**Unit Essential Question:** *How do our bodies produce and use the energy needed to move objects?*

You will be teaching people how their bodies make the movement of objects possible in a specific activity. After each task, you will return to the table below to organize what you learn as you go through the unit. By the end of the five tasks, you will have all this information to use for your culminating project. For each activity, be sure to include answers to **ALL** the questions provided.

|  |  |
| --- | --- |
| Lift-Off Task: Objects in Motion | Brainstorm a list of activities that involve humans putting an object in motion. Circle ones that you are interested in using for your project. |
|  |
| Task 1:  Energy in Motion | Your presentation will involve demonstrating an activity and explaining the science behind an object’s motion. As a group, first decide on an activity that puts an object in motion to focus on for your culminating project. Then individually,   * Describe how an object moves in your group’s chosen activity. * Explain what you would need to change the motion of the object (e.g., make it go faster/slower or farther/closer). Describe how this changes the object’s kinetic energy.   + Cite evidence from your argument or investigations to support your explanation. |
|  |
| Task 2:  Sense and Respond | Your presentation and brochure will include showing how the body’s nervous system allows it to move objects in your chosen activity.   * Describe the nervous system pathway involved in your chosen activity. You may draw a flowchart, like you did in this task, or describe the pathway in a numbered list or paragraph. |
|  |
| Task 3:  Interacting Subsystems | In this task, you learned that there are other subsystems of the body at work, besides just the nervous system.   * In a paragraph, flowchart, or diagram, explain how different subsystems of the body work together to do your chosen activity. |
|  |
| Task 4:  Got Cells? | In the last task, you described the different subsystems of the body that are involved in your activity.   * Research and identify the types of cells that make up the body systems you identified. * Why do you think these different types of cells look so different? * Even though they appear different, why are they all called cells? |
|  |
| Task 5:  Parts of a Whole | We know from Task 1 that your activity requires energy to move an object.   * Now that you have learned about cells and their parts, describe where this energy comes from. * Pick one body system involved in your activity and do research to fill out the flowchart below. This will show how energy from your body is able to move your object! |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ⇒ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ⇒ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ⇒  Cell Part Type of Cell Type of Tissue  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ⇒ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ⇒ Interacts with Other Body  Organ Body System Systems To Make Your  Object Move! |