**8th Grade Advanced Science Parent Guide**

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| This course is designed to provide students with the skills necessary to apply science concepts to their everyday life. Students will ask questions, plan and conduct investigations, and explain phenomena using appropriate tools and models. Students will identify problems and design solutions using engineering design practices. Recurring themes and concepts will be explored to make connections between overarching concepts. This course is built on the following strands: scientific and engineering practices; matter and energy; force, motion, and energy; earth and space; and organisms and environment. In advanced science, students will engage in inquiry-based science including designing and conducting their own investigations and learning to use and develop critical thinking skills. Texas Essential Knowledge and Skills for Grade 8 Science [§112.28 Science, Grade 8, Adopted 2021](https://texreg.sos.state.tx.us/public/readtac%24ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=19&pt=2&ch=112&rl=28) |
| 1st 6 Weeks:Introduction to Science/Safety – Interactive Science NotebooksMatter and Chemical Reactions:Classification of MatterProperties of WaterAcids and BasesChemical Reactions & Conservation of MassForce, Motion, and Acceleration:AccelerationNewton’s Law of Motion | 4th 6 Weeks:Weather and Climate:Local WeatherTropical Cyclones, Typhoons, and HurricanesImpacts on Global Climate:Natural Events that Influence ClimateHuman Events that Influence ClimateCell Structures, Inheritance, & Survival:Functions of Cell StructuresVariations, Adaptions, and Survival |
| 2nd 6 Weeks:Force, Motion, and Acceleration: Newton’s Law of MotionWaves and the Electromagnetic Spectrum:Characteristics of WavesElectromagnetic Waves, Application of Electromagnetic WavesThe Universe: Stars | 5th 6 Weeks:Ecosystems and Population Change:Ecosystem Disruptions and Food WebsEcological SuccessionBiodiversitySTAAR Review |
| 3rd 6 Weeks:The Universe:StarsGalaxiesOrigins of the UniverseWeather and Climate:Energy in Earth’s Atmosphere and HydrosphereGlobal Patterns of Atmospheric Movement | 6th 6 Weeks:8th Grade Science STAAR Review8th Grade Science STAAR ExamEnrichment/Extension |

**Questions?** Please contact your course science teacher.