

DRAFT

The Personalized Alternate Assessment Portfolio (PAAP) Rubrics

Including Definitions of PAAP Levels of Assistance

In order to inform teaching and learning, provide accountability, and certify student progress towards Maine's *Learning Results*, all students must be a part of state and district components of the Local Comprehensive Assessment System. The system must be flexible enough to ensure access for all students while maintaining technical soundness (validity and reliability). To these ends, the Personalized Alternate Assessment Portfolio (PAAP) has been designed to provide an appropriate avenue to the MEA for those students who require accommodations so significant that they would compromise the content validity of the assessment.

The PAAP allows integration of the assessment with the individual student's instructional program. Drafts of state rubrics in the content areas assessed by the PAAP (English/Language Arts, Mathematics, Science and Technology, and Social Studies) have been developed to support this integration; serving as common elements for planning and scoring. The intent of the rubrics is to ensure entry to assessment for all students by defining developmental steps towards the *Learning Results* Performance Indicators. They have been reviewed by both content area experts, and special education personnel, to ensure that the integrity and validity of the Content Standards have not been compromised, that the descriptors are flexible enough to support the use of age appropriate tasks, whatever the assigned grade level of a student, and that the language used does not limit access (i.e., avoiding tasks that limit evidence to spoken or written language).

Three levels of assistance are built into the rubrics: **1) Support 2) Prompting 3) Limited Prompting**. These levels are related to student response formats rather than to formats for delivery of directions related to the tasks to be performed. In order to provide for consistency of administration, each of these terms has been defined. **ASSISTANCE IS ALLOWED IN ORDER TO ENSURE THAT ALL STUDENTS CAN ACCURATELY DEMONSTRATE THE LEVEL OF THEIR ACHIEVEMENT RELATIVE TO MAINE'S LEARNING RESULTS. ASSISTANCE WHICH IMPACTS THE PERFORMANCE LEVEL OF THE STUDENT IS NOT PERMITTED.** Clarification of the levels follows:

Support is a level of assistance that is specific to the task, may require the use of materials, and requires significant time on the part of the teacher to prepare, and/or of both the teacher and student for use, in most instances.

This level of assistance is characterized by such techniques as:

- > Repeated modeling
- > Providing/structure specific to the task
- > Teacher highlighting
- > Breaking down a task into pieces and focusing student attention on one specific aspect or piece of the task at a time

Prompting is a level of assistance that is specific to the task, may be provided verbally, visually, or through other non-verbal means, and usually requires less time for implementation than support. This level of assistance is characterized by such techniques as:

- > Use of general cues (ex., Questions – "What strategies do you use to figure out a word you don't know?" or Gestures – pointing, signing, touch cues)
- > Use of clues (ex., "Read the rest of the sentence. What word might make sense there? What letter does it begin with?", or circling beginning letter/underlining key word to call student attention to it).
- > Framing question linguistically for English as a Second Language population
- > Setting the parameters of thought (ex., providing a web for student use, or asking clarifying questions that help generate thought but don't provide clues to specific answers)
- > Encouragement specific to the task

Limited Prompting is a level of assistance that is not specific to the task. It is provided to keep the student focused on the question, and requires little time for implementation. This level of assistance is characterized by such techniques as:

- > Responding to student answer by saying, "Tell me more", or signaling student that you want more information.
- > Giving general statements of encouragement (ex., "You're doing a great job. You have only two more questions to answer.")

During the baseline years 2001-2002, and 2002-2003, feedback related to the rubrics will be gathered from those using them, in order to make final revisions prior to 2003-2004, when PAAP scores will be submitted to the state for aggregation and disaggregation.

Draft Entry Level 1 - PAAP Science and Technology Performance Indicator Rubric

Content Standard A - Classifying Life Forms

Students will understand that there are similarities within the diversity of all living things.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>A1. Given a set of objects, student can indicate those that are living v. non-living when asked, with prompting.</p> <p>A2. Student can identify one characteristic of living things, with prompting.</p> <p>A3. Student can identify three stages in a life cycle: birth, life, and death, with prompting.</p> <p>A4. Given a collection of objects, student can sort objects into two or more groups, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>A1. Given a set of objects, student can sort them into 2 categories, living and non-living and give a difference between living and non-living, with prompting.</p> <p>A2. Student can identify two characteristics of living things, with prompting.</p> <p>A3. Student can explain, draw, or otherwise demonstrate three stages in a life cycle: birth, life, and death, with prompting.</p> <p>A4. Given two sets of objects, student can identify the "rule" by which the objects have, or might be, sorted into two or more groups, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>A1. After independently sorting objects into 2 categories (living and non-living), student can give two differences between living and non-living things, with prompting.</p> <p>A2. Student can describe/demonstrate one characteristic of two different (plant/animal) living things, with prompting.</p> <p>A3. Student can explain, draw, or otherwise demonstrate a life cycle with three stages, independently.</p> <p>A4. Given a collection of objects, student can sort the objects into groups and describe the "rule" by which each group was sorted, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>A1. After sorting objects into 2 categories (living and non-living), students can give two differences between living and non-living things, independently.</p> <p>A2. Student can describe/demonstrate two characteristics of two different (plant/animal) living things, independently.</p> <p>A3. Student can explain, draw, or otherwise demonstrate a life cycle with more than three stages, independently.</p> <p>A4. Given a collection of objects, student can sort the objects into groups and describe the "rule" by which each group was sorted, independently.</p>	<p>Students will be able to:</p> <p>A1. Identify the differences between living and non-living things.</p> <p>A2. Describe characteristics of different living things.</p> <p>A3. Explain, draw, or otherwise demonstrate the life cycle of an organism.</p> <p>A4. Design and describe a classification system for objects.</p> <p>EXAMPLE Given a collection of shells, sort them into groups and describe the "rule" for each group.</p>

Draft Entry Level 2 - PAAP Science and Technology Performance Indicator Rubric

Content Standard A - Classifying Life Forms

Students will understand that there are similarities within the diversity of all living things.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>A1. Student can group organisms by a given characteristic, with limited prompting.</p> <p>A2. Student can classify organisms in simple terms, given categories (ex., living/non-living, plant/animal), with limited prompting.</p> <p>A3. Student can identify different living things within a familiar local habitat, with limited prompting.</p> <p>A4. Student can describe/demonstrate the structure, behavior, <u>or</u> life cycle of two different organisms, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>A1. Student can identify a characteristic and group organisms based on that characteristic, with limited prompting.</p> <p>A2. Student can describe/demonstrate a classification system for organisms, with prompting.</p> <p>A3. Student can name different living things within a given habitat, with limited prompting.</p> <p>A4. Student can compare and contrast the structure of different organisms, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>A1. Student can group the same organisms in different ways using different characteristics, with prompting.</p> <p>A2. Student can describe/demonstrate and design a classification system for organisms, with prompting.</p> <p>A3. Student can explain, draw, or otherwise describe the different living things within a given habitat, with prompting.</p> <p>A4. Student can compare and contrast the structure and behavior of different organisms, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>A1. Students can group the same organisms in different ways using different characteristics, independently.</p> <p>A2. Student can describe/demonstrate and design a classification system for organisms, independently.</p> <p>A3. Student can explain, draw, or otherwise describe the different living things within a given habitat, independently.</p> <p>A4. Student can compare and contrast the structure, behavior, and life cycles of different organisms, independently.</p>	<p>Students will be able to:</p> <p>A1. Group the same organisms in different ways using different characteristics.</p> <p>A2. Design and describe a classification system for organisms.</p> <p>A3. Describe the different living things within a given habitat.</p> <p>A4. Compare and contrast the life cycles, behavior, and structure of different organisms.</p>

Draft Entry Level 2 - Science and Technology Performance Indicator Rubric

Content Standard B - Ecology

Students will understand how living things depend on one another and on non-living aspects of the environment.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>B1. Student can describe/demonstrate what a food web is, with prompting.</p> <p>B2. Student can distinguish between producers (e.g., green plants) and consumers (e.g., those that eat green plants), with limited prompting.</p> <p>B3. Student can identify the characteristics of one biome (i.e., regions characterized by their climate and plant life - tundra, rain forest, ocean, desert), with limited prompting.</p> <p>B4. Student can identify some major living components of a local ecosystem after investigation, with limited prompting.</p>	<p>Portfolio contains evidence that:</p> <p>B1. Student can identify the particular organisms in a given food web, with prompting.</p> <p>B2. Student can explain/demonstrate the difference between producers (e.g., green plants), and consumers (e.g., those that eat green plants), with limited prompting.</p> <p>B3. Student can describe/demonstrate two different biomes (i.e., regions characterized by their climate and plant life - tundra, rain forest, ocean, desert), with limited prompting.</p> <p>B4. Student can identify some major living and non-living components of a local ecosystem after investigation, with limited prompting.</p>	<p>Portfolio contains evidence that:</p> <p>B1. Student can describe/demonstrate a food web and the relationships within a given ecosystem, with prompting.</p> <p>B2. Student can explain/demonstrate the differences among producers (e.g., green plants), consumers (e.g., those that eat green plants), and decomposers (e.g., bacteria that break down the "consumers" when they die), with prompting.</p> <p>B3. Student can compare and contrast the physical and living components of different biomes (i.e., regions characterized by their climate and plant life - tundra, rain forest, ocean, desert), with prompting.</p> <p>B4. Student can describe/demonstrate the connection between <u>a</u> major living and a non-living component of <u>a</u> local ecosystem after investigation, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>B1. Student can describe/demonstrate a food web and the relationships within a given ecosystem, independently.</p> <p>B2. Student can explain/demonstrate the differences among producers (e.g., green plants), consumers (e.g., those that eat green plants), and decomposers (e.g., bacteria that break down the "consumers" when they die), and identify examples of each, independently.</p> <p>B3. Student can compare and contrast the physical and living components of different biomes (i.e., regions characterized by their climate and plant life - tundra, rain, forest, ocean, desert), independently.</p> <p>B4. Student can describe/demonstrate connections between the <u>major</u> living and non-living components of a local ecosystem after investigation, independently.</p>	<p>Students will be able to:</p> <p>B1. Describe a food web and the relationships within an ecosystem.</p> <p>B2. Explain the difference between producers (e.g., green plants), consumers (e.g., those that eat green plants), and decomposers (e.g., bacteria that break down the "consumers" when they die), and identify examples of each.</p> <p>B3. Compare and contrast physical and living components of different biomes - i.e., regions characterized by their climate and plant life - (e.g., tundra, rain forest, ocean, desert).</p> <p>B4. Investigate the connection between major living and non-living components of a local ecosystem.</p>

Draft Entry Level 1 - PAAP Science and Technology Performance Indicator Rubric

Content Standard C - Cells

Students will understand that cells are the basic units of life.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performand Indicators
<p>Portfolio contains evidence that:</p> <p>C1. Student can point to at least three different parts of a living thing when the names of those parts are given, with limited prompting.</p> <p>C2. From a group of pictures including living and non-living things, student can identify those that need food and water to survive, with prompting.</p> <p>C3. Student will use a magnifying device, with limited prompting.</p> <p>C4. When asked to identify a disease, student can respond appropriately, with limited prompting.</p>	<p>Portfolio contains evidence that:</p> <p>C1. Student can point to at least three different parts of two or more living things when the names of those parts are given, with limited prompting.</p> <p>C2. From a group of pictures including living and non-living things, student can identify those that need food and water to survive, without prompting.</p> <p>C3. Student will use a magnifying device and match pictures of what he/she sees first with the naked eye, and what he/she sees using the magnifying device, with prompting.</p> <p>C4. Student can describe/demonstrate what a disease is, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>C1. Student can explain or otherwise demonstrate understanding that living things are made up of different parts, with prompting.</p> <p>C2. Student can draw, explain, or otherwise demonstrate understanding that plants and animals need food, water and gases to survive.</p> <p>C3. Student can use two or more types of magnifying devices and explain the difference it makes in the image seen (more detail), with prompting.</p> <p>C4. Student can provide an example of the cause of a disease, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>C1. Student can explain or otherwise demonstrate understanding that living things are made up of different parts, independently.</p> <p>C2. Student can draw, explain, or otherwise demonstrate understanding that plants and animals need food, water, and gases to survive, independently.</p> <p>C3. Student can use two or more types of magnifying devices and explain the difference it makes in the image seen (more detail), independently.</p> <p>C4. Student can provide two or more examples of causes of diseases, independently.</p>	<p>Students will be able to:</p> <p>C1. Demonstrate that living things are made up of different parts.</p> <p>C2. Demonstrate an understanding that plants and animals need food, water, and gases to survive.</p> <p>C3. Explore magnifying devices and how they allow one to see in more detail.</p> <p>C4. Provide examples of causes of diseases. EXAMPLES *Grow plants with and without the necessary requirements for life. *Use hand lenses to see details of a flower.</p>

Draft Entry Level 2 - PAAP Science and Technology Performance Indicator Rubric

Content Standard C - Cells

Students will understand that cells are the basic units of life.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>C1. Student can demonstrate that living things are made up of smaller parts, with limited prompting.</p> <p>C2. Student can identify that a single-celled organism is made up of one cell and is alive, with prompting.</p> <p>C3. Student can describe/demonstrate the function of a microscope, with prompting.</p> <p>C4. Student can identify a major human organ system, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>C1. Student can demonstrate that living things are made up of smaller parts, independently.</p> <p>C2. Student can list what a single celled organism needs in order to stay alive (ex., food, water, gases), with prompting.</p> <p>C3. Student can use a microscope to see given objects, with prompting.</p> <p>C4. Student can describe/demonstrate the functions of a major human organ system, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>C1. Student has an understanding that the smaller parts of living things are made up of cells, with limited prompting.</p> <p>C2. Student can describe/demonstrate how single-celled organisms exist, with prompting.</p> <p>C3. Student can use a microscope to identify a cell, with prompting.</p> <p>C4. Student can describe/demonstrate the functions of major human organ systems, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>C1. Student has an understanding that a cell is the basic unit of living organisms, independently.</p> <p>C2. Student can describe/demonstrate how single-celled organisms exist, independently.</p> <p>C3. Student can use a microscope to see cells in a variety of organisms, independently.</p> <p>C4. Student can describe the functions of the major human organ systems, independently.</p>	<p>Students will be able to:</p> <p>C1. Demonstrate an understanding that a cell is the basic unit of living organisms.</p> <p>C2. Describe how single-celled organisms exist.</p> <p>C3. Explore how the use of a microscope allows one to see cells in a variety of organisms.</p> <p>C4. Describe the functions of the major human organ systems. EXAMPLE *Describe how the circulatory system supplies nutrients and takes wastes away from cells in the body.</p>

Draft Entry Level 1 - PAAP Science and Technology Performance Indicator Rubric

Content Standard D - Continuity and Change

Students will understand the basis for all life and that all living things change over time.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>D1. Student can draw, explain, or otherwise demonstrate understanding that living things die, with prompting.</p> <p>D2. Student can identify a variety of organisms, with prompting.</p> <p>D3. When given pictures of a stage in the life cycle of an organism (ex., bird, butterfly, frog, human, plants) student can identify which organism it is related to, with prompting.</p> <p>D4. Student can identify one way in which they are like another person, with limited prompting.</p>	<p>Portfolio contains evidence that:</p> <p>D1. Student can draw, explain, or otherwise demonstrate understanding that dead organisms leave remnants, with prompting.</p> <p>D2. Student can match organisms to environments, with prompting.</p> <p>D3. Student can draw, describe, or respond to questions in order to demonstrate understanding of two stages of at least one life cycle, with prompting.</p> <p>D4. Student can identify one way in which individuals of the same species, other than human, are alike., with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>D1. Student can draw, explain, or otherwise demonstrate understanding that remains may turn into fossils, with prompting.</p> <p>D2. Student can identify characteristics of organisms, with prompting.</p> <p>D3. Student can draw, describe, or respond to questions in order to demonstrate understanding of two or more stages of at least one life cycle, with prompting.</p> <p>D4. Student can describe/demonstrate one way in which individuals of the same species are alike, and one way they are different, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>D1. Student can draw, explain, or otherwise demonstrate how fossils show the existence of past life, independently.</p> <p>D2. Student can identify characteristics that help organisms live in their environment, independently.</p> <p>D3. Student can draw, describe, or respond to questions in order to demonstrate understanding of ways in which an organism can change over its lifetime, sometimes in predictable ways (e.g., butterfly, frog), independently.</p> <p>D4. Student can describe/demonstrate ways in which individuals of the same species are alike and different, independently.</p>	<p>Students will be able to:</p> <p>D1. Explain how fossils show the existence of past life.</p> <p>D2. Identify characteristics that help organisms live in their environment.</p> <p>D3. Draw or describe ways in which an organism can change over its lifetime, sometimes in predictable ways (e.g., butterfly, frog).</p> <p>D4. Describe ways in which individuals of the same species are alike and different. EXAMPLES *Explain why a fossil animal might not be alive now. *Compare the similarities and differences of birds and mammals.</p>

Draft Entry Level 2 - PAAP Science and Technology Performance Indicator Rubric

Content Standard D - Continuity and Change

Students will understand the basis for all life and that all living things change over time.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>D1. Student will identify present day organisms, limited.</p> <p>D2. Student can draw or otherwise describe/demonstrate understanding of "fossil", with prompting.</p> <p>D3. Student can identify an adaptation that helps an organism live (ex., moist frog skin for respiration), with prompting.</p> <p>D4. Student can describe/demonstrate ways in which organisms may be similar to their parents, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>D1. Student will identify present day organisms and organisms that no longer exist, with prompting.</p> <p>D2. Student can identify the environmental factors that would cause a fossil to form, with prompting.</p> <p>D3. Student can describe/demonstrate how adaptations may change over time, with prompting.</p> <p>D4. Student can describe/demonstrate ways in which organisms may be similar to and different from their parents, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>D1. Student will identify present day organisms & organisms that no longer exist and demonstrate understanding of extinct", with prompting.</p> <p>D2. Student can describe/demonstrate how fossils form, with prompting.</p> <p>D3. Student can describe/demonstrate how adaptations, in response to change over time, may increase a species' chances of survival, with prompting.</p> <p>D4. Student can describe/demonstrate ways in which organisms may be similar to and different from their parents, and explore the possible reasons for this, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>D1. Student will identify present day organisms that have not always existed, and past life forms that have become extinct, independently.</p> <p>D2. Student can describe/demonstrate how fossils form, independently.</p> <p>D3. Student can describe/demonstrate how adaptations, in response to change over time, may increase a species' chances of survival, independently.</p> <p>D4. Student can describe/demonstrate ways in which organisms may be similar to and different from their parents, and explore the possible reasons for this, independently.</p>	<p>Students will be able to:</p> <p>D1. Identify present day organisms that have not always existed, and past life forms that have become extinct.</p> <p>D2. Describe how fossils form.</p> <p>D3. Explain how adaptations, in response to change over time, may increase a species' changes of survival.</p> <p>D4. Describe ways in which organisms may be similar to and different from their parents and explore the possible reasons for this. EXAMPLE <i>*Make a drawing or poster to illustrate how the horse has changed over millennia.</i></p>

Draft Entry Level 1 - PAAP Science and Technology Performance Indicator Rubric

Content Standard E- Structure of Matter

Students will understand the structure of matter and the changes it can undergo.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
Portfolio contains evidence that: E1. Student can indicate that everything has parts (ex., body, car, building, animal, plant, recipe, jigsaw puzzle), with prompting. E2. Student can identify one physical property (ex, color, size, texture) of given objects, with prompting. E3. Student can identify an observable characteristic (ex., color, size, texture) of familiar objects, with prompting.	Portfolio contains evidence that: E1. Student can match pieces of a given object to the whole of which they are a part (ex., body, car, jigsaw puzzle), with prompting. E2. Student can identify two physical properties (ex., color, size, texture) of given objects, with limited prompting. E3. Student can identify two observable characteristics (ex., color, size, texture) of any given objects that are alike and two that are different, with prompting.	Portfolio contains evidence that: E1. Student can draw, describe, or otherwise show understanding that large things are made up of smaller pieces, with prompting. E2.. Student can describe/demonstrate one physical property (ex., color, size, texture) of a given object, with prompting. E3. Student can group objects based on observable characteristics (e.g., color, size, texture), with prompting.	Portfolio contains evidence that: E1. Student will draw, describe, or otherwise show understanding that large things are made up of smaller pieces, independently. E2. Student can describe/demonstrate some physical properties (ex., color, size, texture) of two or more different objects, independently. E3. Student can group objects based on observable characteristics (e.g., color, size, texture), independently.	Students will be able to: E1. Show that large things are made up of smaller pieces. E2. Describe some physical properties of objects. E3. Group objects based on observable characteristics (e.g., color, size, texture). EXAMPLE *Take apart and reassemble a toy truck.

Draft Entry Level 2 - PAAP Science and Technology Performance Indicator Rubric

Content Standard E -Structure of Matter

Students will understand the structure of matter and the changes it can undergo.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>E1. Student can identify the physical properties of given objects, independently.</p> <p>E2. Student can define or otherwise demonstrate understanding of matter, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>E1. Student can identify a possible change in a physical property of a given object, with limited prompting.</p> <p>E2. Student can describe/demonstrate the meaning of "matter" and physical changes in matter, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>E1. Student can identify a possible change in the physical properties of objects when one object chemically combines with another (e.g., rust), with prompting.</p> <p>E2. Student can describe/demonstrate "matter" and physical and chemical changes in matter, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>E1. Student can describe how the physical properties of objects sometimes change when one object chemically combines with another, independently.</p> <p>E2. Student can describe/demonstrate how matter changes in both chemical and physical ways, independently.</p>	<p>Students will be able to:</p> <p>E1. Describe how the physical properties of objects sometimes change when one object chemically combines with another. EXAMPLE * Investigate the rusting of steel wool and the burning of a ..</p> <p>E2. Explain how matter changes in both chemical and physical ways.</p>

Draft Entry Level 1 - PAAP Science and Technology Performance Indicator Rubric

Content Standard F - The Earth

Students will gain knowledge about the earth and the processes that change it.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
Portfolio contains evidence that: F1. Student can identify characteristics of the weather on a given day, with prompting. F2. Student can identify the four seasons in correct order, with prompting. F3. Student can identify water, snow, wind, and ice as aspects of weather, with prompting.	Portfolio contains evidence that: F1. Student can compare the weather on two climatically different days (e.g., snowy/rainy), with prompting. F2. Student can identify the four seasons and describe the predominant weather pattern of each, with prompting. F3. Student can identify water, snow, wind, and ice as elements of environmental change, with prompting.	Portfolio contains evidence that: F1. Student can describe/demonstrate the way weather changes, with prompting. F2. Student can draw conclusions about the relationships between observable weather patterns and the cycling of seasons, with prompting. F3. Student can observe changes that are caused by 2 of the four factors (i.e., water, snow, wind, ice), with prompting.	Portfolio contains evidence that: F1. Student can describe/demonstrate the way weather changes, independently. F2. Student can draw conclusions about the relationships between observable weather patterns and the cycling of the seasons, independently. F3. Student can observe (identify) changes that are caused by water, snow, wind, and ice, independently.	Students will be able to: F1. Describe the way weather changes. F2. Analyze the relationships between observable weather patterns and the cycling of the seasons. F3. Observe changes that are caused by water, snow, wind, and ice. EXAMPLES *Chart weather conditions and compare and contrast changes over time. *Find local examples of erosion (e.g., ditches, puddles).

Draft Entry Level 2 - PAAP Science and Technology Performance Indicator Rubric

Content Standard F - The Earth

Students will gain knowledge about the earth and the processes that change it.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>F1. Student can point to the continents on a map, with prompting.</p> <p>F2. Student can give an example of something about the earth (ex., climate) that occurs in cycles, with prompting.</p> <p>F3. Student can identify rocks, minerals, <u>or</u> soils, with prompting.</p> <p>F4. Student can define or otherwise demonstrate understanding of "a cycle", with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>F1. Student can point to the continents on a map and define "continent", with prompting.</p> <p>F2. Student can give an example of something about the earth (ex., climate) that occurs in cycles, with limited prompting.</p> <p>F3. Student can identify rocks, minerals, <u>and</u> soils, with prompting.</p> <p>F4. Student can identify stages of a cycle for a non-living thing (e.g., water cycle or rock cycle), with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>F1. Student can describe/demonstrate the change in position of continents over time, with prompting.</p> <p>F2. Student can demonstrate an understanding that many things about the earth (ex., climate) occur in cycles, with prompting.</p> <p>F3. Student can describe/demonstrate differences among minerals, rocks, and soils, with prompting.</p> <p>F4. Student can indicate how water goes through a cyclic process of change in the environment, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>F1. Student can describe/demonstrate the change in position of continents over time, independently.</p> <p>F2. Student can demonstrate an understanding that many things about the earth (ex., climate) occur in cycles that vary in length and frequency, independently.</p> <p>F3. Student can describe/demonstrate differences among minerals, rocks, and soils, independently.</p> <p>F4. Student can illustrate how water goes through a cyclic process of change in the environment, independently.</p>	<p>Students will be able to:</p> <p>F1. Describe the change in position of the continents over time.</p> <p>F2. Demonstrate an understanding that many things about the earth (e.g., climate) occur in cycles that vary in length and frequency.</p> <p>F3. Describe differences among minerals, rocks, and soils.</p> <p>F4. Illustrate how water and other substances go through a cyclic process of change in the environment.</p>

Draft Entry Level 1 - PAAP Science and Technology Performance Indicator Rubric

Science & Technology Content Standard G

Students will gain knowledge about the universe and how humans have learned about it, and about the principles upon which it operates.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>G1. Student can identify differences between night and day (ex., dark/light), with prompting.</p> <p>G2. Student, using concrete objects, can move the shadows of objects by changing the direction from which light is coming, with prompting.</p> <p>G3. Student can identify the sun or stars, with limited prompting.</p>	<p>Portfolio contains evidence that:</p> <p>G1. Student can describe/demonstrate differences between night and day and identify the seasons, with prompting.</p> <p>G2. Student can, using concrete objects, move the shadows of objects by changing the direction from which light is coming, independently.</p> <p>G3. Student can identify the sun and stars, with limited prompting.</p>	<p>Portfolio contains evidence that:</p> <p>G1. Student can describe/demonstrate the position of the sun relative to the Earth in explaining day and night, with prompting.</p> <p>G2. Student can describe and demonstrate that shadows of objects change based on where light is coming from, with prompting.</p> <p>G3. Student can identify the sun as one of many stars, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>G1. Student can describe/demonstrate the cycles of day/night and of seasons, independently.</p> <p>G2. Student can describe/demonstrate that shadows of objects change based on where light is coming from, independently.</p> <p>G3. Student can demonstrate understanding that the sun is one of many stars in the universe and is the closest star to earth, independently.</p>	<p>Students will be able to:</p> <p>G1. Explain the cycles of day/night and of seasons.</p> <p>G2. Demonstrate that shadows of objects change based on where light is coming from.</p> <p>G3. Demonstrate an understanding that the sun is one of many stars in the universe and is the closest star to earth. EXAMPLES *Model/role play the earth going around the sun. *Use a flashlight to demonstrate the effect on shadows of changes in the location of light sources.</p>

Draft Entry Level 2 - PAAP Science and Technology Performance Indicator Rubric

Content Standard G - The Universe

Students will gain knowledge about the universe and how humans have learned about it, and about the principles upon which it operates.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>G1. Student can illustrate or otherwise describe the sun and Earth, with limited prompting.</p> <p>G2. Student can demonstrate that the sun is the source of natural light on Earth, with limited prompting.</p> <p>G3. Student can demonstrate understanding of the terms "rotation" and "revolution", with prompting.</p> <p>G4. Student can identify that the moon orbits or revolves around the earth, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>G1. Student can illustrate or otherwise describe the sun, moon, and Earth, with limited prompting.</p> <p>G2. Student can demonstrate that the sun is a star that produces heat and light, with limited prompting.</p> <p>G3. Student can describe/demonstrate the earth's rotation on its axis and its relationship to day length, with prompting.</p> <p>G4. Student can identify that the moon affects natural cycles on earth, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>G1. Student can illustrate or otherwise describe the relative positions of the sun, moon, and planets with prompting.</p> <p>G2. Student can demonstrate that the sun is the source of the natural heat and light on Earth, with limited prompting.</p> <p>G3. Student can describe/demonstrate the earth's rotation on its axis and its revolution around the sun, with prompting.</p> <p>G4. Student can draw conclusions about the relationship between the earth and its moon, with prompting (ex., revolves around the earth, reflects light from the sun to earth).</p>	<p>Portfolio contains evidence that:</p> <p>G1. Student can illustrate or otherwise describe the relative positions of the sun, moon, and planets, independently.</p> <p>G2. Student can trace the sources of Earth's heat and light to the sun, independently.</p> <p>G3. Student can describe/demonstrate the earth's rotation on its axis and its revolution around the sun, independently.</p> <p>G4. Student can draw conclusions about the relationship between the earth and its moon (ex., observe and draw a picture illustrating the moon's revolution around the earth, chart the phases of the moon), independently.</p>	<p>Students will be able to:</p> <p>G1. Illustrate the relative positions of the sun, moon, and planets.</p> <p>G2. Trace the sources of earth's heat and light energy to the sun.</p> <p>G3. Describe earth's rotation on its axis and its revolution around the sun.</p> <p>G4. Explore the relationship between the earth and its moon. EXAMPLES *Observe and chart the phases of the moon.</p>

Draft Entry Level 1 - PAAP Science and Technology Performance Indicator Rubric

Content Standard H - Energy
Students will understand concepts of energy.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>H1. Student can, from pictures of several objects, point to the sun as the source of light and heat, with prompting.</p> <p>H2. Student can match at least three non-living things with their source(s) of energy (e.g., flashlight/battery, lamp/electricity) with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>H1. Student can, from pictures of several objects, point to the sun as the source of light and heat, independently.</p> <p>H2. Student can match at least three living things with their source(s) of energy, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>H1. Student can draw, describe, or otherwise explain that the sun gives off light and heat energy, with prompting.</p> <p>H2. Student can describe/demonstrate why living things need energy, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>H1. Student can describe/demonstrate an understanding that the sun gives off light and heat energy, independently.</p> <p>H2. Student can describe/demonstrate why living things need energy, independently.</p>	<p>Student will be able to:</p> <p>H1. Demonstrate an understanding that the sun gives off light and heat energy.</p> <p>H2. Explain why living things need energy. EXAMPLE *Compare the growth of plants in different conditions of light.</p>

Draft Entry Level 2 - PAAP Science and Technology Performance Indicator Rubric

Content Standard H - Energy
Students will understand concepts of energy.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>H1. Student can demonstrate understanding of the meaning of "energy", with limited prompting.</p> <p>H2. Student can demonstrate two or more ways energy can be produced (ex., rubbing hands together, striking xylophone, etc.), with limited prompting.</p>	<p>Portfolio contains evidence that:</p> <p>H1. Student can identify one form of energy (e.g., light, sound, heat), with limited prompting.</p> <p>H2. Student can demonstrate two or more ways energy can be produced and describe how one form of energy can be produced.</p>	<p>Portfolio contains evidence that:</p> <p>H1. Student can identify two forms of energy (e.g., light, sound, heat), with limited prompting.</p> <p>H2. Student can describe and demonstrate ways different forms of energy can be produced, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>H1. Student can identify different forms of energy (e.g., light, sound, heat), independently.</p> <p>H2. Student can describe and demonstrate ways different forms of energy can be produced, independently.</p>	<p>Students will be able to:</p> <p>H1. Identify different forms of energy (e.g., light, sound, heat).</p> <p>H2. Explain ways different forms of energy can be produced. EXAMPLE *Prove that sounds are caused by vibrational energy.</p>

Draft Entry Level 1 - PAAP Science and Technology Performance Indicator Rubric

Content Standard I - Motion

Students will understand the motion of objects and how forces can change that motion.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>I1. Student can indicate that there are different types of movement.</p> <p>I2. Student can demonstrate the concept of motion.</p>	<p>Portfolio contains evidence that:</p> <p>I1. Student can identify two types of motion (ex., forward, backward, straight, zigzag, up, down, fast, slow, etc.)</p> <p>I2. Student can demonstrate a variety of motions.</p>	<p>Portfolio contains evidence that:</p> <p>I1. Student can identify and describe two types of motions (ex. forward, backward, straight, zigzag, up, down, fast, slow, etc.).</p> <p>I2. Student can demonstrate that the motion of an object can be changed, with prompts.</p>	<p>Portfolio contains evidence that:</p> <p>I1. Student can develop a variety of ways to describe the motion of an object (ex., forward, backward, straight, zigzag, up, down, fast, slow, etc.)</p> <p>I2. Student can demonstrate that the motion of an object can be changed.</p>	<p>Students will be able to:</p> <p>I1. Develop a variety of ways to describe the motion of an object.</p> <p>I2. Demonstrate that the motion of an object can be changed. EXAMPLE *Describe the motion of an object using terms such as forward, backward, straight, zigzag, up, down, fast, slow, etc.</p>

Draft Entry Level 2 - PAAP Science and Technology Performance Indicator Rubric

Content Standard I - Motion

Students will understand the motion of objects and how forces can change that motion.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
Portfolio contains evidence that: 11. Student can define force and different types of forces (e.g., mechanical, electrical, magnetic).	Portfolio contains evidence that: 11. Student can describe the effects of force on motion (e.g., mechanical, electrical, magnetic).	Portfolio contains evidence that: 11. Student can describe the effects of a specific type of force on motion (e.g., mechanical, electrical, magnetic).	Portfolio contains evidence that: 11. Student can describe the effects of different types of forces on motion (e.g., mechanical, electrical, magnetic).	Student will be able to: 11. Describe the effects of different types of forces (e.g., mechanical, electrical, magnetic) on motion.
12. Student can describe differences between more massive and less massive objects.	12. Student can investigate how the amount of force affects the motion of more massive and less massive objects.	12. Student can analyze how the amount of force affects the motion of more massive and less massive objects.	12. Student can draw conclusions about how the amount of force affects the motion of more massive and less massive objects.	12. Draw conclusions about how the amount of force affects the motion of more massive and less massive objects.
13. Student can identify what a reaction force is.	13. Student can investigate the reaction force generated by pushing or pulling an object.	13. Student can analyze the reaction force when something is pushed or pulled.	13. Student can generate examples illustrating that when something is pushed or pulled, it exerts a reaction force.	13. Generate examples illustrating that when something is pushed or pulled, it exerts a reaction force.

Draft Entry Level 1 - PAAP Science and Technology Performance Indicator Rubric

Content Standard J -Inquiry and Problem Solving				
<i>Students will apply inquiry and problem-solving approaches in science and technology.</i>				
1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
Portfolio contains evidence that:	Portfolio contains evidence that:	Portfolio contains evidence that:	Portfolio contains evidence that:	Students will be able to:
J1. Given an object, student can make an observaton that can be measured (e.g., length of nose, quantity of beans), with prompting.	J1. Given an object, student can make an observaton that can be measured (e.g., length of nose, quantity of beans), without prompting.	J1. Student can make accurate observatons using appropriate tools and units of measure, with prompting.	J1. Student can make accurate observations using appropriate tools and units of measure.	J1. Make accurate observations using appropriate tools and units of measure.
J2. Student can determine an appropriate strategy to answer a given question, with prompting.	J2. Student can determine and carry out an appropriate strategy to answer a given question, with prompting.	J2. Student can generate questions and propose strategies and materials to use in answering them, with promoptina.	J2. Student can ask questions and propose strategies and materials to use in seeking answers to questions.	J2. Ask questions and propose strategies and materials to use in seeking answers to questions.
J3. Student can identify a pattern in a series of results.	J3. Student can make a prediction based on a pattern they have observed.	J3. Student can use results in a purposful way, which includes making predictions based on patterns they have observed, with prompting.	J3. Student can use results in a purposeful way, which includes making predictions based on patterns they have observed.	J3. Use results in a purposeful way, which includes making predictions based on patterns they have observed.
J4. Student can recognizes that there is a correlation between problems and solutions.	J4. Student can match a problem with a product which was invented to solve the problem (ex., toothbrush, eyeglasses).	J4. Student can identify a product and describe the problem it was designed to solve, without prompting.	J4. Student can identify products which were invented to solve a problem.	J4. Identify products which were invented to solve a problem.

Draft Entry Level 2 - PAAP Science and Technology Performance Indicator Rubric

Content Standard J - Inquiry and Problem Solving

Students will apply inquiry and problem-solving approaches in science and technology.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
Portfolio contains evidence that: J1. Given an object, student can make an observation that can be measured (e.g., measure something to the nearest mm), with prompting.	Portfolio contains evidence that: J1. Given an object, student can make an observation that can be measured (e.g., measure something to the nearest mm), without prompting.	Portfolio contains evidence that: J1. Student can make accurate observations using appropriate tools and units of measure (e.g., measurement to the nearest mm), with prompting.	Portfolio contains evidence that: J1. Student can make accurate observations using appropriate tools and units of measure.	Students will be able to: J1. Make accurate observations using appropriate tools and units of measure.
J2. Student can follow the steps of a simple scientific investigation, with prompting.	J2. Student can follow the steps of a simple scientific investigation, without prompting.	J2. Student can conduct the scientific investigations and make observations, collect and analyze data, and do experiments, with prompting.	J2. Student can conduct scientific investigations and make observations, collect and analyze data, and do experiments.	J2. Conduct scientific investigations: make observations, collect and analyze data, and do experiments.
J3. Given a scientific test, student can determine if it is a fair test.	J3. Given a scientific test, student can determine if it is a fair test and demonstrate an ability to interpret data to make further predictions, with prompting.	J3. Given a scientific test, student can determine if it is a fair test and demonstrate an ability to interpret data to make further predictions.	J3. Student can use the results of an experiment in a purposeful way: design fair tests, make predictions based on observed patterns, and interpret data to make further predictions.	J3. Use results in a purposeful way: design fair tests, make predictions based on observed patterns, and interpret data to make further predictions.
J4. Student can define invention and provide some examples.	J4. Student can build an invention with prompting.	J4. Student can design and build an invention, with prompting.	J4. Student can design and build an invention.	J4. Design and build an invention.
J5. Student can identify how a variation in a factor such as time, place, or experimenter can lead to differing data, with prompting.	J5. Student can identify how a variation in a factor such as time, place, or experimenter can lead to differing data, without prompting.	J5. Student can give a basic explanation of how differences in time, place, or experimenter can lead to different data, with prompting.	J5. Student can explain how differences in time, place, or experimenter can lead to different data.	J5. Explain how differences in time, place, or experimenter can lead to different data.
J6. Given a set of data, student draws a reasonable conclusion.	J6. Given a set of data, student can explain how different conclusions can be derived from the same data, with prompts.	J6. Given a set of data, student can explain how different conclusions can be derived from the same data.	J6. Student can explain how different conclusions can be derived from the same data.	J6. Explain how different conclusions can be derived from the same data.

Draft Entry Level 1 - PAAP Science and Technology Performance Indicator Rubric

Content Standard K - Scientific Reasoning

Students will learn to formulate and justify ideas and to make informed decisions.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
Portfolio contains evidence that: K1. Student can identify the strengths that support an argument. K2. Student can identify important information in a simple argument. K3. Student can, when briefly shown an object, choose that object from a group of objects. K4. Student indicates a desire to participate in a brainstorming activity. K5. Student identifies a logical statement in an argument. K6. Student can identify the set with a simple patten, given a set of materials with a pattern, and a set of materials without a pattern.	Portfolio contains evidence that: K1. Student can identify the strengths and weaknesses of an argument, with prompts. K2. Student can identify important and unimportant information in a simple argument. K3. Student can, when briefly shown an object, draw or otherwise describe it. K4. Student identifies a relevant piece of information to use in a brainstorming activity. K5. Student identifies two different forms of logical thinking in an argument, with prompting. K6. Student can identify a simple pattern (2 step) in a sset of materials or information.	Portfolio contains evidence that: K1. Student can examine (compare and contrast) the strengths and weaknesses of a simple argument, with prompts. K2. Student can distinguish between important and unimportant information in simple arguments, with prompting. K3. Student can accurately describe at least three components of a given environment, person, object, etc., with prompting. K4. Student participates in brainstorming activities, with prompting. K5. Student uses various forms of simple logic, with prompting. K6. Student can describe the relationship between the components of a pattern.	Portfolio contains evidence that: K1. Student can examine (compare and contrast) the strengths and weaknesses of a simple argument, without prompting. K2. Student can distinguish between important and unimportant information in simple arguments. K3. Student can make observations. K4. Student can participate in brainstorming activities. K5. Student uses various forms of simple logic. K6. Student can discover relationships and patterns.	Students will be able to: K1. Examine strengths and weaknesses of simple arguments. K2. Distinguish between important and unimportant information in simple arguments. K3. Make observations. K4. Participate in brainstorming activities. K5. Use various forms of simple logic. K6. Discover relationships and patterns.

Draft Entry Level 2 - PAAP Science and Technology Performance Indicator Rubric

Content Standard K - Scientific Reasoning				
<i>Students will learn to formulate and justify ideas and to make informed decisions.</i>				
1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
Portfolio contains evidence that:	Portfolio contains evidence that:	Portfolio contains evidence that:	Portfolio contains evidence that:	Students will be able to:
K1. Student has difficulty providing alternative explanations for observed phenomena.	K1. Student can provide limited alternative explanations for observed phenomena.	K1. Student can provide a logical alternative explanation for an observed phenomena.	K1. Student can provide logical alternative explanations for observed phenomena.	K1. Give alternative explanations for observed phenomena.
K2. Student can describe feelings related to a given topic.	K2. Student can separate feelings from reasoning as related to a given topic.	K2. Student can give a basic description of how feelings can distort reasoning.	K2. Student can give a detailed description of how feelings can distort reasoning.	K2. Describe how feelings can distort reasoning.
K3. Student demonstrates understanding of what a conclusion is.	K3. Student can identify a statement as a conclusion.	K3. Student can draw a conclusion based on an observation.	K3. Student can draw conclusions about observations.	K3. Draw conclusions about observations.
K4. Given a claim and various types of evidence, student can identify the evidence related to the claim.	K4. Given a claim, student can identify the type of evidence needed to support the claim.	K4. Student can use one type of evidence to support a claim.	K4. Student can use various types of evidence (e.g., logical, quantitative) to support a claim.	K4. Use various types of evidence (e.g., logical, quantitative) to support a claim.
K5. Student can differentiate believable ideas from those that are not believable.	K5. Student can explain why a particular idea is either believable or not believable.	K5. Student has a basic understanding that ideas are more believable when supported by good reasons.	K5. Student has an understanding of why ideas are more believable when supported by good reasons.	K5. Demonstrate an understanding that ideas are more believable when supported by good reasons.
K6. Student can appropriately contribute to a group brainstorming session about a particular topic.	K6. Student can independently brainstorm ideas appropriate to a particular topic.	K6. Student can independently brainstorm ideas and practice and apply simple logic or intuitive thinking.	K6. Student can practice and apply simple logic, intuitive thinking, and brainstorming.	K6. Practice and apply simple logic, intuitive thinking, and brainstorming.

Draft Entry Level 1 - PAAP Science and Technology Performance Indicator Rubric

Content Standard L - Communication

Students will communicate effectively in the application of science and technology.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
Portfolio contains evidence that:	Portfolio contains evidence that:	Portfolio contains evidence that:	Portfolio contains evidence that:	Student will be able to:
L1. Student can describe and compare at least two items on the basis of two attributes.	L1. Student can describe and compare at least two items on the basis of three attributes.	L1. Student can describe and compare at least three items on the basis of four attributes.	L1. Student can describe and compare at least four items on the basis of four or more attributes.	L1. Describe and compare things in terms of number, shape, texture, size, weight, color, and behavior.
L2. Student can respond appropriately to a single step instruction given through symbols, written words, and/or verbally.	L2. Student can respond appropriately to multiple step instructions given through symbols, written words, and/or verbally.	L2. Student can respond appropriately to a written one-step instruction.	L2. Student can respond appropriately to a written one-step instruction, and write a one-step direction to be followed by others.	L2. Read and write instructions to be followed or instructions which explain procedures.
L3. Student can generate a question appropriate to a given situation, with prompting.	L3. Student can generate a question appropriate to a given situation, without prompting.	L3. Student can generate a clarifying question appropriate to a given situation, with prompting.	L3. Student can generate a clarifying question appropriate to a given situation, without prompting.	L3. Ask clarifying questions.
L4. Student can use pictorial, verbal, and/or written methods to identify a problem.	L4. Student can use pictorial, verbal, and/or written methods to identify a problem and an appropriate step to move towards a solution.	L4. Student can use pictorial, verbal, and/or written methods to identify a problem and explain the steps in the process needed to solve it, with prompting.	L4. Student can use pictorial, verbal, and/or written methods to identify a problem and explain the steps in the process needed to solve it, without prompting.	L4. Explain problem-solving processes using verbal, pictorial, and written methods.
L5. Given completed bar graphs and pie chart, student can identify the sets of data with the higher and lower values.	L5. Student can represent two sets of data on a bar graph and a pie chart, and identify the sets of data with the higher and lower values.	L5. Student can represent more than two sets of data on a bar graph, and indicate the sets of data with the highest, lowest, and middle values.	L5. Student can represent more than two sets of data on a bar graph and a pie chart and indicate the sets with the highest, lowest, and middle values.	L5. Make and read simple graphs.
L6. Student can use objects to represent scientific and technological ideas (ex., day's weather), with prompting.	L6. Student can use objects to represent scientific and technological ideas (ex., day's weather), without prompting.	L6. Student can use objects and/or pictures to represent scientific and technological ideas (ex., life cycle), with prompting.	L6. Student can use objects and/or pictures to represent scientific and technological ideas (ex., life cycle) without prompting.	L6. Use objects and pictures to represent scientific and technological ideas. EXAMPLE *First grade students create a graph to record their daily weather observations. This might include bars for sunny, cloudy, rainy, snowy, and "mixed"

Draft Entry Level 2 - PAAP Science and Technology Performance Indicator Rubric

Content Standard L - Communication

Students will communicate effectively in the application of science and technology.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
Portfolio contains evidence that: L1. Student can give facts about or record results related to experiments or activities (e.g., interviews, discussions, field work).	Portfolio contains evidence that: L1. Student can record results of experiments or activities (e.g., interviews, discussions, field work) and communicate what they have learned.	Portfolio contains evidence that: L1. Student can record results of experiments or activities (e.g., interviews, discussions, field work), communicate and provide a basic summary of what they have learned.	Portfolio contains evidence that: L1. Student can record results of experiments or activities (e.g., interviews, discussions, field work), communicate and provide a detailed summary of what they have learned.	Student will be able to: L1. Record results of experiments or activities (e.g., interviews, discussions, field work) and summarize and communicate what they have learned.
L2. Student can generate and/or a question related to a topic being discussed.	L2. Student can generate and/or ask a clarifying question.	L2. Student can generate and/or ask basic clarifying and extending questions.	L2. Student can generate and/or ask sophisticated clarifying and extending questions.	L2. Ask clarifying and extending questions.
L3. Student can reflect on a topic and share some of the thoughts generated through reflection.	L3. Student can reflect on work in science and technology and share thoughts generated through reflection.	L3. Student can reflect on work in science and technology using two different kinds of activities (e.g., discussions, journals, self-assessment).	L3. Student can reflect on work in science and technology using different kinds of activities such as discussions, journals, and self-assessment.	L3. Reflect on work in science and technology using such activities as discussions, journals, and self-assessment.
L4. Student can make and/or use physical representations, sketches, or manipulatives to explain procedures.	L4. Student can make and/or use physical representations, sketches, or manipulatives to explain procedures and ideas.	L4. Student can make and/or use physical representations, sketches, manipulatives, and/or tables graphs to explain procedures and ideas.	L4. Student can make and/or use physical representations, sketches, manipulatives, tables and graphs to explain procedures and ideas.	L4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.
L5. Student can gather information using two different media.	L5. Student can gather and present information using two different media.	L5. Student can gather and effectively present information using three different media including computers (e.g., spreadsheets, word processing, programming, graphics, or modeling).	L5. Student can gather and effectively present information using a variety of media including computers (e.g., spreadsheets, word processing, programming, graphics, or modeling).	L5. Gather and effectively present information, using a variety of media including computers (e.g., spreadsheets, word processing, programming, graphics, modeling).
L6. Student can point out differences between information from two sources on the same topic.	L6. Student can use objects to represent scientific and technological ideas (ex., day's weather), without prompting.	L6. Student can cite examples of bias in information sources and question the validity of one source's information when compared to similar information from another source.	L6. Student can cite examples of bias in information sources and question the validity of information from varied sources.	L6. Cite examples of bias in information sources and question the validity of information from varied sources.
L7. Student can contribute to the work of a group.	L7. Student can function effectively in a group when given an assigned role.	L7. Student can function effectively in groups within some assigned roles.	L7. Student can function effectively in groups with various assigned roles (e.g., reader, recorder).	L7. Function effectively in groups within various assigned roles (e.g., reader, recorder). EXAMPLE *Create functioning models which demonstrate the ways in which simple machines make work easier (e.g., levers, inclined

Draft Entry Level 1 - PAAP Science and Technology Performance Indicator Rubric

Content Standard M - Implications of Science and Technology

Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.

1.1.1	1.1.2	1.1.3	1.1.4	Learning Results Performance Indicators
Portfolio contains evidence that: M1. Student can identify components of the world around them (ex., sky, grass, sun), with prompting. M2. Student can identify an invention and what it does, with prompting. M3. Student can identify a commonly used resource and where it comes from, with prompting. M4. Student can identify one practice for recycling , with prompting. M5. Student can identify an invention that he/she uses, with prompting.	Portfolio contains evidence that: M1. Student can pick out of given stories or legends one part that attempts to explain the world, with prompting. M2. Student can identify at least two inventions and what they do, with prompting. M3. Student can identify two or more commonly used resources and where they come from, with prompting. M4. Student can identify two practices for recycling, with limited prompting. M5. Student can identify two or more inventions that he/she uses now and how his/her life is different because of them, with prompting.	Portfolio contains evidence that: M1. Student can identify what about the world a story, legend or scientific explanation is trying to make understandable, with prompting. M2. Student can describe at least two inventions, what they do, and how they work, with prompting. M3. Student can identify two or more commonly used resources and where they come from, independently. M4. Student can describe/demonstrate three or more practices for recycling, with prompting. M5. Student can describe/demonstrate how life would be different without two or more specific inventions or because of specific scientific knowledge, with prompting.	Portfolio contains evidence that: M1. Student can describe/demonstrate how stories, legends, and scientific explanations are different ways in which people try to explain the world. M2. Student can describe at least two inventions, what they do, how they work, and how they have made life easier, independently. M3. Student can identify two or more commonly used resources, where they come from, and where waste products resulting from their use go, independently. M4. Student can describe/demonstrate three or more practices for recycling, and some practices for caring for resources, independently. M5. Student can describe/demonstrate how life would be different without two or more specific inventions or because of specific scientific knowledge, independently.	Students will be able to: M1. Describe how legends, stories, and scientific explanations are different ways in which people attempt to explain the world. M2. Describe at least two inventions, what they do, how they work, and how they have made life easier. M3. Identify commonly used resources, their sources, and where waste products go. M4. Demonstrate some practices for recycling and care of resources. M5. Explain how their lives would be different without specific inventions or scientific knowledge. EXAMPLES *Pick a simple invention (e.g., toothbrush, fork, lawnmower) and explain how its design conforms to function. *Trace all the ways that they rely on electricity every day.

Draft Entry Level 2 - PAAP Science and Technology Performance Indicator Rubric

Content Standard M - Implications of Science and Technology

Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.

1.2.1	1.2.2	1.2.3	1.2.4	Learning Results Performance Indicators
<p>Portfolio contains evidence that:</p> <p>M1. Student can explore the technological solutions used by two different cultures to one need or problem (e.g., construction, clothing, agricultural tools and methods), with prompting.</p> <p>M2. Student can identify two or more well known scientists or inventors, with prompting.</p> <p>M3. Student can identify technologies (e.g., transportation, irrigation) that they use in their environment, with prompting.</p> <p>M4. Student can identify two conservation practices from daily life and the reason(s) for their use, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>M1. Student can draw conclusions about the technological solutions used by two different cultures to two needs or problems (e.g., construction, clothing, agricultural tools and methods), with prompting.</p> <p>M2. Student can demonstrate understanding of the meaning of "scientist" or "inventor", with prompting.</p> <p>M3. Student can give factual information related to a technology (e.g., transportation, irrigation) that has altered human settlement, with prompting.</p> <p>M4. Student can identify renewable and non-renewable resources among a given group of resources, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>M1. Student can draw conclusions about how cultures have found different technological solutions to deal with similar needs or problems (e.g., construction, clothing, agricultural tools and methods), with prompting.</p> <p>M2. Student can collect information and describe/demonstrate the role of scientists and inventors, with prompting.</p> <p>M3. Student can draw conclusions about how technology (e.g., transportation, irrigation) has altered human settlement, with prompting.</p> <p>M4. Student can describe/demonstrate practices for conservation in daily life, and describe/demonstrate understanding that renewable and non-renewable resources have limits, with prompting.</p>	<p>Portfolio contains evidence that:</p> <p>M1. Student can draw conclusions about how cultures have found different technological solutions to deal with similar needs or problems (e.g., construction, clothing, agricultural tools and methods), independently.</p> <p>M2. Student can collect information and use it to describe/demonstrate the role of scientists and inventors, independently.</p> <p>M3. Student can draw conclusions about how technology (e.g., transportation, irrigation) has altered human settlement, independently.</p> <p>M4. Student can describe/demonstrate practices for conservation in daily life, and describe/demonstrate understanding that renewable and non-renewable resources have limits, independently.</p>	<p>Students will be able to:</p> <p>M1. Explore how cultures have found different technological solutions to deal with similar needs or problems (e.g., construction, clothing, agricultural tools and methods).</p> <p>M2. Investigate and describe the role of scientists and inventors.</p> <p>M3. Explore how technology (e.g., transportation, irrigation) has altered human settlement.</p> <p>M4. Explain practices for conservation in daily life, based on a recognition that renewable and non-renewable resources have limits. EXAMPLES *Look at a map of the town and explain why homes are concentrated in certain areas. *Describe where faucet water comes from, where it goes, and how to conserve it.</p>