics and Computational Thinking</p> <p>Engaging in Argument from Evidence</p> <p>Obtaining, Evaluating, and Communicating Information</p> <p><b>Crosscutting Concepts:</b></p> <p><b>Patterns</b></p> <p><b>Cause and Effect</b></p>	<p>School Issued Chromebook</p> <p>Teacher generated google slides notes</p> <p>Calculator</p> <p>School Provided Lab equipment</p> <p>Lab Manual Created by Teacher</p> <p>Physics Reference Table</p> <p>Textbook: Physics Principles &amp; Problems</p> <p>Schoology</p> <p>Castle Learning</p>	<p><b>Labs:</b></p> <ul style="list-style-type: none"> <li>Wave Characteristic Slinky Lab</li> <li>Snell's Law Lab</li> <li>Speed of Sound Lab</li> <li>Standing Waves</li> </ul> <p><b>Summative:</b></p> <ul style="list-style-type: none"> <li>Test:Created using previous years regents questions taken from problem attic/castle learning</li> <li>Quizzes:Created using previous years regents questions taken from problem attic/castle learning</li> </ul> <p><b>Formative:</b></p> <ul style="list-style-type: none"> <li>Bellringers</li> <li>Homework</li> </ul>	All of April

<p>S3.2 S3.3 S3.4</p>	<p>HS-PS4-6. Use mathematical models to determine relationships among the size and location of images, size and location of objects, and focal lengths of lenses and mirrors</p>	<p><b>Systems and Systems Models</b></p> <p><b>Stability and change</b></p> <p><b>Influence of Science, Engineering, and Technology on Society and the Natural World</b></p> <p><b>ELA:</b> 11-12.RST.1 9-12.WHST.5 11-12.WHST.6 11-12.WHST.7 11-12.SL.5</p> <p><b>Math:</b> MP.2 MP.4 AI.SSE.1 AI.SSE.3 AI.CED.4</p>			
<p><b>NYSSLS</b> HS-PS4-3 HS-PS4-5. PS3.D: PS4.A PS4.B:</p>	<p><b>Unit 9: Modern &amp; Nuclear</b></p> <p>Evaluate the claims, evidence, and reasoning behind the idea</p>	<p><b>Science and Engineering Practices:</b> Asking questions and defining problems</p>	<p>School Issued Chromebook</p> <p>Teacher generated google slides notes</p> <p>Calculator</p>	<p><b>Labs:</b></p> <ul style="list-style-type: none"> <li>• Spectrometer Lab</li> <li>• Quark Lab</li> </ul> <p><b>Summative:</b></p> <ul style="list-style-type: none"> <li>• Test: Created using previous years regents questions</li> </ul>	<p>Early to mid May</p>

<p><b>Core Curriculum</b></p> <p>5.3a 5.3b 5.3c 5.3d 5.3e 5.3f 5.3g M1.1 M2.1 M3.1 S2.1 S2.2 S2.3 S2.4 S3.1 S3.2 S3.3 S3.4</p>	<p>that electromagnetic radiation can be described either by a wave model or a particle model (quantum theory), and that for some situations one model is more useful than the other.</p> <p>Communicate technical information about how some technological devices use the principles of wave behavior and wave interactions with matter to transmit and capture information and energy.*</p>	<p>Using Mathematics and Computational Thinking</p> <p>Engaging in Argument from Evidence</p> <p>Obtaining, Evaluating, and Communicating Information</p> <p><b><u>Crosscutting Concepts:</u></b></p> <p>Patterns</p> <p>Cause and Effect</p> <p>Systems and Systems Models</p> <p>Stability and change</p> <p>Influence of Science, Engineering, and Technology on Society and the Natural World</p>	<p>School Provided Lab equipment</p> <p>Lab Manual Created by Teacher</p> <p>Physics Reference Table</p> <p>Textbook: Physics Principles &amp; Problems</p> <p>Schoolology</p> <p>Castle Learning</p>	<p>taken from problem attic/castle learning</p> <ul style="list-style-type: none"> <li>• Quizzes: Created using previous years regents questions taken from problem attic/castle learning</li> </ul> <p><b>Formative:</b></p> <ul style="list-style-type: none"> <li>• Bellringers</li> <li>• Homework</li> </ul>	
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	<b>Regents Review</b>		School Issued Chromebook  Teacher generated google slides notes  Calculator  School Provided Lab equipment  Lab Manual Created by Teacher  Physics Reference Table  Textbook: Physics Principles & Problems	<p><b>Labs:</b></p> <ul style="list-style-type: none"> <li>• None</li> </ul> <p><b>Formative:</b></p> <ul style="list-style-type: none"> <li>• Practice regents exams</li> <li>• Practice problems and activities from review book</li> </ul>	Mid May/June

			Schoology Castle Learning Regents Review Packet provided by teacher		