

## NECAP Science 2016 Grade 11 Release Items Prediction Chart

Item	DOK	Domain	NECAP Assessment Target	Prediction
1	2	Physical Science	<b>PS1-3:</b> Students will explain how properties of elements and the location of elements on the periodic table are related.	
2	2	Physical Science	<b>PS2-6:</b> Using information provided about chemical changes, students will draw conclusions about and explain the energy flow in a given chemical reaction.	
3	1	Physical Science	<b>PS3-8:</b> Given information (e.g., graphs, data, diagrams) students will use the relationships between or among force, mass, velocity, momentum, acceleration to predict and explain the motion of objects.	
4	2	Physical Science	<b>PS2-5:</b> Students will demonstrate how transformations of energy produce some energy in the form of heat and therefore the efficiency of the system is reduced.	
5	2	Earth/Space Science	<b>ESS1-3:</b> Students will explain how internal and external sources of heat (energy) fuel geologic processes (e.g., rock cycle, plate tectonics, sea floor spreading).	
6	2	Earth/Space Science	<b>ESS1-4:</b> Students will relate how geologic time is determined using various dating methods (e.g., radioactive decay, rock sequences, fossil records).	
7	2	Earth/Space Science	<b>ESS3-8:</b> Students will explain the relationships between or among the energy produced from nuclear reactions, the origin of elements, and the life cycle of stars.	
8	2	Life Science	<b>LS1-2:</b> Students will explain or justify with evidence how the alteration of the DNA sequence may produce new gene combinations that make little difference, enhance capabilities, or can be harmful to the organism.	
9	2	Life Science	<b>LS2-5:</b> Students will explain or evaluate potential bias in how evidence is interpreted in reports concerning a particular environmental factor that impacts the biology of humans.	
10	2	Life Science	<b>LS4-10:</b> Students will explain how the immune system, endocrine system, or nervous system work and draw conclusions about how systems interact to maintain homeostasis in the human body.	

## NECAP Science 2016 Grade 11 Inquiry Prediction Chart

Item	DOK	Domain	Target	Prediction
1	2	Inquiry	<b>INQ 2-6</b> Students will provide reasoning for appropriateness of materials, tools, procedures, and scale used in the investigation.	
2	2	Inquiry	<b>INQ 1-2</b> Students will construct coherent arguments in support of a question, hypothesis or prediction.	
3	3	Inquiry	<b>INQ 4-13</b> Students will communicate how scientific knowledge applies to explain results, propose further investigations or construct and analyze alternative explanations.	
4	3	Inquiry	<b>INQ 1-1</b> Students will analyze information from observations, research or experimental data for the purpose of formulating a question, hypothesis, or prediction.	
5	2	Inquiry	<b>INQ 3-8</b> Students will use accepted methods for organizing, representing, and manipulating data.	
6	2	Inquiry	<b>INQ 2-5</b> Students will provide reasoning for appropriateness of materials, tools, procedures and scale used in the investigation.	
7	2	Inquiry	<b>INQ 4-11</b> Students will analyze data including determining if data are relevant, artifact, irrelevant or anomalous.	
8	3	Inquiry	<b>INQ 4-12</b> Students use evidence to support and justify interpretations and conclusions or explain how the evidence refutes the hypothesis.	