

Alternate Grade Level Expectations

For

MEA (Alternate) - Science

PAAP

**Personalized Alternate
Assessment Portfolio**

Based on Maine's Accountability Standards, Chapter 131

Science

Maine's 2007 Learning Results

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The PAAP Blueprint of Required AGLE Indicators

Grade Level	Science
3	
4	
5	D1, D2, E2
6	
7	
8	D4, E3, E4
3rd Year High School	D3, E1, E5

**Maine’s Accountability Standards, Chapter 131
The Physical Setting – Universe and Solar System**

Science AGLE/Indicator — D1

Student understands the universal nature of matter, energy, force, and motion, and identifies how these relationships are exhibited in Earth Systems, in the solar system, and throughout the universe by:

Level of Complexity 1	Level of Complexity 2	Level of Complexity 3	Level of Complexity 4
describing or otherwise demonstrating understanding of the positions or apparent motions of different objects in our solar system and what these objects look like from Earth by...			
<p>doing the following:</p> <ul style="list-style-type: none"> identifying night and day. 	<p>doing <u>both</u> of the following:</p> <ul style="list-style-type: none"> identifying pictures of night and day, <p>AND</p> <ul style="list-style-type: none"> identifying the Sun and Earth’s Moon. 	<p>doing the following:</p> <ul style="list-style-type: none"> identifying the position of the Sun at different times by drawing or otherwise describing the movement of the Sun across the sky. 	<p>doing <u>both</u> of the following:</p> <ul style="list-style-type: none"> identifying the position of the Sun at different times by drawing or otherwise describing the movement of the Sun across the sky, <p>AND</p> <ul style="list-style-type: none"> drawing or identifying different phases of the Moon.
Level of Complexity 5	Level of Complexity 6	Level of Complexity 7	Level of Complexity 8
See Extended Learning AGLEs	See Extended Learning AGLEs	See Extended Learning AGLEs	See Extended Learning AGLEs

**Maine’s Accountability Standards, Chapter 131
The Physical Setting – Earth**

Science AGLE/Indicator — D2

Student understands the universal nature of matter, energy, force, and motion, and identifies how these relationships are exhibited in Earth Systems, in the solar system, and throughout the universe by:

Level of Complexity 1	Level of Complexity 2	Level of Complexity 3	Level of Complexity 4
describing the properties of Earth’s surface materials, the processes that change them, and cycles that affect Earth by...			
<p>doing the following:</p> <ul style="list-style-type: none"> identifying sunny, rainy, snowy, and/or windy weather through observation. 	<p>doing the following:</p> <ul style="list-style-type: none"> matching pictures to the type of weather they depict. 	<p>doing the following:</p> <ul style="list-style-type: none"> identifying the different forms that water can take in the weather. 	<p>doing <u>one</u> of the following:</p> <ul style="list-style-type: none"> matching weather to the effects it can have on the surface of Earth (erosion or weathering), and/or identifying factors that can influence temperature in the environment (day/night cycle, cloud cover, and presence of a star).
Level of Complexity 5	Level of Complexity 6	Level of Complexity 7	Level of Complexity 8
See Extended Learning AGLEs	See Extended Learning AGLEs	See Extended Learning AGLEs	See Extended Learning AGLEs

Maine's Accountability Standards, Chapter 131

The Physical Setting – Matter and Energy

Science AGLE/Indicator — D3

Student understands the universal nature of matter, energy, force, and motion, and identifies how these relationships are exhibited in Earth Systems, in the solar system, and throughout the universe by:

Level of Complexity 1		Level of Complexity 2		Level of Complexity 3		Level of Complexity 4	
describing properties of objects and materials before and after they undergo a change or interaction by...							
<p>doing the following:</p> <ul style="list-style-type: none"> matching objects based on one physical property. 		<p>doing the following:</p> <ul style="list-style-type: none"> identifying which object in a group has a specific physical property. 		<p>doing the following:</p> <ul style="list-style-type: none"> sorting objects into groups using one or more physical properties. 		<p>doing <u>both</u> of the following:</p> <ul style="list-style-type: none"> describing the physical properties of objects and materials <p>AND</p> <ul style="list-style-type: none"> using observable characteristics to describe changes in the physical properties of materials when mixed, heated, frozen, or cut. 	
Level of Complexity 5		Level of Complexity 6		Level of Complexity 7		Level of Complexity 8	
describing physical and chemical properties of matter, interactions and changes in matter, and transfer of energy through matter by...				describing the structure, behavior, and interactions of matter at the atomic level and the relationship between matter and energy by...			
<p>doing <u>both</u> of the following:</p> <ul style="list-style-type: none"> identifying chemical changes <p>AND</p> <ul style="list-style-type: none"> identifying physical changes. 		<p>doing <u>both</u> of the following:</p> <ul style="list-style-type: none"> comparing the properties of original materials and their properties after undergoing chemical or physical change <p>AND</p> <ul style="list-style-type: none"> observing and drawing conclusions about how the weight of an object compares to the sum of the weights of its parts. 		<p>doing <u>both</u> of the following:</p> <ul style="list-style-type: none"> explaining that all materials are made of small particles <p>AND</p> <ul style="list-style-type: none"> identifying examples of chemical and physical changes. 		<p>doing <u>both</u> of the following:</p> <ul style="list-style-type: none"> explaining that adding heat causes the small particles in matter to move faster <p>AND</p> <ul style="list-style-type: none"> demonstrating understanding that the properties of a material may change but the total amount of material remains the same. 	

Maine's Accountability Standards, Chapter 131

The Physical Setting – Force and Motion

Science AGLE/Indicator — D4

Student understands the universal nature of matter, energy, force, and motion, and identifies how these relationships are exhibited in Earth Systems, in the solar system, and throughout the universe by:

Level of Complexity 1		Level of Complexity 2		Level of Complexity 3		Level of Complexity 4	
summarizing how various forces affect the motion of objects by...							
<p>doing the following:</p> <ul style="list-style-type: none"> identifying or demonstrating one way (e.g., forward, backward, straight, zigzag, up, down, fast, slow) an object can move. 		<p>doing the following:</p> <ul style="list-style-type: none"> identifying or demonstrating two ways (e.g., forward, backward, straight, zigzag, up, down, fast, slow) an object can move. 		<p>doing <u>both</u> of the following:</p> <ul style="list-style-type: none"> describing or demonstrating three ways (e.g., forward, backward, straight, zigzag, up, down, fast, slow) an object can move <p>AND</p> <ul style="list-style-type: none"> identifying that the way an object moves can be changed by pushing or pulling it. 		<p>doing the following:</p> <ul style="list-style-type: none"> demonstrating understanding of how given objects move. 	
Level of Complexity 5		Level of Complexity 6		Level of Complexity 7		Level of Complexity 8	
describing the force of gravity, the motion of objects, the properties of waves, and the wavelike property of energy in light waves by...				See Extended Learning AGLEs		See Extended Learning AGLEs	
<p>doing the following:</p> <ul style="list-style-type: none"> identifying or describing wave motions, earthquakes, vibrations, and/or water waves. 		<p>doing <u>one</u> or more of the following:</p> <ul style="list-style-type: none"> giving examples of how gravity pulls objects, giving examples of how magnets pull and push objects, and/or describing similarities in motion of sound vibration and earthquakes, and water waves. 					

Maine's Accountability Standards, Chapter 131

The Living Environment — Biodiversity

Science AGLE/Indicator — E1

Student understands that cells are the basic unit of life, that all life as we know it has evolved through genetic transfer and natural selection to create a great diversity of organisms, and that these organisms create interdependent webs through which matter and energy flow. Student understands the similarities and differences between humans and other organisms and the interconnections of these interdependent webs by:

Level of Complexity 1	Level of Complexity 2	Level of Complexity 3	Level of Complexity 4
comparing living things based on their behaviors, external features, and environmental needs by...			
<p>doing the following:</p> <ul style="list-style-type: none"> identifying pictures or descriptions of given animals or plants. 	<p>doing the following:</p> <ul style="list-style-type: none"> identifying given organisms as plants or animals based on external features 	<p>doing the following:</p> <ul style="list-style-type: none"> identifying organisms that are similar and different based on external features, behaviors, and/or needs. 	<p>doing <u>two</u> of the following:</p> <ul style="list-style-type: none"> describing how plants and/or animals look, and/or describing the things that plants and/or animals do, and/or describing ways in which the needs of a plant and/or animal are met by its environment.
Level of Complexity 5	Level of Complexity 6	Level of Complexity 7	Level of Complexity 8
differentiating among organisms based on biological characteristics and identifying patterns of similarity by...		describing and analyzing the evidence for relatedness among and within diverse populations of organisms and the importance of biodiversity by...	
<p>doing both of the following:</p> <ul style="list-style-type: none"> sorting living things based on external features or behaviors. 	<p>doing <u>one</u> or more of the following:</p> <ul style="list-style-type: none"> identifying how external (or internal) features can influence how an animal or plant gets food and/or differentiating among living things that make their food, living things that eat their food, and those that do not clearly belong in one group or the other. 	<p>doing <u>both</u> of the following:</p> <ul style="list-style-type: none"> describing environments that have many different types of organisms and those that have fewer types of organisms, <p>AND</p> <ul style="list-style-type: none"> identifying ways that organisms are related using physical evidence, such as presence or absence of a backbone. 	<p>doing the following:</p> <ul style="list-style-type: none"> predicting possible changes that could result if the numbers of different types of organisms were to be drastically reduced.

**Maine’s Accountability Standards, Chapter 131
The Living Environment — Ecosystems**

Science AGLE/Indicator — E2

Student understands that cells are the basic unit of life, that all life as we know it has evolved through genetic transfer and natural selection to create a great diversity of organisms, and that these organisms create interdependent webs through which matter and energy flow. Student understands the similarities and differences between humans and other organisms and the interconnections of these interdependent webs by:

Level of Complexity 1	Level of Complexity 2	Level of Complexity 3	Level of Complexity 4
describing ways organisms depend upon, interact within, and change the living and nonliving environment as well as ways the environment affects organisms by...			
<p>doing the following:</p> <ul style="list-style-type: none"> identifying pictures or descriptions of given animals or plants. 	<p>doing the following:</p> <ul style="list-style-type: none"> identifying animals or plants that live in given environments 	<p>doing the following:</p> <ul style="list-style-type: none"> identifying plants, animals, and/or components of their environments in which given animals depend on for food and shelter. 	<p>doing <u>one</u> of the following:</p> <ul style="list-style-type: none"> comparing animals and plants that live in different environments to demonstrate understanding of how animals and plants depend on each other and the environments in which they live.
Level of Complexity 5	Level of Complexity 6	Level of Complexity 7	Level of Complexity 8
<p>See Extended Learning AGLEs</p>	<p>See Extended Learning AGLEs</p>	<p>See Extended Learning AGLEs</p>	<p>See Extended Learning AGLEs</p>

**Maine’s Accountability Standards, Chapter 131
The Living Environment — Cells**

Science AGLE/Indicator — E3

Student understands that cells are the basic unit of life, that all life as we know it has evolved through genetic transfer and natural selection to create a great diversity of organisms, and that these organisms create interdependent webs through which matter and energy flow. Student understands the similarities and differences between humans and other organisms and the interconnections of these interdependent webs by:

Level of Complexity 1		Level of Complexity 2		Level of Complexity 3		Level of Complexity 4	
describing how living things are made up of one or more cells and the ways cells help organisms meet their basic needs by...							
<p>doing the following:</p> <ul style="list-style-type: none"> identifying given parts of the human body. 		<p>doing the following:</p> <ul style="list-style-type: none"> matching animals and/or plants to their parts. 		<p>doing the following:</p> <ul style="list-style-type: none"> identifying parts that allow living things to meet basic needs. 		<p>doing the following:</p> <ul style="list-style-type: none"> identifying structures and/or processes that help given organisms stay alive. 	
Level of Complexity 5		Level of Complexity 6		Level of Complexity 7		Level of Complexity 8	
describing the hierarchy of organization and function in organisms, and the similarities and differences in structure, function, and needs among and within organisms by...				See Extended Learning AGLEs		See Extended Learning AGLEs	
<p>doing <u>one</u> of the following:</p> <ul style="list-style-type: none"> identifying that some living things are made of one cell and some living things are made of many cells, and/or identifying that all living things (single-celled and multi-celled) must have ways to get food and get rid of wastes. 		<p>doing <u>both</u> of the following:</p> <ul style="list-style-type: none"> identifying that some living things are made of one cell and some living things are made of many cells <p>AND</p> <ul style="list-style-type: none"> identifying that all living things (single-celled and multi-celled) must have ways to get food and get rid of wastes. 					

Maine's Accountability Standards, Chapter 131

The Living Environment — Hereditary and Reproduction

Science AGLE/Indicator — E4

Student understands that cells are the basic unit of life, that all life as we know it has evolved through genetic transfer and natural selection to create a great diversity of organisms, and that these organisms create interdependent webs through which matter and energy flow. Student understands the similarities and differences between humans and other organisms and the interconnections of these interdependent webs by:

Level of Complexity 1	Level of Complexity 2	Level of Complexity 3	Level of Complexity 4
describing characteristics of organisms and the reason why organisms differ from or are similar to their parents by...			
<p>doing the following:</p> <ul style="list-style-type: none"> identifying parents and their offspring by matching pictures of a baby organism to an adult of the same organism. 	<p>doing the following:</p> <ul style="list-style-type: none"> identifying things about offspring that are like and not like their parents. 	<p>doing the following:</p> <ul style="list-style-type: none"> demonstrating understanding of life cycles by explaining, drawing, or otherwise communicating knowledge of stages in given life cycles. 	<p>doing <u>both</u> of the following:</p> <ul style="list-style-type: none"> naming similarities between the adults and offspring of varied organisms <p>AND</p> <ul style="list-style-type: none"> identifying and describing, drawing, or otherwise communicating knowledge of stages in a life cycle
Level of Complexity 5	Level of Complexity 6	Level of Complexity 7	Level of Complexity 8
describing the general characteristics and mechanisms of reproduction and heredity in organisms, including humans, and ways in which organisms are affected by their genetic traits by...		See Extended Learning AGLEs	See Extended Learning AGLEs
<p>doing <u>one</u> of the following:</p> <ul style="list-style-type: none"> identifying the characteristics of offspring and parents based on similarities and differences. 	<p>doing <u>both</u> of the following:</p> <ul style="list-style-type: none"> identifying living things that reproduce by getting all their inherited information from one parent <p>AND</p> <ul style="list-style-type: none"> identifying living things that reproduce by getting all their inherited information from two parents. 		

Maine’s Accountability Standards, Chapter 131

The Living Environment — Evolution

Science AGLE/Indicator — E5

Student understands that cells are the basic unit of life, that all life as we know it has evolved through genetic transfer and natural selection to create a great diversity of organisms, and that these organisms create interdependent webs through which matter and energy flow. Student understands the similarities and differences between humans and other organisms and the interconnections of these interdependent webs by:

Level of Complexity 1		Level of Complexity 2		Level of Complexity 3		Level of Complexity 4	
describing fossil evidence and present explanations that help us understand why there are differences among and between present and past organisms by...							
doing the following: <ul style="list-style-type: none"> identifying organisms from the local environment. 		doing the following: <ul style="list-style-type: none"> matching pictures of organisms to the environment in which they live. 		doing <u>both</u> of the following: <ul style="list-style-type: none"> identifying organisms that no longer live today AND <ul style="list-style-type: none"> describing features that organisms no longer living today share with organisms now alive and features that differ from those of organisms now alive. 		doing <u>both</u> of the following: <ul style="list-style-type: none"> describing features that allow or allowed present and past organisms to live in their environment AND <ul style="list-style-type: none"> identifying organisms that once lived on Earth but no longer exist. 	
Level of Complexity 5		Level of Complexity 6		Level of Complexity 7		Level of Complexity 8	
describing the evidence that evolution occurs over many generations, allowing species to acquire many of their unique characteristics or adaptations, by...				describing the interactions between and among species, populations, and environments that lead to natural selection and evolution, by...			
doing <u>both</u> of the following: <ul style="list-style-type: none"> identifying examples of fossils AND <ul style="list-style-type: none"> demonstrating understanding of how fossils are formed. 		doing the following: <ul style="list-style-type: none"> explaining how fossils are used to help us understand the past. 		doing the following: <ul style="list-style-type: none"> presenting explanations that help us understand similarities and differences among and between past and present organisms. 		doing <u>both</u> of the following: <ul style="list-style-type: none"> explaining why some organisms survive to the next generation AND <ul style="list-style-type: none"> explaining why some organisms have traits that provide no apparent survival advantage. 	

