# Grade 7 Science Strand VIII Curriculum Map

| **Time Span** | Interwoven Throughout All Units | Interwoven Throughout All Units | Interwoven Throughout All Units |
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| **Unit Name** | **Impact of Science, Technology & Human Activity** | **Impact of Science, Technology & Human Activity** | **Impact of Science, Technology & Human Activity** |
| **Essential Questions** | The nature of technology is advanced by, and can advance, science as it seeks to apply scientific knowledge in ways that meet human needs. | Historical and cultural perspectives of scientific explanations help to improve understanding of the nature of science and how science knowledge and technology evolve over time. | Science and technology affect, and are affected by society. |
| **McGraw Hill Text** | p. 15 (GPS), p. 93 (steam engine), p. 156-157 (Technology), p. 213 (Insulation Homes), p.280 (Freeze Drying Foods), p. 388 (Airships), pg. 416 (air bag), pg 434 (light stick), p. 497 (Transistors) Ch 17.3 (Using Electromagnetic Waves), Ch 18.4 (optical Technology) | p. 155 Marie Curie,<br>p. 522 Thomas Edison, Robert Hooke<br>p, 47, 57, 65 Sir Isaac Newton | |
| **Content** | VIII.1.A<br>Designed objects are used to do things better or more easily and to do some things that could not otherwise be done at all.<br><br>VIII.1.B<br>Advances in technology often result in improved data collection and an increase in scientific information.<br><br>VIII.1.C<br>Technological solutions to problems often have drawbacks as well as benefits. | VIII.2.A<br>People of different gender and ethnicity have contributed to scientific discoveries and the invention of technological innovations. All Units<br><br>VIII.2.B<br>Scientific theories are developed based on the body of knowledge that exists at any particular time and must be rigorously questioned and tested for validity. All Units | VIII.3.B<br>B. Social, political, economic, ethical, and environmental factors strongly influence and are influenced by the direction of progress of science and technology. |

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| **Skills** | VIII.1.A<br>**(a) Explain how technological improvements, such as those developed for use in space exploration, the military, or medicine, have led to the invention of new products that may improve our lives here on Earth (e.g., new materials, freeze-dried foods, infrared goggles, Velcro, satellite imagery, robotics, lasers).**<br><br>VIII.1.B<br>**(a) Identify the link between technological developments and the scientific discoveries made possible through their development (e.g., Hubble telescope** and stellar evolution, composition and structure of the universe; the electron microscope and cell organelles; sonar and the composition of the earth; manned and unmanned space missions and space exploration; **Doppler radar** and weather conditions**; MRI and CAT-scans and brain activity).**<br><br>VIII.1.C<br>(a) Describe how technological solutions to (e.g., storm water runoff, fiber optics, windmills, efficient car design, electronic trains without conductors, sonar, robotics, Hubble telescope) problems can have both benefits and drawbacks (e.g., design constraints, unintended consequences, risks). (ASSESS LOCALLY) | VIII.2.A<br>(a) Describe how the contributions of scientists and inventors, representing different cultures, races, and gender, have contributed to science, technology and human activity (e.g., George Washington Carver, Thomas Edison, Thomas Jefferson, Isaac Newton, Marie Currie, Galileo, Albert Einstein, Mae Jemison, Edwin Hubble, Charles Darwin, Jonas Salk, Louis Pasteur, Jane Goodall, Tom Akers, John Wesley Powell, Rachel Carson). (ASSESS LOCALLY)<br><br>VIII.2.B<br>(a) Describe the difficulty science innovators experience as they attempt to break through accepted ideas (hypotheses, laws, theories) of their time to reach conclusions that may lead to changes in those ideas and serve to advance scientific understanding (e.g., Darwin, Copernicus, Newton).<br><br>(b) Describe explanations have changed over time as a result of new evidence. | VIII.3.B<br>(a) Describe ways in which science and society influence one another(e.g., scientific knowledge and the procedures used by scientists influence the way many individuals in society think about themselves, others, and the environment; societal challenges often inspire questions for scientific research; social priorities often influence research priorities through the availability of funding for research).<br><br>(b) Identify and evaluate the physical, social, economic, and/or environmental problems that may be overcome using science and technology (e.g., the need for alternative fuels, human travel in space, AIDS). |
| **Assessments** | Written Unit Test | Written Unit Test | Written Unit Test |