

Short Performance Assessment: **MS-LS1-3**

Grade Level: **Middle School**

Adapted from [SNAP](#)¹

Title	Pancreatic Cells		
Designed by	John Mark Filcik - Colegio Nueva Granada	Course(s)	Grade 7 Integrated NGSS
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Performance Expectation	<p>MS-LS1-3: Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.</p> <p>Clarification Statement: Emphasis is on the conceptual understanding that cells form tissues and tissues form organs specialized for particular body functions. Examples could include the interaction of subsystems within a system and the normal functioning of those systems.</p> <p>Assessment Boundary: Assessment does not include the mechanism of one body system independent of others. Assessment is limited to the circulatory, excretory, digestive, respiratory, muscular, and nervous systems.</p>
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Science and Engineering Practice	<p>Engaging in Argument from Evidence</p> <ul style="list-style-type: none">• Use an oral and written argument supported by evidence to support or refute an explanation or a model for a phenomenon.
Disciplinary Core Ideas	<p>LS1.A: Structure and Function</p> <ul style="list-style-type: none">• In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions.
Crosscutting Concept	<p>Systems and System Models</p> <ul style="list-style-type: none">• Systems may interact with other systems; they may have sub-systems and be a part of larger complex systems.

Student Performance	<ol style="list-style-type: none">1. Supporting claims2. Identifying scientific evidence3. Evaluating and critiquing the evidence4. Reasoning and synthesis
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¹ The Short Performance Assessment (SPA) and the Assessment Rubric adapted from the Stanford NGSS Assessment Project <http://snapgse.stanford.edu/>

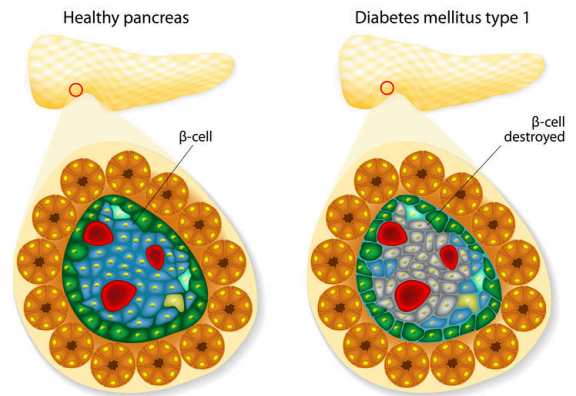


MS-LS1-3

Below is information about a particular cell in a human's body called a pancreatic cell. Read the information about the cell, and then answer the questions that follow.

The pancreas is an organ in a human's body that is frequently associated with the digestive system. The pancreas is composed of multiple different types of specialized cells. One of these specialized cells is called a beta cell. Beta cells are responsible for secreting insulin, a hormone that allows your body to use sugar from food. When the beta cells are damaged, a disease known as diabetes results. A diabetic's beta cells do not secrete insulin. As a result, a diabetic will notice the following symptoms:

- Excessive thirst and hunger
- Frequent urination
- Blurred vision
- Breath odor that is sweet or fruity
- Skin infection
- Tingling or numbness in feet and hands



Based on the information above, **make a claim** that is supported by **evidence** and **reasoning** to answer this question: Can a cellular disorder in one organ system affect the functioning of other organ systems in that organism? For full points, use evidence from the text above and include the following words: cell, tissue, organ, and organ system.

4	3	2	1
The student makes a correct claim that is backed up by evidence and reasoning that effectively relates a disorder in the pancreatic cell to dysfunction in at least two organ systems.	The student makes a correct claim, but does not effectively back up this claim with evidence and reasoning. The student may relate the disorder in the pancreatic cell to at least two organ systems, but it is unclear.	The student makes a correct claim, but does not include evidence and reasoning that effectively backs up the claim.	The student does not make a correct claim.

Claim: (Answer the question in the prompt on the first page.)

Evidence: (From the provided text.)

Reasoning: (Explanation of how the evidence supports the claim.)



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Assessment Rubric* - Question 1				
	Emerging	Developing	Approaching Proficiency	Excelling
Description of performance				
Sample student responses				

Assessment Rubric* - Question 2				
	Emerging	Developing	Approaching Proficiency	Excelling
Description of performance				
Sample student responses				

Insert additional Assessment Rubrics (if needed) here.



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