# Colorado LDC Template

# Body Systems

# Information Sheet

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| Module Title | **Body Systems: What is happening inside** |
| Module description (overview): |  |
| Template task (include number, type, level): | **Task 19:** [Insert question] After reading \_\_\_\_\_\_\_\_ (literature or informational texts), write \_\_\_\_\_\_\_\_ (essay or substitute) that explains \_\_\_\_\_\_\_\_ (content). What conclusions or implications can you draw? Cite at least \_\_\_\_\_\_\_\_ (number) sources, pointing out key elements from each source. **L2** In your discussion, address the credibility and origin of sources in view of your research topic. **L3** Identify any gaps or unanswered questions.  Optional: Include \_\_\_\_\_\_\_\_ (e.g. bibliography). (**Informational or Explanatory/Synthesis)** |
| Teaching task: | **Task 19:** What can biology teach us about human health? After reading selected articles  and textbook chapters or Flexbook chapters, write a paper that explains how the digestive, circulatory, respiratory, and urinary systems work together to maintain homeostasis. Include a discussion of how our bodies obtain and use energy, obtain and use nutrients, and manage water, salt, and waste. What conclusions or implications can you draw? Cite at least \_\_\_\_\_\_\_\_ (number) sources, pointing out key elements from each source. **L2** In your discussion, address the credibility and origin of sources in view of your research topic. **L3** Identify any gaps or unanswered questions. |
| Concepts | Systems, Structure and Function, Homeostasis and change |
| Grade(s)/Level: | 7 |
| Discipline: (e.g., ELA, science, history, other?) | Science |
| Course: | 7th grade science |
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| Contact Information: |  |

# Section 1: What Task?

Teaching Task

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| Teaching task: | **Task 19:** What can biology teach us about our own health? After reading selected articles  and textbook chapters or Flexbook chapters, write a paper that explains how the digestive, circulatory, respiratory, and urinary systems work together to maintain homeostasis. What conclusions or implications can you draw? Cite at least \_\_\_\_\_\_\_\_ (number) sources, pointing out key elements from each source. **L2** In your discussion, address the credibility and origin of sources in view of your research topic. **L3** Identify any gaps or unanswered questions. |
| Reading texts: | Flexbook chapters on digestive, circulatory, respiratory, and urinary system (<http://www.ck12.org/flexbook/>)  <http://www.pathways.cu.edu.eg/subpages/downloads/Wellness_Chapter_2.pdf>, <http://www.accessexcellence.org/AE/AEC/CC/heart_background.php>,  <http://science.nationalgeographic.com/science/health-and-human-body/human-body/>  <http://web.me.com/drmikemagee/Site/HealthPolitics_Archive/Entries/2003/10/1_Leading_With_Science.html>, and <http://www.perfect-body-health.com/human-body.html>  Students notes from labs and other instructional activities |
| Academic Language | Level of discourse, terminology, and language expectations.  Key vocab used in context  Citation  Formality  Avoid using first person when possible  Write for you audience |
| Background to share with students: | Before starting this unit you have studied and talked about the general structure of the body and the support and control structures (skin, bone, muscle, nerves).  You usually come into class:   * Knowing names of a large number of organs * Don’t know the relative size and position of organs * Think that functions are simple and organs usually have only one function * Don’t think of organs working together * Don’t know the connections between human body and nutrition   Make sure you discuss how maintaining homeostasis is maintaining good health and that disease / disorders occur when our body is out of homeostasis. Optionally give an example of what a disease or disorder that happens when one or more of these systems is out of homeostasis.  In your paper you will include a discussion of how our bodies obtain and use energy, obtain and use nutrients, and manage water, salt, and waste. |
| Extension (optional): | During this task students will also do laboratory and other instructional activities  Have students rewrite this research paper into a paper for the school newspaper |

***Common Core State Standards***

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| **READING Standards for Informational or eXpLanAtory** | |
| **“Built In” Reading Standards** | **“When Appropriate” Reading (applicable in black)** |
| 1- Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.  RHST 9-10.1 | 3- Analyze how and why individuals, events, and ideas develop and interact over the course of a text. |
| 2- Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas. | 5- Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g. a section, chapter, scene, or stanza) relate to each other and the whole. |
| 4- Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone. | 7- Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words. |
| 6- Assess how point of view or purpose shapes the content and style of a text. | 8- Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence. |
| 10- Read and comprehend complex literary and informational texts independently and proficiently. | 9- Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take. |
| **WRITING STANDARDS FOR INFORMATIONAL OR EXPLANATORY** | |
| **“Built In” Writing Standards** | **“When Appropriate” Writing Standards (applicable in black)** |
| 2- Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content. | 1- Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. |
| 4- Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. | 3 - Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences. |
| 5- Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. | 6 - Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others. |
| 9- Draw evidence from literary or informational texts to support analysis, reflection, and research. | 7 - Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation. |
| 10- Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audience. | 8- Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism. |

Colorado Academic Standards

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| Grade Level Expectation(s) – Can be one or more GLEs | Evidence Outcomes and Colorado 21st Century Skills |
| **The human body is composed of atoms, molecules, cells, tissues, organs, and organ systems that have specific functions and interactions (SC09.g7.s2.gle2)** | 1. Develop and design a scientific investigation about human body systems (DOK 2-4) 2. Develop, communicate, and justify an evidence-based scientific explanation regarding the functions and interactions of the human body (DOK 1-3) 3. Gather, analyze, and interpret data and models on the functions and interactions of the human body (DOK 1-3)   **Inquiry Questions:**   1. How does each body system contribute to supporting the life of the organism? 2. How do organs and organ systems in the human body interact to perform specific functions?   **Relevance & Application:**   1. There are technologies such as magnetic resonance imaging (MRI), computed tomography (CT) scans, and chemical lab tests that are related to the diagnosis and treatment of the human body's diseases   **Nature Of:**   1. Critically evaluate models, and identify the strengths and weaknesses of the model in representing our understanding of the human body (DOK 2-3) |
| **Analyze factors that influence healthy eating behaviors (H09.g7.gle1)** | **Inquiry Questions:**   1. What internal and external influences affect your eating choices? 2. How do family habits or traditions, peers, role models, cultural heritage, and societal norms affect food choices? 3. What would happen if your body did not tell you when you were hungry or full? 4. Why do people have eating disorders?   **Relevance & Application:**   1. Cultural perspectives influence food choices. 2. Making unhealthy foods more expensive is meant to influence food choices. 3. A variety of strategies are used to market food products to individuals and these strategies will change as technology advances. 4. Portion sizes have increased over time. 5. It is important to recognize signs or symptoms of eating disorders and seek treatment.   **Nature Of:**   1. Healthful living requires an individual to analyze all available information about good nutrition and to use such information to make healthy choices, even when doing so means breaking comfortable habits. |
| **2. Demonstrate the ability to make healthy food choices in a variety of settings (H09.g7.gle2)** | **Inquiry Questions:**   1. What is a healthy weight? 2. How can a healthy diet for one person be unhealthy for another? 3. Why do people on restrictive diets often end up gaining more weight?   **Relevance & Application:**   1. Food choices have an impact on the environment. 2. Individuals must determine for themselves which food choices lead to their optimal health and weight goals.   **Nature Of:**   1. Healthy eating can influence physical, emotional, and environmental health. |

Disciplinary Specific skills

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| develop, communicate, and justify an evidence‐based scientific explanation |  |
| identify, interpret, and explain models |  |
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**Teaching Task Rubric (Informational or Explanatory)**

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| Scoring Elements | Not Yet | | Approaches Expectations | | | Meets Expectations | | | Advanced | |
| 1 | 1.5 | | 2 | 2.5 | | 3 | 3.5 | | 4 |
| Focus | Attempts to address prompt, but lacks focus or is off-task. |  | | Addresses prompt appropriately, but with a weak or uneven focus. |  | | Addresses prompt appropriately and maintains a clear, steady focus. |  | | Addresses all aspects of prompt appropriately and maintains a strongly developed focus. |
| Controlling Idea | Attempts to establish a controlling idea, but lacks a clear purpose. |  | | Establishes a controlling idea with a general purpose. |  | | Establishes a controlling idea with a clear purpose maintained throughout the response. |  | | Establishes a strong controlling idea with a clear purpose maintained throughout the response. |
| Reading/ Research | Attempts to present information in response to the prompt, but lacks connections or relevance to the purpose of the prompt. (L2) Does not address the credibility of sources as prompted. |  | | Presents information from reading materials relevant to the purpose of the prompt with minor lapses in accuracy or completeness. (L2) Begins to address the credibility of sources when prompted. |  | | Presents information from reading materials relevant to the prompt with accuracy and sufficient detail. (L2) Addresses the credibility of sources when prompted. |  | | Accurately presents information relevant to all parts of the prompt with effective selection of sources and details from reading materials. (L2) Addresses the credibility of sources and identifies salient sources when prompted. |
| Development | Attempts to provide details in response to the prompt, including retelling, but lacks sufficient development or relevancy. (L2) Implication is missing, irrelevant, or illogical. (L3) Gap/unanswered question is missing or irrelevant. |  | | Presents appropriate details to support the focus and controlling idea. (L2) Briefly notes a relevant implication or (L3) a relevant gap/unanswered question. |  | | Presents appropriate and sufficient details to support the focus and controlling idea. (L2) Explains relevant and plausible implications, and (L3) a relevant gap/unanswered question. |  | | Presents thorough and detailed information to strongly support the focus and controlling idea. (L2) Thoroughly discusses relevant and salient implications or consequences, and (L3) one or more significant gaps/unanswered questions. |
| Organization | Attempts to organize ideas, but lacks control of structure. |  | | Uses an appropriate organizational structure to address the specific requirements of the prompt, with some lapses in coherence or awkward use of the organizational structure |  | | Maintains an appropriate organizational structure to address the specific requirements of the prompt. |  | | Maintains an organizational structure that intentionally and effectively enhances the presentation of information as required by the specific prompt. |
| Conventions | Attempts to demonstrate standard English conventions, but lacks cohesion and control of grammar, usage, and mechanics. Sources are used without citation. |  | | Demonstrates an uneven command of standard English conventions and cohesion. Uses language and tone with some inaccurate, inappropriate, or uneven features. Inconsistently cites sources. |  | | Demonstrates a command of standard English conventions and cohesion, with few errors. Response includes language and tone appropriate to the audience, purpose, and specific requirements of the prompt. Cites sources using an appropriate format with only minor errors. |  | | Demonstrates and maintains a well-developed command of standard English conventions and cohesion, with few errors. Response includes language and tone consistently appropriate to the audience, purpose, and specific requirements of the prompt. Consistently cites sources using an appropriate format. |
| Content Understanding | Attempts to include disciplinary content in explanations, but understanding of content is weak; content is irrelevant, inappropriate, or inaccurate. |  | | Briefly notes disciplinary content relevant to the prompt; shows basic or uneven understanding of content; minor errors in explanation. |  | | Accurately presents disciplinary content relevant to the prompt with sufficient explanations that demonstrate understanding. |  | | Integrates relevant and accurate disciplinary content with thorough explanations that demonstrate in-depth understanding. |

# Section 3: What Skills?

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| Skill | Definition: STudents Ability to…. |
| Skills Cluster 1: Preparing for the Task | |
| *1. Task Analysis* | *..understand and explain the task’s prompt and rubric and build connections to the task and content to existing knowledge, skills, experiences, interests, and concerns.* |
| Skills Cluster 2: Reading Process | |
| *1. Bibliography of Selected Texts* | *…do an APA style bibliography.* |
| *2. Active reading* | *..identify the central point and main supporting elements of a text.*  *. (L2) Identifies plausible implications; OR (L2) identifies credible sources .*  *(L3) Identifies a relevant gap/unanswered question.* |
| *3. Essential vocabulary* | *…identify and master terms essential to understanding a text.* |
| *4. Note-taking* | *…select important facts and passages for use in one’s own writing.* |
| Skills Cluster 3: Transition to Writing | |
| *1. Bridging Conversation* | *…link reading results to writing task.* |
| Skills Cluster 4: Writing Process | |
| *1. Thesis* | *…establish a claim and consolidate information relevant to task.* |
| *2. Planning* | *…develop a line of thought and text structure appropriate to an argumentation task.* |
| *3. Development* | *…construct a draft with an emerging line of thought and structure.*  *(L2) Explains plausible implications; OR (L2) Addresses the credibility of sources when prompted.*  *(L3) Identifies a relevant gap/unanswered question.* |
| *4. Revision* | *…refine text, including line of thought, language usage, and tone as appropriate to audience and purpose.* |
| *5. Editing* | *….proofread and format a piece to make it more effective.* |
| *6. Completion of Task* | *…submit final work for evaluation* |

# Section 4: What Instruction?

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| Pacing | Skill and Definition | Product and Prompt | Scoring (Product “meets expectations” if it…) | Suggested Instructional Strategies |
| Skills Cluster 1: Preparing for the Task | | | | |
|  | *1. Task analysis*  *Ability to understand and explain the task’s prompt and rubric.* | *Bullets*  *“In your own words, what are the important things to pay attention to a good response to this teaching task?”* | *None* | * *Emphasize organs and systems working together for homeostasis and optimal health.* * *Share examples of type of text students will produce (either from past students or from professional writers).* * *Identify or invite students to identify key features of examples.* * *Pair students to share and improve their individual bullets.* * *Create a classroom list: Choose one student to share a few ideas on the board, and ask others to add to it.* |
| Skills Cluster 2: Reading Process | | | | |
|  | *1. Bibliography of selected text*  *Ability to do a APA style bibliography* | *Bibliography*  *“For each text, create a bibliography that explains why this work is credible and relevant to the task.”* | * *Identifies author, title, publisher, date, and any other needed information (for example, the volume for a periodical or the editor for an anthology).* * *Includes reasonable evidence that work is credible and/or worthy of study.* | * *Provide citation guide and discuss why each element of citation is needed.* * *Ask students to brainstorm what makes an author credible and/or worthy of study. (Do these articles pass the CRAAP test, Currency, Relevance/coverage, Authority, Accuracy, Purpose/Objectivity)* |
|  | *2: Active reading*  *Ability to identify the central point and main supporting elements of a text.*  *L2 In your discussion, address the credibility and origin of sources in view of your research topic.*  *L3 Identify any gaps or unanswered questions.* | *Short reflective entry for each text*  *“What is this article about and what does it tell me about homeostasis and my health, give supporting details?*  *L2 In your discussion, address the credibility and origin of sources in view of your research topic.*  *L3 Identify any gaps or unanswered questions.* | * *Answers questions with credible response.* | * *Invite students to share and discuss their answers for each text. (ex. Students post research notes for other students read)* * *After the discussion, allow them to add to their entries.* * *Need to provide extra support for students to understand the article The Heart and The Circulatory System. Don’t give this as homework, this article has to be done in class with discussions. (this article may not be appropriate for all students, you might consider only give this article to above grade level readers). The first half of the article is more relevant to this task then the second half.* |
|  | *3. Essential vocabulary*  *Ability to identify and master terms essential to understanding a text* | *Vocabulary list*  *“In your notebook, list and describe words, phrases, and diagrams that challenge your understanding of the texts.”* | * *Completes mini-task.* * *Provides accurate definitions and/or explanations or graphic representations.* | *See Marzano* |
|  | *4. Note-taking and Annotation*  *Ability to select important facts and passages relevant to the task for use in one’s own writing.* | *Notes and Annotation*  *“For each text, take notes and/or annotate elements relevant to the task. Make sure you have the information to do a citation when needed to avoid plagiarism.”* | * *Identifies relevant elements – facts, quotes, explanations.* * *Includes information to support accurate citation (for example, page numbers for a long text, clear indication when quoting directly.* | * *Teach strategies for note taking and/or annotation.* * *Check that early student work is in the assigned format (or in another format that gathers the needed information effectively).* * *See Marzano* |
| Skills Cluster 3: Transition to Writing | | | | |
|  | *1. Bridging Conversation*  *Ability to link reading to writing task.* | *Organizer*  *“Review the task and identify key points and information that will help you address the task.”* | *No scoring* | * *Review the task and* * *Discussion-based strategies, such as seminar.* * *Small group discussion using question.* |
| Skills Cluster 4: Writing Process | | | | |
|  | *1. Thesis*  *Ability to establish a thesis statement.* | *Thesis statement*  *Write 1-3 sentence thesis to establish the focus and purpose of your work.* | * *Writes a concise summary statement or draft opening.* * *Provides direct answer to main prompt requirements.* * *Establishes a controlling idea.* * *Identifies key points that support development of argument.* | * *Ask class to discuss what makes their thesis strong or weak.* |
|  | *2. Planning*  *Ability to develop a line of thought and text structure appropriate to an informational task.* | *Outline/organizer*  *“Create an outline or organizer based on your notes and reading in which you state your claim, sequence your points, and note your supporting evidence.”*  *(L2) identifies credible sources.*  *(L3) Identifies a relevant gap/unanswered question.* | * *Creates an outline or organizer.* * *Supports opening claim.* * *Uses evidence from texts read earlier.* * *Addresses L2 or L3 when appropriate* | * *Provide and teach one or more examples of outlines or organizers.* * *Invite students to review each other’s organizers to make sure points are accurate and sequenced logically* |
|  | *3. Development*  *Ability to construct an initial draft with an emerging line of thought and structure.*  *(L2) identifies credible sources.*  *(L3) Identifies a relevant gap/unanswered question.* | *Initial draft*  *“Write an initial draft complete with opening, development, and closing; insert and cite textual evidence.”*  *(L2) identifies credible sources.*  *(L3) Identifies a relevant gap/unanswered question.* | * *Provides complete draft with all parts.* * *Supports the opening in the later sections with evidence and citations.* | * *Encourage students to re-read prompt partway through writing, to check that they are on-track.* |
|  | *4. Revision*  *Ability to refine text, including line of thought, language usage, and tone as appropriate to audience and purpose.* | *Multiple drafts*  *Use strategies which refine the work’s logic, reasoning, and organization of ideas/points. Use textual evidence carefully, with accurate citations. Decide what to include and what not to include.* | * *Provides complete draft with all parts.* * *Supports the opening in the later sections with evidence and citations.* * *Improves earlier edition.* | * *Timely feedback and conferencing* * *Feedback that balances support for strengths and clarity about weaknesses.* * *Peer review to provide each other with feedback on those issues.* * *Use of technology-based resources* |
|  | *5. Editing*  *Ability to proofread and format a piece to make it more effective.* | *Correct Draft*  *Revise draft to have sound spelling, capitalization, punctuation and grammar. Adjust formatting as needed to provide clear, appealing text.* | * *Provides draft free from distracting surface errors.* * *Uses format that supports purpose.* | * *Briefly review selected skills that many students need to improve.* * *Teach a short list of proofreading marks.* * *Assign students to proofread each other’s texts a second time.* |
|  | *6. Completion*  *Ability to submit final piece that meets expectations* | *Final Work*  *Turn in your complete set of drafts, plus the final version of your work.* | *Submits final work for evaluation* |  |

# Materials, references and supports

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| For Teachers | For Students |
| Lab and other classroom activities should be embedded throughout the tasks to augment the readings and increase student understanding. Student notes from these tasks can be incorporated into the paper. | Go to the Denver Museum of Nature and Science and go through the expedition health exhibit or visit the museum’s website for interactive body systems lessons. |

# Section 4: What Results?

Student work samples

*Include at least two samples of student work that meets expectations. If possible, also include samples of student work at the advanced level.*

Classroom Assessment Task (Optional: May be used as Pre-Test or Post-Test)

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| Classroom assessment task |  |
| Background to share with students (optional): |  |
| Reading texts: |  |

Argumentation Classroom Assessment Rubric

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| **LDC Argumentation Classroom Assessment Rubric** | |
| **MEETS EXPECTATIONS** | |
| Focus | Addresses the prompt and stays on task; provides a generally convincing response. |
| Reading/Research | Demonstrates generally effective use of reading material to develop an argument. |
| Controlling Idea | Establishes a credible claim and supports an argument that is logical and generally convincing. (L2) Acknowledges competing arguments while defending the claim. |
| Development | Develops reasoning to support claim; provides evidence from text(s) in the form of examples or explanations relevant to the argument (L3) Makes a relevant connection(s) that supports argument. |
| Organization | Applies an appropriate text structure to address specific requirements of the prompt. |
| Conventions | Demonstrates a command of standard English conventions and cohesion; employs language and tone appropriate to audience and purpose. |
| **NOT YET** | |
| Focus | Attempts to address prompt but lacks focus or is off-task. |
| Reading/Research | Demonstrates weak use of reading material to develop argument. |
| Controlling Idea | Establishes a claim and attempts to support an argument but is not convincing;  (L2) Attempts to acknowledge competing arguments. |
| Development | Reasoning is not clear; examples or explanations are weak or irrelevant. (L3) Connection is weak or not relevant. |
| Organization | Provides an ineffective structure; composition does not address requirements of the prompt. |
| Conventions | Demonstrates a weak command of standard English conventions; lacks cohesion; language and tone are not appropriate to audience and purpose. |

# Teacher Work Section

*Here are added thoughts about teaching this module.*

# Appendix

*The attached materials support teaching this module.*