

# New York State Testing Program



How were the PLDs developed?



Physical Science: Physics Performance Level Descriptions

Topic and PE	NYS Level 5	NYS Level Tr 2			
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Physical Science: Physics Performance Level Descriptions

Topic and PE	NYS Level 5	NYS Level 4	NYS Level 3	NYS Level 2	NYS Level 1
<p><b>Forces and Interactions</b></p> <p><b>HS-PS2-2</b></p>	<p>Collect and analyze data and use mathematical representations to describe motion</p>				
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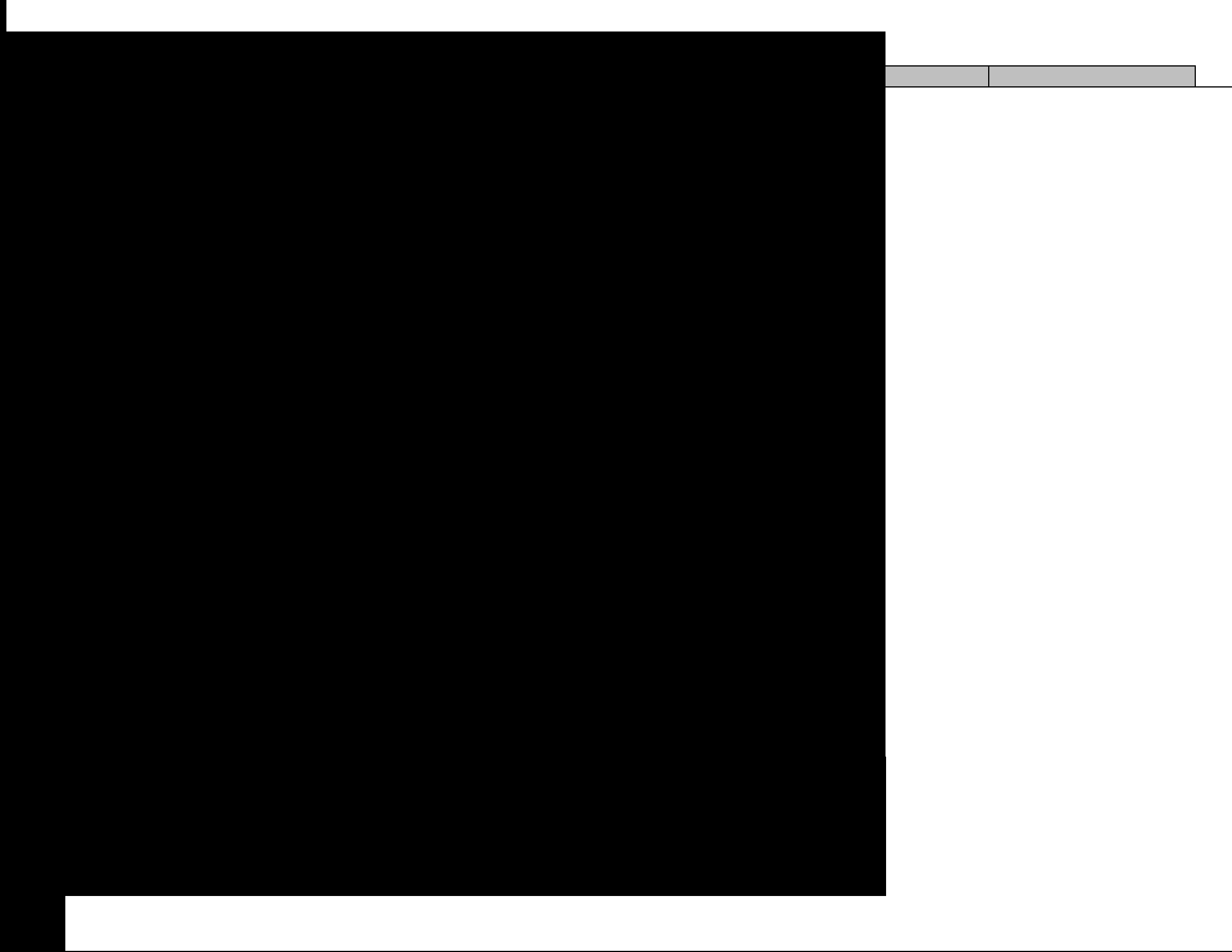
Physical Science: Physics Performance Level Descriptions

Topic and PE	NYS Level 5	NYS Level 4	NYS Level 3	NYS Level 2	NYS Level 1
<b>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, and apply the model to real-world data to evaluate the limitations of the model.	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.	Given a model or information for a system, calculate the energy change for the system and/or a physical quantity associated with an energy transformation within the system.	Given a model or information (e.g., kinetic energy, change in potential energy, work, or power) for a macroscopic object, calculate a physical quantity (e.g., mass, speed, change in height, spring constant, etc.) associated with that form of energy for the macroscopic object.	Given a model or information for a macroscopic object, calculate the kinetic energy, change in gravitational potential energy, change in









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<p style="text-align: center;"><b>Energy</b> <b>HS-PS3-6</b></p>	<p>Perform statistical analysis on multiple data sets in order to make and support a claim about Ohm's Law and the mathematical relationship among the potential difference, current, and resistance of an electric circuit.</p>	<p>Analyze data to support the claim that Ohm's Law describes the mathematical relationship among the potential difference, current, and resistance of an electric circuit.</p>	<p>Given a description, information, and/or data for an unspecified series or parallel circuit, draw the corresponding schematic diagram, <b>or</b> given a schematic diagram, description of, and/or data for a series or parallel circuit, use mathematical relationship(s) to describe the potential difference, current, resistance, power, and/or energy of the circuit or an individual circuit component, <b>or</b> given a schematic diagram, description of, and/or data for a series or parallel circuit, use mathematical relationship(s) to describe what happens to the potential difference, current, resistance, power, and/or energy of the circuit or an individual circuit component when change(s) are made to the circuit.</p>	<p>Given a schematic diagram, description of, and/or data for a circuit (simple, series, or parallel), identify a pattern among the potential difference, current, resistance, power, or energy of the circuit or an individual circuit component, or apply a pattern to determine the potential</p>	<p style="text-align: center;">—</p>



Physical Science: Physics Performance Level Descriptions

Topic and PE					



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<p><b>Waves and Electromagnetic Radiation</b></p> <p><b>HS-PS4-4</b></p>	<p>Gather and evaluate the validity and reliability of various scientific sources. Formulate a valid claim on the effects that different frequencies of electromagnetic radiation have when absorbed by matter, citing evidence from these sources.</p>	<p>Evaluate the validity and reliability of claims in published materials of the effects that different frequencies of electromagnetic radiation have when absorbed by matter.</p>	<p>Support or refute a given claim, using scientific and/or technical information, that describes the effect(s) that a frequency or range of frequencies and/or wavelengths of electromagnetic radiation have when absorbed by matter.</p>	<p>Given a claim, identify the evidence to support the claim about an effect electromagnetic radiation of a given frequency or range of frequencies and/or wavelengths has when absorbed by matter.</p>	<p>Identify the claim from those provided that describes an effect that electromagnetic radiation of a given frequency or range of frequencies and/or wavelengths has when absorbed by matter.</p>
<p><b>Waves and Electromagnetic Radiation</b></p> <p><b>HS-PS4-5</b></p>	<p>Communicate technical information to evaluate the effectiveness and reliability of a technological device that uses principles of wave behavior and wave interactions with matter to transmit and capture information and energy.</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>			

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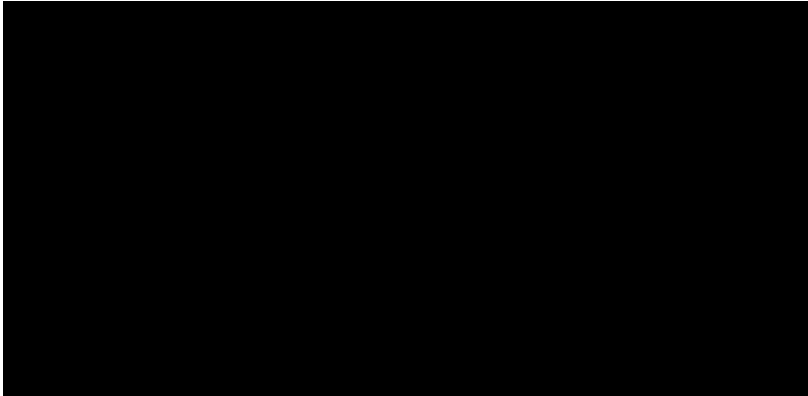
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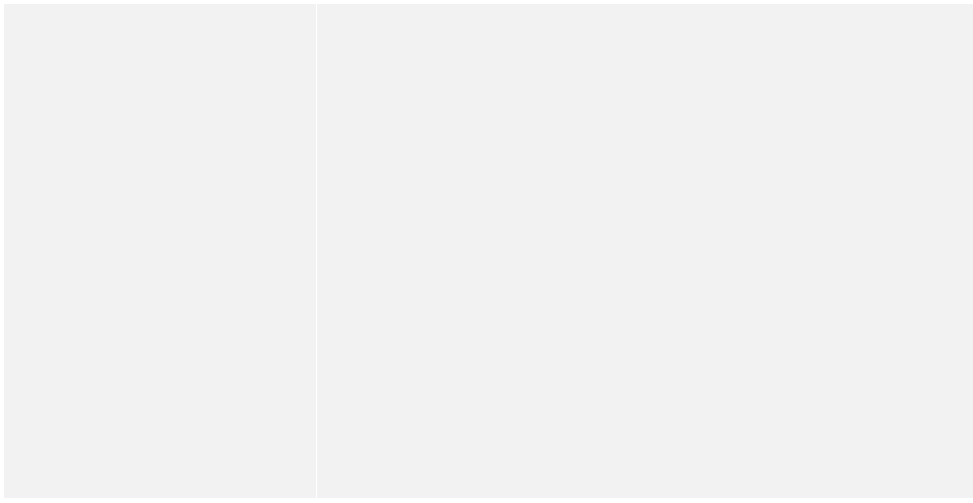
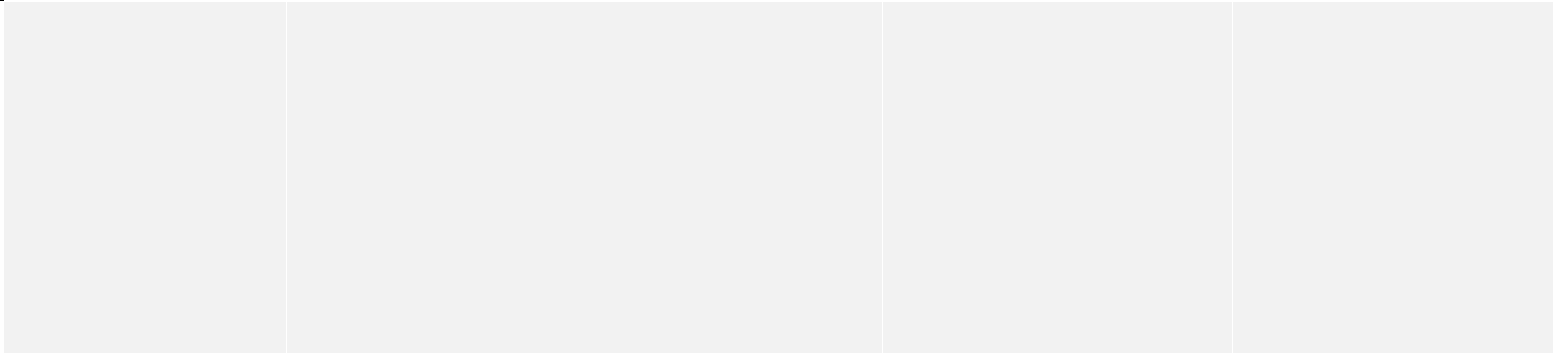
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	environmental impacts. Explain how these solutions affect society and the environment.	social, cultural, and environmental impacts.			
<b>Engineering Design</b>  <b>HS-ETS1-4</b>	Use a computer simulation to model the impact of proposed solutions to related complex real-world problems with numerous criteria.				