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**REMOTE LEARNING LESSON PLANS**

The Remote Learning Lesson Plans are adapted from the IQWST Teacher Edition to support continuous learning. Each plan condenses what is taught with specific teaching recommendations and identifies the digital resources, print resources, and materials needed to teach and learn IQWST at home..

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| **UNIT TITLE** | **LS2** |
| **DRIVING QUESTION** | What’s going on inside of me? |
| **UNIT STORYLINE** | [LS2 Storyline](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1571332046-ls2-3.0-storyline-with-appendix.pdf) |
| **IQWST OVERVIEW** | [IQWST 3.0 Overview](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1534960182-iqwst-3-0-overview.pdf) |
| **TEACHER EDITION** | [LS2 Teacher Edition (PDF)](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1543340912-LS2_v3_TE___4th_Learning_set_removed.pdf) |
| **STUDENT EDITION** | [LS2 Student Edition (PDF)](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1538757668-san-ls2mev3-se-color.pdf) |
| **LESSON PLAN OVERVIEW** | [Remote Learning Overview](http://activatelearning.com/wp-content/uploads/2020/05/remote-lesson-plans-overview.pdf) |

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| **STUDENT MATERIALS:** Each student will need the following materials. Teachers can modify lessons based on which materials the students have access to. For Blended Learning options, teachers may draw from a combination of digital and print resources. | | |
| **DIGITAL RESOURCES** | **PRINT RESOURCES** | **MATERIALS NEEDED** (FOR EACH STUDENT) |
| * Access to Interactive Student Edition * Access to teacher-led lesson or video * Access to IQWST lesson videos * Audio recordings of readings   **Access from any device with a web browser.**   * For PCs and Chromebooks, we recommend using **Chrome** as the browser * For Macs and iOS, we recommend using **Safari** as the browser * Internet Explorer is NOT supported * Read the full Technical Requirements [here](https://s3.amazonaws.com/al.general/website/pages/ALDP+Requirements.pdf)   **Login:** <http://activatelearning.com/digital-resources/>   * Select your program * Enter the Username and/or Password provided by your teacher | * LS2 Student Edition * Hard copies of selected Projected Images (PIs)   *Print student editions are necessary for students who do not have internet access (or reliable access).* | **IQWST Equipment (from kit)\***  Pad of sticky notes  (1)retractable ink pen  (2)pieces of filter paper, paper towel, or napkin  (1)small container for water  **Household Items**  (2) crackers  **Students may also need the following General Classroom Supplies (if not using the IDE):**  Pencils and sharpener  Colored pencils  Black marker and/or ink pen  Plain paper for drawing (10-20 sheets)  Glue stick or transparent tape  Pad of sticky notes  Scissors  *\* If kits have been purchased, they include enough equipment for 8 groups of 4 students. You will need additional equipment if you opt to provide materials to each student.* |

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| **Learning Set 1:** | | | | |
| **Lesson 1**  **(2 sessions)** | ***How Do I Do the Things I Do?*** | [Download Lesson 1 Teaching Slides](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1589915135-LS2%20Lesson%201.pptx)  [Download Lesson 1A Teaching Slides](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1589915199-LS2%20Lesson%201A.pptx) | | |
| **ACTIVITY** | **TEACHING RECOMMENDATIONS** | **DIGITAL RESOURCES** | **PRINT RESOURCES** | **MATERIALS**  **FOR EACH STUDENT** |
| Activity 1.1  *What Is Inside Me?* | **Anchoring Phenomenon:** Students (Ss) observe cells and begin to ask questions about how individual cells or groups of cells relate to what is going on inside them as they do the things they do. The emphasis early on in this unit is things Ss like to do--individually--so that the learning in the unit is connected to their personal experience.  Given that Ss will not be able to use microscopes remotely, teachers may choose to demo making cheek and elbow skin slides or just to share PI: Cheek and Skin Cells.  Show PI: Heart Tissue and Heart Cell and discuss cells within the body.  Show the Video of the Heart Muscle Cell (Cardiomyocyte)  Discussion Prompts: Throughout the unit, teachers should: 1) choose discussion prompts applicable to remote learning and ability to discuss with Ss, or 2) have Ss write answers to teacher-selected prompts that can be added to the slide deck, if discussion is not possible, or 3) choose questions in take-home format for Ss to discuss at home, perhaps writing responses that are then submitted.  Questions in the SEs: Throughout the unit, teachers should decide on the method by which the lesson will be delivered, and then have Ss ignore any questions in their SEs that do not fit the way in which the lesson needed to be enacted remotely. Teachers may provide a handout for print-only Ss who cannot access the curriculum remotely, so that they know which questions in their SEs they should respond to.  Key: Cells from different parts of the body are shaped differently and are connected in different ways. (Cells are identifiable under a microscope  by boundaries around the outside and a dark spot inside.) | Access to Student Edition (SE) in Interactive Digital Edition (IDE)  [Activity Video 1.1: Microscope-Cheek Sample](https://iat.wistia.com/medias/m6dotfr5f1)  [Video: 1.1: Heart Muscle Cell](https://d16dnhlej6sizh.cloudfront.net/assets/portal/Teacher-Portal-Resources/LS2_se_v2_0_5_video-lesson_1_video_1-728.mp4)  Teacher-created DQB (e.g., jamboard, padlet) or physical DQB to share during virtual lessons. | Hard copy of the Student Edition (SE) to be used for all activities,  readings, writing tasks.  Print PIs  •Field of View  •Cheek Cells and Skin Cells  •Heart Tissue and Heart Cell  Ss will write questions on sticky notes, and post at the front of their SEs on the *Driving Question Notes* pages. | Pad of sticky notes |
| Reading One | *How Did Scientists Find These Tiny Cells?*  Key: Early microscopes helped the first scientists to see (and define) *cells*. | SE Reading One | SE Reading One |  |

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| **Lesson 2**  **(2 sessions)** | ***Where Else Can We Find Cells?*** | [Download Lesson 2 Teaching Slides](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1589915243-LS2%20Lesson%202.pptx) | | |
| **ACTIVITY** | **TEACHING RECOMMENDATIONS** | **DIGITAL RESOURCES** | **PRINT RESOURCES** | **MATERIALS**  **FOR EACH STUDENT** |
| Activity 2.1  *What Is in My Yogurt?* | Because Ss will not be able to use microscopes remotely, PIs and videos must be used. Share PI: Yogurt Bacteria and the Video: Time Lapse Yogurt.  Key: Yogurt (a food) contains tiny, single-celled organisms called *bacteria*. | SE Activity 2.1  [Video: Time Lapse Yogurt](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1594403662-time-lapse-yogurt.mp4) | SE Activity 2.1  Print PI: Yogurt Bacteria |  |
| Activity 2.2  *Are There Cells in a Drop of Water?* | Because Ss will not be able to use microscopes remotely, PIs and video must be used.  Search online for a video that shows amoebas moving, eating and dividing and/or use the related PI: Amoeba Engulfing Food and PI: Amoeba Dividing  Share PI: Cheek cells and Amoeba and have Ss compare.  Key: Amoeba are single-celled organisms. | SE Activity 2.2  Video from the internet about amoeba moving, eating and dividing. | SE Activity 2.2  Print PIs:  •Cheek Cells and Amoeba  •Amoeba Engulfing Food  •Amoeba Dividing |  |
| Activity 2.3  *How Do All These Compare?* | Have Ss brainstorm characteristics of living things. Review the videos and PIs for evidence of what living things do: Grow, use food for growth, reproduce, respond.  Share PI: Cheek Cells and Amoeba and point out that the inside of the cells are made mostly of water and is called *cytoplasm*.  Introduce the Driving Question Board (DQB): Throughout the unit, Ss record their own, original questions as they arise. See *IQWST Overview* for more information on how to use and manage the DQB.  Key: All living things share characteristics that include growth, reproduction, using food, and responding to stimuli. | SE Activity 2.4  [Video: Time Lapse Yogurt](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1594403662-time-lapse-yogurt.mp4)  Video from the internet about ameba moving, eating and dividing. | SE Activity 2.4  Print PI: Cheek Cells and Amoeba |  |
| Reading One | *How Did Scientists Find These Tiny Cells?*  Key: Single-celled organisms are living things and perform many functions. | SE Reading One | SE Reading One |  |
| Checkpoint: Responses to the statement in Lesson 2 Reading One, “List the important characteristics or organisms that are true of a single-celled organism,” can be assessed to determine how well Ss are developing the ability to explain *why* a single-celled organisms is a living thing. | | | | |

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| **Lesson 3**  **(1 session)** | ***Am I a System?*** | [Download Lesson 3 Teaching Slides](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1589915360-LS2%20Lesson%204.pptx) | | |
| **ACTIVITY** | **TEACHING RECOMMENDATIONS** | **DIGITAL RESOURCES** | **PRINT RESOURCES** | **MATERIALS**  **FOR EACH STUDENT** |
| Activity 3.1  *Dissecting a Simple System* | If Ss are able to have a retractable pen, they could examine it remotely. Otherwise, demo the activity and discuss the parts. Alternatively, emphasize other systems with which Ss are likely familiar, perhaps using Reading One as a starting point.  Given the likelihood of reduced time for remote learning, Activities 3.1 and 3.2, and use of the reading, could be combined into a single session.  Key: A *system* has parts (structures) that work together to perform a function. | SE Activity 3.1  [Activity Video 3.1: Dissecting a simple system](https://iat.wistia.com/medias/ch3kn33dcj) | SE Activity 3.1 | (1)retractable ink pen |
| Reading One | *Systems, Systems, and More Systems*  Key: Systems large and small, in the universe and our bodies, consist of subsystems that are organized into larger systems. | SE Reading One | SE Reading One |  |
| Activity 3.2  *Am I a System?* | This activity can be combined with Activity 3.1. Discuss the idea of a body being a system.  Key: The human body is a system. | SE Activity 3.2 | SE Activity 3.2 |  |

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| **Learning Set 3: Movement and Control** | | | | |
| **Lesson 4**  **(2-3 sessions)** | ***What Is Breaking Food Down Inside Me?*** | [Download Lesson 4 Teaching Slides](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1589915360-LS2%20Lesson%204.pptx) | | |
| **ACTIVITY** | **TEACHING RECOMMENDATIONS** | **DIGITAL RESOURCES** | **PRINT RESOURCES** | **MATERIALS**  **FOR EACH STUDENT** |
| Activity 4.1  *Lab: Grind, Slush and Down* | Use the DQB to discuss how the body is organized along the lines of the “Levels of Organization” chart provided.  Share PI: Cheek and Skin Tissue. Discuss cells, tissues, and organs.  If Ss are able to have the materials, they can investigate the phenomenon of chemical digestion of a cracker remotely just as they would in class.  Share “Levels of Organization” Chart from the TE.  Key: The teeth and tongue contribute to the mechanical breakdown of food, while the salivary glands begin the process of chemical digestion. | SE Activity 4.1 | SE Activity 4.1  Print copy of “Levels of Organization” Chart from TE.  Print PI: Cheek and Skin Tissue | (2) crackers |
| Activity 4.2  *Itsier, Bitsier Foodstuff* | Because Ss will not be able to do this activity remotely, trace the path of food from the mouth to the stomach using the PIs. Given the likelihood of reduced time for remote learning, and the fact that this activity and the one in 4.3 cannot be done remotely, teachers may choose to combine Activities 4.2 and 4.3 into one session.  Teachers may want to describe the activity for Ss and share the data from the TE so that they understand that substances like proteins are being broken down in their stomach by acid and pepsin.  Key: The role of the stomach as food follows a path of continual digestion. |  | Print PIs:  •Mouth  •Esophagus and Stomach |  |
| Activity 4.3  *Food’s Journey Continues* | Share PI: Path for Food to review what Ss know so far.  Demo the *Simulation of How Fat Breaks Down* and discuss how food is broken down into small molecules that can be used by the body.  Key: The small intestine breaks carbohydrates, proteins, and fats into smaller molecules that are absorbed in the small intestine. The stuff that’s not needed by the body gets passed into the large intestine where water is absorbed and the rest is passed through the anus. | [Activity Video 4.3: Simulation of how fat breaks down](https://iat.wistia.com/medias/gx9nqeagfc) | Print PI: Path for Food |  |
| Activity 4.4  *What Happens to the Food Molecules in the Small Intestine?* | Share PI: Structure of the Small Intestine. Demo this investigation. Ss could use filter paper, paper towels, or napkins to investigation this phenomenon remotely.  Share Video: Filter paper (intestine demo).  Key: In the small intestine, greater surface area created by villi and microvilli increases the absorption of food molecules. | SE Activity 4.4  [Activity Video 4.4: Intestine Demo](https://iat.wistia.com/medias/ppl4a9o4u8) | SE Activity 4.4  PI: Structure of the Small Intestine | (2)pieces of filter paper, paper towel, or napkin  (1)small container for water |
| Reading One | *Out with the Bad, In with the Good!*  Key: Ss obtain information about both the helpful and the harmful effects of bacteria in the human body. | SE Reading One | SE Reading One |  |

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| **Lesson 5**  **(3 sessions)** | ***How Does Food Move in My Body?*** | [Download Lesson 5 Teaching Slides](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1589915405-LS2%20Lesson%205.pptx) | | |
| **ACTIVITY** | **TEACHING RECOMMENDATIONS** | **DIGITAL RESOURCES** | **PRINT RESOURCES** | **MATERIALS**  **FOR EACH STUDENT** |
| Activity 5.1  *Can Food Molecules Move through My Body?* | Share PIs and discuss:   * Map of Street System * Human Circulatory System * Villi and Capillaries * Human Blood Samples Color Sample   Key: Blood is made of cells, food and other molecules and water.  Key: Food molecules move from the small intestine into the blood and travel in the circulatory system throughout the body | SE Activity 5.1 | SE Activity 5.1  Print PIs  •Map of Street System  •Human Circulatory System  •Villi and Capillaries  •Human Blood Samples  •Glucose Levels |  |
| Activity 5.2  *Can Water Move into the Cell?* | Share PI: Onion and Cheek Cell Comparison  Share the Video: Viewing Red Onion and Salt Water.  \*This is a video of red onion cells shrinking in the presence of salt solution. When fresh water is added, the cell size returns to normal.  \*\*This video discusses how osmosis can change the appearance of red onion cells by adding or removing water from the cells. This video goes beyond the scope of the lesson with the discussion of hypertonic and hypotonic solutions - but may be helpful to teachers.  Share PI: Molecular Workbench Diffusion Model to help Ss with Part 3.  Key: Through osmosis, water molecules move from an area of greater concentration to lesser concentration across a cell membrane. The cell membrane protects the cell from things that may harm it (e.g. salt) and keeps things inside the cell that are necessary for the cell to survive (e.g. water). | SE Activity 5.2  [\*Red Onion Cells in Salt Water and the Tap Water](https://youtu.be/nHWUAdkYq4Q)  [\*\*Video of Red Onion Cells in Tap Water and Salt Water](https://youtu.be/yWitjFsvPAY) | SE Activity 5.2  Print PIs  •Molecular Workbench Diffusion Model  •Onion and Cheek Cell Comparison |  |
| Reading One | *The Ins and Outs of Osmosis*  Key: Ss obtain information about how osmosis has been used for food, water purification, and preservation of mummies. | SE Reading One | SE Reading One |  |
| Activity 5.3  *Can Food Move into the Cell?* | Because Ss are unable to design and complete this investigation remotely, and given the likelihood of reduced time for remote learning, Activities 5.2 and 5.3 could be combined into a single session.   Share PI: Benedict’s Solution Color Sample  If possible, demo the investigation or do it ahead of meeting with Ss (virtually or in the classroom) and show them the results. Alternatively, explain the activity and show the Video: Dialysis Membrane. Ss could enter data from watching the video.  Key: The smaller sugar molecules move by osmosis across a cell membrane to enter the cell, but the larger starch molecules do not. | SE Activity 5.3  [Activity Video 5.3: Iodine - Control](https://iat.wistia.com/medias/u9io9ygfum)  [Activity Video 5.3: Benedict's Solution - Control](https://iat.wistia.com/medias/0c6fwpoo2s)  [Activity Video 5.3: Dialysis Membrane](https://iat.wistia.com/medias/vkgj9l8y42)  [Activity Video 5.3: Dialysis Membrane - Inside: Glucose / Outside: Starch](https://iat.wistia.com/medias/vkgj9l8y42)  [Activity Video 5.3: Dialysis Membrane -Inside: Glucose / Outside: Water](https://iat.wistia.com/medias/8tnv7dy1ny)  [Activity Video 5.3: Dialysis Membrane - Inside: Starch / Outside: Glucose](https://iat.wistia.com/medias/jwgz6bf11p)  [Activity Video 5.3: Dialysis Membrane - Inside: Starch / Outside: Water](https://iat.wistia.com/medias/f86ecplt23)  [Activity Video 5.3: Dialysis Membrane - Inside: Water / Outside: Starch](https://iat.wistia.com/medias/ujhwkxi8iw)  [Activity Video 5.3: Dialysis Membrane - Inside: Water / Outside: Glucose](https://iat.wistia.com/medias/1j86u9cywo) | SE Activity 5.3  PIs:  •Benedict’s Solution Color Sample  •Data Summary Chart |  |
| Activity 5.4  *Can Cells Use Sugar as Food?* | Show and describe yeast, and have Ss predict what will happen when yeast and sugar are placed together in a test tube. Discuss the prior knowledge/evidence Ss are drawing on to make predictions. Read through the procedure and demo the investigation, or share the Video: Sugar/Yeast/Balloon Activity. Alternatively, set up the investigation a day ahead, discuss predictions without showing to Ss, and then reveal the results.  Key (by the end of Lesson 5): For the body to use food for energy and building materials, it must be broken down into molecules and *transported to the cells*. | SE Activity 5.4  [Activity Video 5.4: Sugar/Yeast/Balloon Activity](https://iat.wistia.com/medias/ljgsykznmz) |  | . |
| Checkpoint: Use Ss models to assess their understanding of how water moves across a cell membrane. The last question of the reading can be used to assess how Ss apply the phenomenon of osmosis to a real life scenario. | | | | |

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| **Lesson 6**  **(2 sessions)** | ***The Case of the Missing Oxygen*** | [Download Lesson 6 Teaching Slides](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1589915444-LS2%20Lesson%206.pptx) | | |
| **ACTIVITY** | **TEACHING RECOMMENDATIONS** | **DIGITAL RESOURCES** | **PRINT RESOURCES** | **MATERIALS**  **FOR EACH STUDENT** |
| Activity 6.1  *Breathe in, Breathe out . . .* | Ss will not be able to do Part 1, so have them fill out the Data as teachers share the Activity Video: How Does the Air I Breathe in Compare to the Air I Breathe Out? Part 1. They should answer the question.  They also will not be able to do Part 2, so first have them make Predictions and then record data as the teacher shows the following Activity Video: How Does the Air I Breathe in Compare to the Air I Breathe Out? Part 2. Ss should answer the questions.  Key: Humans inhale oxygen (and other gases) and exhale mostly carbon dioxide. | SE Activity 6.1  [Activity Video 6.1: Bromothymol Blue Demonstration](https://iat.wistia.com/medias/mjqyiaguwp)  [Activity Video 6.1: Demo- Candle in Room](https://iat.wistia.com/medias/pqffmj4442)  [Activity Video 6.1: Candle in Limited O2](https://iat.wistia.com/medias/pqffmj4442)  [Activity Video 6.1: Candle in Exhaled Air](https://iat.wistia.com/medias/8uzjapbcyk) | SE Activity 6.1 |  |
| Activity 6.2  *Inspector Bio: What Happened to the Oxygen and Why?* | Share PI: Respiratory System and PI: Alveoli and Capillaries. Powerpoint of Respiratory System to go through all the parts? Or teachers could show a YouTube video of the respiratory system. Ss would label the parts in the drawings and draw arrows to show the path of oxygen. They should then answer the Making Sense questions.  Key: When cells use food for energy, they also need to use oxygen and they produce carbon dioxide during this process.  Key: The circulatory and respiratory system work together to get oxygen to all of our cells and remove carbon dioxide which is a waste product. | SE Activity 6.2  [Respiratory System PowerPoint](https://online.fliphtml5.com/llyh/jvuo/) | SE Activity 6.2  Print PIs: •Respiratory System  •Alveoli and Capillaries  •Red Blood Cells |  |
| Activity 6.3  *What is the Motive* | Ss should read through the procedure. Then share the Video: Burning Different Foods as they record the data. They can then answer the Making Sense questions. Teachers can use PI: Respiratory System and PI: Gas Exchange to discuss the results.  Key: Oxygen is used in every cell in the body as part of a chemical reaction (with glucose) to release energy. Carbon dioxide is exhaled as a byproduct of that chemical reaction | SE Activity 6.3Se  [Setup Video Activity 6.3 Burning Different Foods](https://youtu.be/nZQ_BsEoGdo)  [Activity Video 6.3: Burning Food - Almond](https://iat.wistia.com/medias/3a3hsm143g)  [Activity Video 6.3: Burning Food - Cracker](https://iat.wistia.com/medias/d6hskbc6e2)  [Activity Video 6.3: Burning Food- Bean](https://iat.wistia.com/medias/zyqk83mxkn) | SE Activity 6.3  Print PIs:  •Respiratory System  •Gas Exchange |  |
| Reading One | *Aahhhh- Choo! Cough-Cough! Whh- eEEez!*  Key: Everyday, real-world connections--Sneezing and coughing get rid of irritants in the respiratory pathway. Asthma narrows the bronchial passages so people take in less air than do those without asthma. | SE Reading One | SE Reading One |  |
| Checkpoint: The last question in Activity 6.3 can be used to assess Ss understanding of why heart rate and breathing rate increase as their activity level increases. This can be written in a CER format. Teachers may want to scaffold these explanations by first discussing relevant information and evidence. | | | | |

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| **Lesson 7**  **(2 sessions)** | ***Growth and Repair*** | [Download Lesson 7 Teaching Slides](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1589915495-LS2%20Lesson%207.pptx) | | |
| **ACTIVITY** | **TEACHING RECOMMENDATIONS** | **DIGITAL RESOURCES** | **PRINT RESOURCES** | **MATERIALS**  **FOR EACH STUDENT** |
| Activity 7.1  *What Is Inside a Bone?* | Share PI: Skeletal System and brainstorm the function of the skeletal system in the body.  Share Activity Video : Inside a bone  Key: The skeletal system provides support/shape and movement. | SE Activity 7.1  [Activity Video 7.1: Inside a Bone](https://iat.wistia.com/medias/fidrjy9pud) | SE Activity 7.1  Print PIs:  •Skeletal System |  |
| Reading One | *What Is My Skeleton Made Of?*  Key: Extends learning by describing the layers and structure of a bone, and explaining how a bone heals after a break. | SE Reading One | SE Reading One |  |
| Activity 7.2  *How Do Cells Make More Cells?* | Share Video 7.2 Mitosis.  Share PI: Mitosis which shows stages of mitosis in an onion root tip.  The thread-like structures in the nucleus are there all the time, but they become visible when the cell divides. These are chromosomes that carry information to the new cells.  Key: Cells divide to form new cells in a process called *mitosis*. Food provides the energy and building blocks for these new cells. | SE Activity 7.2  [Video 7.2: Mitosis](https://d16dnhlej6sizh.cloudfront.net/assets/portal/Teacher-Portal-Resources/LS2_se_v2_0_5_video-lesson_7_video_7-730.mp4) | SE Activity 7.2  Print PI:  Mitosis |  |

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| **Learning Set 3: Movement and Control** | | | | |
| **Lesson 8**  **(1 session)** | ***Can My Systems Keep Up the Pace?*** | [Download Lesson 8 Teaching Slides](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1589915533-LS2%20Lesson%208.pptx) | | |
| **ACTIVITY** | **TEACHING RECOMMENDATIONS** | **DIGITAL RESOURCES** | **PRINT RESOURCES** | **MATERIALS**  **FOR EACH STUDENT** |
| Activity 8.1  *What Is the Rate?* | Ss may do this activity remotely. Having a second person to time their exercise, and count pulse and respiration rates can help. If possible, demonstrate how to find a pulse and how to count.  Key: Body systems provide for cells’ basic needs such as food, oxygen, and waste removal.  Key: The human body is a system made up of several subsystems that interact to support the cells’ needs for survival. | SE Activity 8.1 | SE Activity 8.1 |  |
| Reading One | *Organisms’ Balancing Acts*  Key: Ss obtain information about homeostasis in humans and other animals and plants. | SE Reading One | SE Reading One |  |

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| **Lesson 9**  **(1 session)** | ***How Does All This Energize and Repair Me?*** | [Download Lesson 9 Teaching Slides](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1589915572-LS2%20Lesson%209.pptx) | | |
| **ACTIVITY** | **TEACHING RECOMMENDATIONS** | **DIGITAL RESOURCES** | **PRINT RESOURCES** | **MATERIALS**  **FOR EACH STUDENT** |
| Activity 9.1  *Where Is Food Used in My Body?* | Ss review their DQB notes, Scientific Principles and the DQB to answer the question “Where is food used in my body?” This should be written in the CER format.  Key: *Every cell in the body* uses food for energy, building, and repair. | SE Activity 9.1 | SE Activity 9.1 |  |
| Reading One | *SimCell*  Key: Ss obtain information about simulation games and apply the simulation concept to a cell. | SE Reading One | SE Reading One |  |
| Checkpoint: Ss final CER Explanations provide an opportunity to assess their understanding of how food is used in the body, of energy and matter and systems, and of constructing an evidence-based explanation. | | | | |

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| **Lesson 10**  **(1 session)** | ***How Does All This Work Together Inside Me?*** | [Download Lesson 10 Teaching Slides](https://d16dnhlej6sizh.cloudfront.net/assets/portal/1589915605-LS2%20Lesson%2010.pptx) | | |
| **ACTIVITY** | **TEACHING RECOMMENDATIONS** | **DIGITAL RESOURCES** | **PRINT RESOURCES** | **MATERIALS**  **FOR EACH STUDENT** |
| Activity 10.1  *Who Has the “Touch”?* | If possible, have Ss sit quietly and then make a loud sound and talk about their reactions. Or, have Ss discuss previous experiences with a sudden, loud sound. Another option is for an adult or sibling to do this with Ss remotely.  Share and discuss PIs:   * The Nervous System * Motor Neuron * Information Transfer     Have Ss fill in the Prediction section. If possible, have Ss do the Procedure with help from someone. They should fill in the Data and answer the Making Sense questions.  Key: The process of reaction: Receptor cells sense something from the outside (e.g., touch, sound) and send a signal to the sensory neurons, which take this signal to the central nervous system (brain). A signal is then sent to motor neurons which cause muscles to move to react. | SE Activity 10.1 | SE Activity 10.1  Print PIs:  •The Nervous System  •Motor Neuron  •Information Transfer |  |
| Reading One | *What Happens When I Get the Chills?*  Key: Shivering is the body’s way of keeping its temperature from getting too low. | SE Reading One | SE Reading One |  |

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| **Lesson 11**  **(1 session)** |  | [Download Lesson 11 Teaching Slides](https://drive.google.com/file/d/194gOhcv4zYcuDA9eSnOh_iHRFBq8VoXm/view?usp=sharing) | | |
| **ACTIVITY** | **TEACHING RECOMMENDATIONS** | **DIGITAL RESOURCES** | **PRINT RESOURCES** | **MATERIALS**  **FOR EACH STUDENT** |
| Activity 11.1  *How Does Everything Work Together?* | Ss construct an evidence-based explanation to answer the question: What is going on inside my body when I do certain activities?  Key: Ss choose an activity and tie in the role of energy, how the body systems work together, the result of doing the activity and what processes have to adapt or modify themselves in doing this activity. Activity 11.1 could be used as the unit’s final summative assessment. Or, the unit’s Driving Question could be adapted by adding each Ss activity of choice to the end of the question: “What is going on inside me when I \_\_\_\_\_\_?” | SE Activity 11.1 | SE Activity 1.1 |  |

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| **SUMMATIVE ASSESSMENT:** Ss can construct a scientific explanation to answer the Driving Question “What is Going on Inside Me?” and to address four areas: energy, systems, results, and control. |

***Teachers might choose to emphasize only a portion of this as a final assessment, given what they are able to teach and what Ss are actually able to do during this remotely taught unit.***