



MCIEA Task: A School Nurse's Journal

Course/subject/grade level: 6th Grade Science

Context/prerequisite skills: During the course of a body systems unit, students should complete an in-depth research notebook on body systems (guidelines for notebook are included with this task).

Performance Assessment Quality Criteria

High-quality performance tasks should:

- Align to high-leverage learning goals (competencies, learning targets, standards, transferable skills, etc)
- Be open ended and relevant to the real world
- Require application and transfer using higher-order thinking
- Be fair and culturally responsive
- Outline clear criteria for success in a rubric
- Result in original products, performances, or solutions

Learning Goals

What is being assessed in this task? This includes competencies, standards, learning targets, transferable skills, etc. Remember - application and transfer of high-leverage skills are a hallmark of performance assessments.

- **6.MS-LS1-3.** Construct an argument supported by evidence that the body systems interact to carry out essential functions of life.
- **SE Practice 3** Planning and Carrying Out Investigations
- **SE Practice 7** Engaging in Argument from Evidence

Task Summary

Describe the essence of the task. What authentic role is the student taking? Who is the audience? What is the problem they are trying to solve?

Students will take on the role of the school nurse to demonstrate an understanding of body systems. This assessment provides students with five “patient” profiles that have a brief list of symptoms.

Student “nurses” will take these patient profiles, and use their knowledge of body systems and functions to develop a series of questions they will ask during “patient” visits.

They will use these questions (along with others) to develop a patient profile that includes both quantitative and qualitative data. During their appointment with the patient, the “nurse” should be sure to chart where the patient is experiencing symptoms, and use their knowledge of body systems to give a preliminary diagnosis to the patient, along with recommendations for how patients can improve the functioning of that body system.



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Original task created by Marebeth DiMare.

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Essential Questions

What challenging and open-ended questions are students exploring in this task? How does this assessment engage students in tackling the essential question?

- How are the structures and functions of specific cells, organs, and body systems related?
- How do our bodies function systemically?
- Why does a change in one part of a system affect the whole system?
- How do multicellular organisms maintain biological balance between their internal and external environments?

| Quality Output | Quality Process |
|---|--|
| <p><i>What original product or solution will students produce as a result of this task? Describe what a quality output looks like, sounds like, feels like.</i></p> <p>Students will produce the following during their study of body systems:</p> <ul style="list-style-type: none"> • A nurse's notebook (formative assessment) that provides insights into the body systems and functions • A series of questions to gain deeper insight into the patient's systems (showing an understanding of how body systems work together) • A recorded diagnosis and series of recommendations for the patient | <p><i>Without being overly prescriptive, what will students actually do as they complete this task? Describe the flexible quality process learners will engage in to produce the output.</i></p> <p>Step 1: Introduction to the project Step 2: Develop a nurse's notebook Step 3: Study patient profiles Step 4: Patient interviews, diagnosis, and recommendation</p> |

Resources/Materials

What do all students need to have access to in order to complete the task?

- [Research Notebook](#) (guidelines are included)
- [Medical Chart](#)
- Tools for recording (audio or video) patient interviews
- [Video: Organ Systems](#)
- [Easier Body Systems](#)
- [4 Tissues of Life](#)
- [Learn Organ Names & How To Keep Them Healthy](#)
- [Kids Health: Body Systems/Bilingual](#)
- [PBS Homeostasis Interactive](#)
- [Human Body Resources](#)
- [Body Systems Video & Health Videos](#)
- [Help Me Find My Organs](#)



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- [CELLS: Newsela](#)
- [Body Cells: Newsela](#)
- [Label Parts of the Respiratory System](#)
- [Peristalsis Animation](#)

Possible Accommodations

Understanding that accommodations will always need to be adapted for student's individual needs, what are some accommodations that may be provided for this task?

- Visuals w/color-coding and 3D models
- Enlarged medical charts
- Sentence stems
- Shared Google docs
- Closed captioned videos
- Partner/jigsaw reading
- Oral and Written Directions
- Peer Tutoring
- Online interactives and videos

Keeping Things Steady: A School Nurse's Journal
STUDENT INSTRUCTIONS

You were recently hired as the new School Nurse at McCall Middle School. School Nurses are responsible for caring for students who get sick or injured during school hours. They take vital signs, record symptoms, and administer basic medical aid. School Nurses also educate students on health care and growth development.

At McCall, many students often ask their teachers to visit the Nurse's office because they feel ill or tired. This week, five (5) students visited your office with these same symptoms and a few related symptoms. You're trying to figure out what could be affecting these students. Your recommendations will greatly help them improve their condition and function in school, so they can learn better and grow as healthy adolescents.

| STUDENT | Presenting Symptoms and Background |
|----------------|---|
| Steve | 11-year-old male athlete, tired, not able to concentrate, frequently stays up late |
| Lisa | 11-year-old female, pain in leg, leg feels warm, swollen |
| Donna | 12-year-old female, athlete, feels cold, irritable, hair loss |
| Patrick | 12-year-old male, wounds not healing, needs to urinate a lot, blurry vision |
| Kevin | 13-year old-male, chills, shakes, fever, extreme tiredness, head/body aches, hacking cough, sore throat, vomiting, belly pain |

School Nurse's Diagnosis and Recommendations

1. After looking at the above list of symptoms, prepare a series of questions to ask each of the above patients. These questions should help you better understand what your patient is experiencing.
2. Have a meeting with your patient, produce a thorough set of recommendations, and discuss your observations and recommendations with your patient.
3. When meeting with your patient, use your questions to gather and record quantitative and qualitative data (you may ask additional questions during your session).
4. Complete the Medical Chart as you perform your diagnosis and your analysis -- which includes patient's symptoms, prior medical history, observations and diagnosis of the potential issue(s).

- a. Be sure to include the body diagram and accompanying explanation, showing at least one body system that is affected by these symptoms, how the system and its components are interacting with at least 1 other systems, and what's needed to keep the systems "in homeostasis" for optimum health during middle school.
 - b. Describe patterns occurring at both the macro (body systems and their components) level and the micro (cellular level).
5. Prepare your recommendations. Be sure to present a strong argument, using thorough, relevant, and sufficient evidence, for what you see as the causes of the symptoms, including how the specific body systems are interacting and how the external factors are affecting their interactions and ability to function properly in the body.
6. Conclude by sharing, with your patient, verbally, your analysis and recommendations, giving your patient an opportunity to ask clarifying questions. We will record (video or audio) your medical consultation conversation between nurse and patient.

NOTE:

Feel free to refer to your Body Systems Research Notebook for background. As nurses often do, you may also need to reference additional sources for more background and to decipher the root causes of your patient's problem (such as medical journal articles or articles written by prominent doctors about the particular systems your patients are experiencing).



A School Nurse's Journal Rubric

| | Exceeds | Meets | Not Yet |
|--|--|---|--------------------------|
| Science Concepts: Body Systems 6.MS-LS1-3. Construct an argument supported by evidence that the body systems interact to carry out essential functions of life. | I can construct an argument with strong evidence to show how body systems interact to carry out essential functions of life. | I can construct an argument supported by evidence to show how the body systems interact to carry out essential functions of life. | I still need to work on: |
| Investigation SE Practice 3 Planning and Carrying Out Investigations | I can collect accurate data that I use as evidence to support precise answers to scientific questions. | I can collect data that I can use as as evidence to answer scientific questions. | I still need to work on: |
| Argument SE Practice 7 Engaging in Argument from Evidence | I can provide in-depth analysis and evidence, from a variety of sources, and offer new perspectives. | I can make an argument with a logical thought pattern, based on a variety of evidence from multiple sources. | I still need to work on: |



MCIEA Rubric Guiding Principles

The following outlines the MCIEA way of thinking about rubric design. While MCIEA shared rubrics will generally be designed with the following principles in mind, you may decide to design your locally developed rubrics in a different way. We share the following details to both guide you in understanding the format and coherence behind MCIEA shared rubrics as well as to share our current understanding of best practices for the design of high-quality rubrics.

- **Task Neutral** - MCIEA rubrics will be aligned to learning goals (competencies, standards, high-leverage skills, learning targets), rather than aligned to the task. This means that the items that go into the leftmost column are a description of what you want students to understand and be able to do, rather than a description of different elements of the task. Rubrics designed in alignment to tasks tend to read like student directions, rather than a tool for assessment and feedback. Anything you want students to do can be added to student directions as a checklist. Further, task neutral rubrics can be used across multiple tasks, meaning that teachers are not designing rubrics every time they create a new task and, more importantly, students develop metacognition around the idea that they are building a consistent set of high-leverage skills and understandings across multiple learning experiences.
- **Selection of Learning Goals** - These are important considerations when selecting items for the leftmost column. The principles below may lead teachers to combine groups of smaller standards (sometimes called power standards).
 - **Appropriate Type** - Rubrics are the opportunity to highlight the most high-leverage learning goals. The goals should be important enough to be built over time and applied/transferred to new contexts.
 - **Appropriate Number** - Brain science tells us that students can reasonably focus on between 2-5 high-leverage learning targets at a time. Said another way, just because an assessment can assess something, doesn't mean it has to.
 - **Grain Size** - Also known as the "Goldilocks Principle", learning goals should not be so broad that students have little information on what they are trying to do, but should not be so narrow that they form a checklist. Additionally, items should all be of a similar grain size, so that you avoid having something as important as critical thinking take up as much space (in student's minds) as something like neatness.
- **Performance Levels** - Our rubrics are designed with 3 performance levels (Exceeds, Meets, Not Yet). We place them in that order from left-to-right to put the highest performance level in student's view first. The following list is in the order which we suggest you develop rubrics. We find that many bad practices develop when performance levels are designed to produce scores consistent with traditional grading systems.
 - **Meets** - The student has satisfactorily demonstrated that they are on level in this learning goal.
 - **Exceeds** - There are many ways to approach the development of this category, the important consideration is that you decide on a coherent system for developing your exceeds category and apply it consistently. For MCIEA, we tend to look at the deepening of the skill or understanding in the following grade level and design our exceeds category from there.
 - **Not Yet** - We do not include an approaching category as teachers tend to spend undue time agonizing over what this level means, often only to find that it wasn't very meaningful when they get student work back. Rather we invite teachers to leave space in the Not Yet category for written feedback. As a rule, when the performance level increases, the skill or understanding gets more nuanced, rather than there just being more of the previous level. We avoid entirely the language of *never*, *sometimes*, *all the time*.



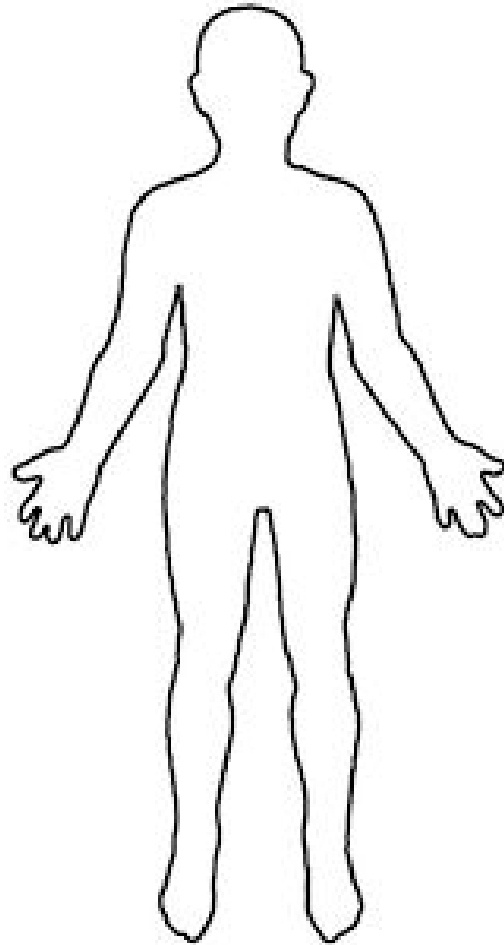
MEDICAL CHART

Date: _____ School Nurse on Duty: _____

Patient's Name: _____

Age _____ DOB _____ / _____ / _____

Symptoms:



History/Daily Activity:

**Diagram of affected body systems (at least 2),
how they're connected to each other, to other body
systems, and to the patient's condition**

Diagnosis:

(Observations of symptoms, possible causes, and how symptoms are connected to body systems)


Recommendations:

(How the patient's situation relates to at least 2 body systems and the connections between them and other body systems; how the patient can overcome these systems to restore the body's proper functioning, and why these recommendations will help the patient)

BODY SYSTEMS RESEARCH NOTEBOOK

Guidelines

A strong research notebook will help you understand the body systems, examples of how they respond when they are not functioning at full capacity, and how systems interact with each other.

- You will need to provide at least 2 pages for each of the following systems:
 - Digestive
 - Respiratory
 - Muscular
 - Skeletal
 - Nervous
 - Circulatory
 - Excretory
- On note pages you MUST sketch and label ***each system (7 different sketches with labels)***
- Wrap **10 facts** about each system around each of the 7 sketches
- At the bottom of each sketch in a box you MUST explain HOW the system works with at least **2** other systems
- In a circle next to each sketch identify **2 illnesses with symptoms** that could affect this system
- Next to a  explain how this system stays in homeostasis

You will use your notebook to complete each step of the project. **30 points**

Sample Research Notebook

