Physics Curriculum Map

Standards	Content	Skills/Practices	Materials/ Resources	Assessments (All) Daily/Weekly/ Benchmarks	Timeline (Months/Weeks /Days)
NYSSLS HS-PS2-1 PS2.A Core Curriculum 5.1d 5.1e 5.1i 5.1i 5.1t M1.1 M2.1 M3.1 S2.1 S2.2 S2.3 S2.4 S3.1 S3.2 S3.3 S3.4	Unit 1: Kinematics HS-PS2-1. 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	Science and Engineering Practices: Planning and Carrying Out Investigations Analyzing and Interpreting Data Using Mathematics and Computational Thinking Constructing Explanations and Designing Solutions Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena	School Issued Chromebooks 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	Scalar v. Vector Roll with it Waterfall We all Fall Down Summative: Test:Created using previous years regents questions taken from problem attic/castle learning Quizzes:Created using previous years regents questions taken from problem attic/castle learning Formative: Bellringers Homework	All of September

	objects moving at non-relativistic speeds whose measured quantities can be classified as either vector or scalar.]	Crosscutting Concepts: Patterns Cause and Effect Systems and Systems Models			
		ELA: 11-12.RST.1 11-12.RST.7 9-12.WHST.5 11-12.WHST.6 11-12.WHST.7 Math: 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			
NYSSLS HS-PS2-1 PS2.A Core Curriculum	Unit 3: Projectile Motion-2D motion HS-PS2-1 PS2.A	Science and Engineering Practices: Planning and	School Issued Chromebook Teacher generated google slides notes	Labs: Shoot For Your Grade Rocket Science	First 3 weeks of October

5.1		Carrying Out		Summative:
5.1e	Examples of data	Investigations	Calculator	Test:Created using
5.1f	could include			previous years
5.1g	tables, graphs, or	Analyzing and	School Provided Lab	regents questions
M1.1	diagrams (vector	Interpreting Data	equipment	taken from problem
M2.1	diagrams) for			attic/castle learning
M3.1	objects subject to	Using Mathematics	Lab Manual Created	Quizzes:Created
S2.1	projectile motion,	and Computational	by Teacher	using previous
S2.2][Assessment	Thinking		years regents
S2.3	Boundary:		Physics Reference	questions taken
S2.4	Assessment is	Constructing	Table	from problem
S3.1	limited to	Explanations and		attic/castle learning
S3.2	macroscopic	Designing Solutions	Textbook: Physics	Formative:
S3.3	objects moving at		Principles & Problems	Bellringers
S3.4	non-relativistic	Science Models,		Homework
	speeds whose	Laws, Mechanisms,	Schoology	
	measured	and Theories		
	quantities can be	Explain Natural	Castle Learning	
	classified as either	Phenomena		
	vector or scalar.]			
	-	Crosscutting		
		Concepts:		
		Patterns		
		Cause and Effect		
		Systems and		
		Systems Models		
		ELA:		
		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			
NYSSLS	Unit 3:	Science and	School Issued	Labs:	Last week of
HS-PS2-1	DYNAMICS AND	<u>Engineering</u>	Chromebook	Atwood Lab Fact Friction	October and all
PS2.A	STATICS	Practices:	Teacher generated	Foot FrictionWeight v. Mass	of November
NYS	Examples of data	Planning and	google slides notes	vveigitt v. iviass	
5.1	could include	Carrying Out	googie sildes rioles	Summative:	
5.1vi.	tables, graphs, or	Investigations	Calculator	Test:Created using	
5.1a	diagrams (vector			previous years	
5.1b	diagrams) for	Analyzing and	School Provided Lab	regents questions	
5.1c	objects subject to	Interpreting Data	equipment	taken from problem	
5.1i	a net unbalanced			attic/castle learning	
5.1k	force (a falling	Using Mathematics	Lab Manual Created	Quizzes:Created	
5.1 5.1 v.	object, an object sliding down a	and Computational Thinking	by Teacher	using previous years regents	
5.1 v. 5.1j	ramp, an object	i iiiiikiiig	Physics Reference	questions taken	
5.10	being acted on by	Constructing	Table	from problem	
M1.1	friction, a moving	Explanations and		attic/castle learning	
M2.1	object being pulled	Designing Solutions	Textbook: Physics	Formative:	

	T	T	1	T	
M3.1	by a constant		Principles & Problems	Bellringers	
S2.1	force, for objects in	Science Models,		Homework	
S2.2	equilibrium	Laws, Mechanisms,	Schoology		
S2.3	(Newton's First	and Theories			
S2.4	Law), or for forces	Explain Natural	Castle Learning		
S3.1	describing the	Phenomena	Caotic Ecarring		
S3.2	interaction	Trichomena			
S3.3	between two	Crosscutting			
S3.4	objects (Newton's	Concepts:			
33.4	Third	Patterns			
		Falleriis			
	Law).][Assessment	Cause and Effect			
	Boundary: Assessment is	Cause and Enect			
		Cyctome and			
	limited to	Systems and			
	macroscopic	Systems Models			
	objects moving at				
	non-relativistic	ELA:			
	speeds whose	11-12.RST.1			
	measured	11-12.RST.7			
	quantities can be	9-12.WHST.5			
	classified as either	11-12.WHST.6			
	vector or scalar.]	11-12.WHST.7			
		Math:			
		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			
	1	Į			

		AI-S.ID.1			
NYSSLS HS-PS2-1 HS-PS2-4 PS2.A PS2.B 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	Unit 4: Uniform Circular Motion & Universal Law of Gravitation Examples of data could include tables, graphs, or diagrams (vector diagrams) an object moving in a circular motion)[Assessme nt Boundary: Assessment is limited to macroscopic objects moving at non-relativistic speeds whose measured quantities can be classified as either vector or scalar.] .Use mathematical representations of Newton's Law of Gravitation to describe and predict the	Science and Engineering Practices: Planning and Carrying Out Investigations Analyzing and Interpreting Data Using Mathematics and Computational Thinking Constructing Explanations and Designing Solutions Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena Crosscutting Concepts: Patterns Cause and Effect	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	Labs:	All of December

	gravitational forces between objects	Systems and Systems Models ELA: 11-12.RST.1 11-12.RST.7 9-12.WHST.5 11-12.WHST.6 11-12.WHST.7 Math: 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			
NYSSLS HS-PS2-2	Unit 5: Momentum &	Science and Engineering	School Issued Chromebook	Labs: • The Explosion Lab	First 3 weeks of January
HS-PS2-3	Impulse	Practices:	Teacher generated	Impulse Lab	
Core Curriculum	Use mathematical	Planning and	google slides notes	Summative:	
5.1p 5.1q	representations to support the claim	Carrying Out Investigations	Calculator	Test:Created using previous years	
5.1q 5.1r	that the total	mvesugauuns	Calculatol	previous years regents questions	
M1.1	momentum of a	Analyzing and	School Provided Lab	taken from problem	
M2.1	system of objects	Interpreting Data	equipment	attic/castle learning	
M3.1	is conserved when			Quizzes:Created	

S2.1	there is no net	Using Mathematics	Lab Manual Created	using previous
S2.2	force on the	and Computational	by Teacher	years regents
S2.3	system.	Thinking		questions taken
S2.4			Physics Reference	from problem
S3.1	Apply scientific	Constructing	Table	attic/castle learning
S3.2	and engineering	Explanations and		Formative:
S3.3	ideas to design,	Designing Solutions	Textbook: Physics	Bellringers
S3.4	evaluate, and		Principles & Problems	Homework
	refine a device that	Science Models,		
	minimizes the	Laws, Mechanisms,	Schoology	
	force on a	and Theories		
	macroscopic	Explain Natural	Castle Learning	
	object during a	Phenomena		
	collision			
		Crosscutting		
		Concepts:		
		Patterns		
		Cause and Effect		
		Systems and		
		Systems Models		
		ELA:		
		11-12.RST.1		
		11-12.RST.7		
		9-12.WHST.5		
		11-12.WHST.6		
		11-12.WHST.7		
		Math:		
		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			
NYSSLS HS-PS3-1 HS-PS3-2 HS-PS3-3 HS-PS3-4 PS3.A PS3.B PS3.C: Core Curriculum 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	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	Science and Engineering Practices: Developing and using Models Planning and Carrying Out Investigations Analyzing and Interpreting Data Using Mathematics and Computational Thinking Crosscutting Concepts: Patterns Cause and Effect	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	 Hooke's Law Pendulum Dropper Popper Who is the Most Powerful? Summative: Test:Created using previous years regents questions taken from problem attic/castle learning Quizzes:Created using previous years regents questions taken from problem attic/castle learning Rube Goldberg Project: Students will design and build a rube goldberg machine 	Last week of January and first 2 weeks of February

\$2.4 \$3.1 \$3.2 \$3.3 \$3.4	with the motions of particles (objects) and energy associated with the relative position of particles (objects). Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.*	Systems and Systems Models Energy and Matter Influence of Science, Engineering, and Technology on Society and the Natural World ELA: 11-12.RST.1 9-12.WHST.5 11-12.WHST.6 11-12.WHST.7 11-12.SL.5 Math: MP.2 MP.4 AI-N.Q.1 AI-N.Q.3		outside of the classroom Formative: • Bellringers • Homework	
NYSSLS HS-PS2-4. HS-PS2.5 PS2.B HS-PS3-5 HS-PS3-6. Core Curriculum	Unit 7: Electricity and Magnetism Analyze data to support the claim that Ohm's Law describes the mathematical relationship among	Science and Engineering Practices: Developing and using Models Planning and Carrying Out Investigations	School Issued Chromebook Teacher generated google slides notes Calculator School Provided Lab	Labs: Static Electricity Shocking Pie Pan Building Series Circuits Building Parallel Circuits Mapping Magnets	Last 2 weeks of February and all of March

4.1k	the potential		equipment	Summative:
4.11	difference, current,	Analyzing and		Test:Created using
4.1m	and resistance of	Interpreting Data	Lab Manual Created	previous years
4.1n	an electric circuit.		by Teacher	regents questions
4.10		Using Mathematics		taken from problem
4.1p	Develop and use a	and Computational	Physics Reference	attic/castle learning
M1.1	model of two	Thinking	Table	Quizzes:Created
M2.1	objects interacting			using previous
M3.1	through electric or		Textbook: Physics	years regents
S2.1	magnetic fields to	Crosscutting	Principles & Problems	questions taken
S2.2	illustrate the forces	Concepts:		from problem
S2.3	between objects	Patterns	Schoology	attic/castle learning
S2.4	and the changes in			
S3.1	energy of the	Cause and Effect	Castle Learning	Formative:
S3.2	objects due to the			Bellringers
S3.3	interaction	Systems and		Homework
S3.4		Systems Models		
	Plan and conduct	Energy and Matter		
	an investigation to			
	provide evidence	Influence of		
	that an electric	Science,		
	current can	Engineering, and		
	produce a	Technology on		
	magnetic field and	Society and the		
	that a changing	Natural World		
	magnetic field can			
	produce an electric	<u>ELA</u> :		
	current.	11-12.RST.1		
		9-12.WHST.5		
	Use mathematical	11-12.WHST.6		
	representations of	11-12.WHST.7		
	Coulomb's Law to	11-12.SL.5		
	describe and	Math:		

	predict the electrostatic forces between objects.	MP.2 MP.4 AI-N.Q.1 AI-N.Q.3			
NYSSLS HS-PS4-1 HS-PS4-2 HS-PS4-5 HS-PS4-6 PS3.D: PS4.A PS4.B: Core Curriculum 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	Unit 8: Waves Simple motion 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. HS-PS4-2. Evaluate questions about the advantages of using a digital transmission and storage of information	Science and Engineering Practices: Asking questions and defining problems Using Mathematics and Computational Thinking Engaging in Argument from Evidence Obtaining, Evaluating, and Communicating Information Crosscutting Concepts: Patterns Cause and Effect	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	Wave Characteristic Slinky Lab Snell's Law Lab Speed of Sound Lab Standing Waves Summative: Test:Created using previous years regents questions taken from problem attic/castle learning Quizzes:Created using previous years regents questions taken from problem attic/castle learning Quizzes:Created using previous years regents questions taken from problem attic/castle learning Formative: Bellringers Homework	All of April

\$3.2 \$3.3 \$3.4	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	Systems and Systems Models Stability and change Influence of Science, Engineering, and Technology on Society and the Natural World ELA: 11-12.RST.1 9-12.WHST.5 11-12.WHST.6 11-12.WHST.7 11-12.SL.5 Math: MP.2 MP.4 AI.SSE.1 AI.SSE.3 AI.CED.4			
NYSSLS HS-PS4-3 HS-PS4-5. PS3.D: PS4.A PS4.B:	Unit 9: Modern & Nuclear Evaluate the claims, evidence, and reasoning behind the idea	Science and Engineering Practices: Asking questions and defining problems	School Issued Chromebook Teacher generated google slides notes Calculator	Labs:	Early to mid May

	ELA: 11-12.RST.1 9-12.WHST.5 11-12.WHST.6 11-12.WHST.7 11-12.SL.5 Math: MP.2 MP.4 AI.SSE.1 AI.SSE.3 AI.CED.4			
Regents Review		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	Labs:	Mid May/June

	Schoology Castle Learning Regents Review Packet provided by teacher	