

Bachelor of Education (Elementary) & Bachelor of Education (Secondary) STEM/BETT Lesson Plan

Lesson Title: Systems - The Digestive System Lesson # 1 Date: April 15, 2025
 Name: The Human Digestive System Subject: Science Grade(s): 5

Rationale:

This unit plan is important because it introduces human systems that are responsible for living and remaining healthy throughout life. When students learn and understand how these systems work, they start to understand themselves better, why the systems are important for survival, and also how to stay healthier throughout life.

This lesson is important because it educates students about how their food digests and nourishes their body to create energy. When students understand more about how their bodies work, they will be better informed as to how to take care of themselves for lifelong health and activity.

Core Competencies:

Communication	Thinking	Personal & Social
<ul style="list-style-type: none"> • Collaborating – Working Collectively: <p>Students combine their efforts with those of others to effectively accomplish learning and tasks. As members of a group, they appreciate interdependence and cooperation, commit to needed roles and responsibilities, and are conscientious about contributing. They also negotiate respectfully and follow through on plans, strategies, and actions as they share resources, time, and spaces for collaborative projects.</p>	<ul style="list-style-type: none"> • Critical & Reflective thinking – Reflective & Assessing: <p>Students apply critical, metacognitive, and reflective thinking in given situations, and relate this thinking to other experiences, using this process to identify ways to improve or adapt their approach to learning. They reflect on and assess their experiences, thinking, learning processes, work, and progress in relation to their purposes. Students give, receive, and act on feedback and set goals individually and collaboratively. They determine the extent to which they have met their goals and can set new ones.</p>	<ul style="list-style-type: none"> • Positive Personal & Cultural Identity – Recognizing Personal Values & Choices: <p>Students define who they are by what they value. They understand how what they value has been influenced by their life experiences. They identify how their values help to shape their choices, in all contexts of their lives.</p> <ul style="list-style-type: none"> • Personal Awareness & Responsibility – Self-advocating: <p>Students who are personally aware and responsible have a sense of self-worth and a growing confidence in a variety of situations. They value themselves, their ideas, and their accomplishments. They are able to express their needs and seek help when needed, find purpose and motivation, act on decisions, and advocate for themselves.</p> <ul style="list-style-type: none"> • Social Awareness & Responsibility – Building Relationships: <p>Students build and maintain diverse, positive peer and intergenerational relationships.</p>

		They are aware and respectful of others' needs and feelings and share their own in appropriate ways. They adjust their words and actions to care for their relationships.
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Big Ideas (Understand)

<p>Science: Multicellular organisms have organ systems that enable them to survive and interact within their environment.</p> <p>PHE: Understanding ourselves and the various aspects of health helps us develop a balanced lifestyle.</p> <p>ELA: Questioning what we hear, read, and view contributes to our ability to be educated and engaged citizens.</p>
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Learning Standards

(DO)	(KNOW)
Learning Standards - Curricular Competencies	Learning Standards - Content
<p>Questioning and predicting:</p> <ul style="list-style-type: none"> Identify questions to answer or problems to solve through scientific inquiry <p>Processing and analyzing data and information:</p> <ul style="list-style-type: none"> Demonstrate an openness to new ideas and consideration of alternatives Identify patterns and connections <p>Applying and innovating:</p> <ul style="list-style-type: none"> Transfer and apply learning to new situations <p>PHE:</p> <p>Healthy and active living:</p> <ul style="list-style-type: none"> Describe the impacts of personal choices on health and well-being <p>ELA:</p> <p>Comprehend and connect (reading, listening, viewing):</p> <ul style="list-style-type: none"> Access information and ideas from a variety of sources and from prior knowledge to build understanding Consider different purposes, audiences, and perspectives in exploring texts Use personal experience and knowledge to connect to text and develop understanding of self, community, and world 	<ul style="list-style-type: none"> Basic structures and functions of body systems: <ul style="list-style-type: none"> Digestive Benefits of physical activity and exercise Strategies and processes - focusing on the speaker, asking questions to clarify, listening for specifics, expressing opinions, speaking with expression, staying on topic, taking turns

Instructional Objectives & Assessment

Instructional Objectives (students will be able to...)	Assessment
<ol style="list-style-type: none"> For students to gain an education on the basic components of the human digestive system & how that effects their energy levels For students to have fun while interacting with an activity using basic 	<p>Conversations:</p> <ul style="list-style-type: none"> Students getting involved with the conversation during the teacher's activity Asking questions Responding to questions from the teacher <p>Observations:</p>

materials and predictions to what will happen as a digestive simulation is done by the teacher	<ul style="list-style-type: none"> • Participation in worksheets Product: <ul style="list-style-type: none"> • Completion of the worksheets
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Prerequisite Concepts and Skills:

- Basic knowledge of system existence in the human body
- Willingness to learn about new things

Indigenous Connections/ First Peoples Principles of Learning:

Learning involves recognizing the consequences of one's actions – When we treat ourselves badly, our health can suffer. For instance, lack of exercise will eventually affect one's health and mobility leading to health issues.

Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectiveness, on reciprocal relationships, and a sense of place): Students learning about themselves is natural & interest based. Students will reflect on what they have learned and what it means to them. The human digestive system presents a real-life scenario to students in which they will explore & learn about it.

Learning involves patience and time: Learning new things will take time to understand and we often need patience to give the information the time to do that. When something is new, it can cause anxiety but by taking the time to absorb the information and understanding why we are learning it, it makes it relevant to us.

Universal Design for Learning (UDL):

- Multiple Means of Representation:**
- Use of texts, video, visuals, model (if available from the Henry Grube Centre), and visuals to cater to different learning styles and sensory preferences.
 - Use of scaffolded worksheets to cater to different levels of ability.
- Multiple Means of Action and Expression:**
- Providing students opportunities to demonstrate their understanding and engage with the material in this lesson plan by written output, conversations during a demonstration, and taking part in the hook which is an activity directly related to digestion and how it works.
- Multiple Means of Engagement:**
- Using multiple ways to express learning in a fill-in-the-blank worksheet, word search, matching worksheet, video, and discussion.
 - Making the lessons motivating and engaging for students through an activity, making learning about the human digestive system relevant to real-world applications, and fostering collaboration.

Differentiate Instruction (DI):

- Using scaffolded worksheets from basic to more advanced
- Using a video to engage the students and appeal to those that are visual learners
- Using a real-world activity as a hook to engage the students from the beginning of the lesson
- Written worksheets for students to build upon and respond to
- Worksheets that offer matching for students that have challenges with written output
- Doing a fun and interactive teacher demonstration with the students about how the human digestive system works

Materials and Resources

- Laptop

- Projector
- Dry erase markers & eraser
- Table for teacher's activity
- Rubber gloves for demonstration
- Orange juice
- Water
- Crackers
- Timer (a cell phone will work)
- Banana (2 in case they are needed)
- Bowls
- Paper cup with a hole in the bottom
- Plastic cup for the stocking to stand up with
- Large Ziplock bags
- Stockings (nylons)
- Scissors
- Worksheets
- Word searches
- Crossword puzzles
- Matching worksheets
- Pens, pencils, & erasers
- Model of the digestive system from Henry Grube Centre if available
- Higher table for demonstration activity
- Pencil crayons if they want to colour the worksheets

Lesson Activities (60 minutes):

Teacher Activities	Student Activities	Time
<p>Introduction (anticipatory set – “HOOK”):</p> <p>The Cracker Experiment (5 minutes):</p> <ul style="list-style-type: none"> • Give each student a small package of crackers • Ask students to put the cracker in their mouth and wait until a timer goes off in a minute before swallowing • Ask students if the cracker tasted the same after the minute as it did when they first put it in their mouth • Did the cracker remain solid or did it change? • Where do they think the cracker went after they swallowed it? • What do they think is happening to the cracker in their body? • Do you think that the same thing happens when they eat their favorite food such as pizza? Why? • Do they think that the cracker is digested at the same rate as meat like a steak is? Why? 	<ul style="list-style-type: none"> • Students will be seated and ready to hear more • Students will put a cracker into their mouths and hold it there for 1 minute • Students will swallow their cracker & raise their hands to respond to the teacher's questions 	<p>5 minutes</p>

<p>Body: Show video about digestion: https://www.youtube.com/watch?v=v3E1txcKPe8</p> <ul style="list-style-type: none"> • Introduce organs involved in digestion starting with the mouth • Do you remember what happened to the cracker in your mouth? (It got soggy) • This was your saliva starting to digest the cracker in your mouth by breaking down the starches • Where did the cracker go after that? (the esophagus) • After it traveled down the esophagus, where did it go? (the stomach) • What's in the stomach that helps you digest your food? (hydrochloric acid) – What does the cracker look like now in your stomach? Is it still a solid? A liquid? • Where does the food go after your stomach? (small intestine). What happens in the small intestine? (nutrients are transferred to the bloodstream for energy) • After the small intestine has absorbed the nutrients from your food, where does the rest go? (large intestine) • Once in your large intestine, what happens to the food? (water absorption into back into the body) • What is the “food” called now after all the nutrients and water are absorbed? (waste – “poop”) <p>Teacher Demonstration: Invite the students up to the front table to see the teacher’s demonstration of how food goes through the digestive track:</p> <ul style="list-style-type: none"> • Ask students to gather around the table • Start by putting the crackers and banana into the Ziplock bag (demonstrating the chewing & swallowing process) • Add orange juice that represents the acid in the stomach • Add water which is the saliva • Seal the Ziplock bag and mix mimicking the process in the stomach • Cut a small hole in the corner of the Ziplock bag showing the contents going into the small intestine (the stocking with a cup to get it to stand up for pouring) 	<ul style="list-style-type: none"> • Students will watch the video <ul style="list-style-type: none"> • Students will raise their hands and ask questions when they have them • Students will raise their hands to answer the teacher’s questions throughout the lesson <ul style="list-style-type: none"> • Students will come up to the front table to watch a digestion demonstration by the teacher • Students will ask questions as they have them • Students will answer questions from the teacher 	<p>5 minutes</p> <p>10 minutes</p> <p>20 minutes</p>
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<p>with a bowl underneath to catch the liquids</p> <ul style="list-style-type: none"> • Squeeze out all the liquid into the bowl through the stockings • Transfer the solid contents through a cut hole at the end of the stockings and into a paper cup with a hole in the bottom representing the large intestine • Use another cup on top of the one with the hole to push out the solids representing going to the bathroom • Use the model (if available) to review the system by asking questions to the students • Ask if they have any questions <p>Product Activity:</p> <ul style="list-style-type: none"> • Students will be given worksheets to do in scaffolded steps (TM will decide which students get which worksheet according to their abilities): <ul style="list-style-type: none"> ○ A worksheet with given terms to label a diagram of the human digestive system + a matching term to its description and function ○ A word search with digestive terminology hidden within it ○ A matching term with the function in the digestive system • Remind students to add their names to their papers • Tell students that they have 15 minutes to complete their worksheets • At the 10 minutes mark, announce to students that they have 5 minutes remaining 	<ul style="list-style-type: none"> • Students will ask any follow-up questions that they may still have by raising their hand • Students will add their names to their worksheets & begin to fill them out 	<p>15 minutes</p>
<p>Closure: Clean-up:</p> <ul style="list-style-type: none"> • Tell students that time is up • Ask: Did they enjoy the lesson? What would they have liked me to add to make it interesting for them? • Let students know that it is time to clean up & hand in their worksheets with their name on them • Request that students clean up their area 	<ul style="list-style-type: none"> • Students will raise their hand if they want to contribute to the questions that the teacher is asking • Students will hand in their worksheets with their names on them • Students will clean up their area & get ready to continue to the next scheduled item 	<p>5 minutes</p>

Organizational Strategies:

- Students will be coming back from recess, so they have had a good break outside for them to sit again and learn
- When students are at their desks and around the demonstration table, they will be asked to listen without talking
- When students have questions or want to contribute to the class discussions, they will raise their hand and wait for the teacher to call on them before speaking out
- Worksheets will not be distributed to the students until after the demonstration and right before their work time
- Students that are talking without raising their hand will be asked to raise their hand if they want to contribute to the class discussions
- Students that are talking amongst themselves during instruction will be separated

Proactive, Positive Classroom Learning Environment Strategies:

- The teacher will give students a lot of opportunities to engage with the subject matter & ask questions
- There will be a demonstration of how the human digestion system works & the students will stand around a table to learn during it offering a break from sitting
- Scaffolded worksheets will be provided to accommodate all learners
- The teacher will make behaviour expectations clear – sit quietly and listen attentively without distracting other students, only speak if the teacher calls on you – by stating them before and during the lesson
- The teacher will verbally acknowledge and thank students who are on task and will verbally address students who continue to distract others
- The teacher will, if necessary, separate students who continue to distract each other

References:

Digestive worksheet: <https://www.teacherspayteachers.com/Product/The-Digestive-System-5645797>
 Video: <https://www.youtube.com/watch?v=u9XVMiQg-n4>
 Word search: <https://thewordsearch.com/static/pdf/thewordsearch-com-digestion-2953.pdf>
 Matching worksheet: <https://www.teacherspayteachers.com/Product/Digestion-Matching-Quiz-6317295>
 Comic strip template for early finishers: <https://www.teacherspayteachers.com/Product/Comic-Strip-Template-FREEBIE-4576405>
<https://www.teacherspayteachers.com/Product/Free-Comic-Strip-Templates-for-Any-Grade-or-Subject-Spanish-and-English-4069491>

Extensions:

Early finishers can choose from an extra fun sheet to do such as the **crossword puzzle** or **word search**
OR Create a Comic Strip or Story:

- About a bite of food going through the digestive system. Include key organs and fun sound effects or characters (e.g., “Captain Stomach” or “Colon Commander”).

Reflections (if necessary, continue on separate sheet):

This lesson went really well! The demonstration was a huge hit: Some students were actually grossed out and some were really into it & stayed to watch more. My TM thought it was great. I would absolutely use this lesson again.

