| STEM Fal   | II 2025: Week                     | 5                             |  |        |
|--|-----------------------------------|-------------------------------|--|--------|
| Complete before the class on Mon, Oct 13th   |                                   |                               |  |        |
|  |                                   |                               |  |        |
| STEM Assen   | nbly                              |                               |  |        |
| Complete at lea  | st one day on the Week            | ly Gratitude sheet            | <u>.</u>   |        |
| Bring in one bib   | le verse spoken by Chri           | st that is meaning            | ful to you.  |        |
|  |                                   |                               |  |        |
| General Sciences   |                                   |                               |  |        |
|  | Topic                             | Reading                       | Exercises  |        |
| LifePac 7th<br>Grade Unit 2  | Graphs                            | pg. 33-34                     |  |        |
|  | Bar Graphs                        | pg. 35-36                     | 2.1 - 2.5  | pg. 35 |
|  |                                   |                               | 2.6  | pg. 36 |
|  | Line Graphs                       | pg. 37                        | 2.7  | pg. 38 |
|  | Pictographs                       | pg. 40                        | 2.12 - 2.18  | pg. 41 |
|  | Circle Graphs                     | pg. 42                        | 2.19 - 2.21  | pg. 43 |
|  |                                   |                               | 2.23   | pg. 44 |
|  | Graphs                            |                               | Read 2.026 on pg. 46. Which type of graph is most appropriate? How should you order the data in the graph from left to right? Bring in your graph to discuss in class.                   |        |
| <b>A</b>   |                                   |                               |  |        |
| Aerospace  |                                   |                               |  |        |
|  | Topic                             | Reading                       | Exercises  |        |
| AEX II Activity<br>Booklet   | Gyroscopes &<br>Rotational Motion |                               | Watch the video of gyroscopes spinning in zero-<br>gravity space, demonstrating that they continue<br>to spin in the same direction regardless of how<br>they are moved around.          |        |
|  |                                   | Article on<br>Gravity Probe B | Do a quick, 10 minute skim-read of all 52 pages of the article on Gravity Probe B. What was the most interesting picture or figure that caught your attention?                           |        |
|  |                                   |                               | Read about the following topics in the article on Gravity Probe B: - Curved spacetime (pg. 10) - Frame-dragging of local spacetime (pg. 15) - The most perfect sphere ever made (pg. 24) |        |
|  |                                   |                               | Complete the chart on pg. 41 showing the time it takes light & gravity to reach each planet.   |        |
|  |                                   |                               | Watch the video on MEMS accelerometers used in smartphones (very similar to MEMS gyroscopes in smartphones).   |        |
|  | Parabolic Propulsion              | pg. 59-60                     | Read about parabolic trajectories.   |        |
|  |                                   |                               |  |        |
| <b>Hybrid Math</b>   | ematics                           |                               |  |        |
| Review the Babylonian Square Root Algorithm with your parents and demonstrate to them how to use it to |                                   |                               |  |        |

Review the Babylonian Square Root Algorithm with your parents and demonstrate to them how to use it to calculate the square root of a large number like 17,340 accurate to 3 decimal places.