**Class Activity: Space Station Systems**

(The following should be read to the class by one student.)

We must complete this assignment in two science classes, using no more than 75 minutes. Solving this problem demonstrates that we can follow instructions, organize our work, and work together quickly and effectively.

Our assignment is to create a single chart, called the Space Station Systems Chart, with five columns of organized information. At this time, look over the two sheets with the five columns. Note Parts One through Four (shaded in grey) and the times associated with each.

Before we begin the assignment, someone must be assigned to keep track of the time. The Time Keeper must keep everyone aware of how much time we have left to complete each column. The suggested times add up to 60 minutes. That leaves 15 minutes to spare for getting organized in between each part. We should try to finish each part quickly. At the end of 75 minutes we must stop all work.

If this is completed over two class periods, we can work on our lists of ideas between classes. We do not require you to use outside resources, but you may if you choose to. If anyone uses any outside resources to find ideas, they should write them down. A list of resources that anyone uses must be attached to our chart.

When we are finished, our teacher will write the total time we took to finish this job at the top of our Chart and send it, with our Personal Essays to the Mission Control staff at the Challenger Learning Center.

Name:_____ **Space Station Systems Chart**

| **Part One (20 minutes):** Complete columns A & B in your small group | |
|---|---|
| **A** | **B** |
| **Small Group** | **Small Group** |
| List as many of the human body's systems you can think of and one, two, or three body parts or organs that belong to each system.<br><br>Example: The respiratory system. Three "parts" of that system are the trachea, lungs, and red blood cells. | Space stations are designed to meet the needs of the human body-- to keep humans alive in space. Off the top of your head (without doing any preparatory research) list some possible space station systems that support each human body system listed in Column A. Use creativity and imagination to list three pieces of technology for each space station system on the list.<br><br>Example: One space station system is the air cleaning system. Three pieces of technology that this system uses might be fans, carbon dioxide filters, and air dust filters. |
| **Human body systems (and three parts)** | **Space station systems (and three pieces of technology)** |

| | | |
|---|---|---|
| **Part Two (10 minutes):** As a class, read each list above and cross off the duplicate ideas. Create one list for the whole class for each column. Number each system. Each person should copy this list below. | | **Part Three (20 minutes):** As a small group, for each numbered space station system listed in column D, list 1 to 3 necessary functions that the system serves in terms of astronaut health. If you come up with more than 3 pick the three that are most important.<br><br>Example: Air cleaning system: Functions—1) keeps the air moving, 2) monitors the mix of gases in the air, and 3) removes dust from the air. |
| **C** | **D** | **E** |
| **Class** | **Class** | **Small Group** |
| **Human body systems (and three parts)** | **Space station systems (and three pieces of technology)** | |
| **Part Four (10 minutes):** Rank the ideas that we have listed in column E by their importance. Assign each item a number. The topics in this column do not have to be reordered, just numbered 1, 2, 3, etc., in order of importance. | | |