## *High School Beginning with School Year 2010-2011*
## *Physics TEKS Available at Space Center Houston*

| Texas Essential Knowledge and Skills | Related Exhibit at Space Center Houston |
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| Demonstrate safe practices during field and laboratory investigations (1). | **Kids Space Place**<br>**NASA Tram Tours** |
| Design and implement investigative procedures, including making observations, asking well-defined questions, formulating testable hypotheses, identifying variables, selecting appropriate equipment and technology, and evaluating numerical answers for reasonableness (2). | **Kids Space Place**<br>**Part Task Trainers (PTT's)**<br>**NASA Tram Tours** |
| Make measurements with accuracy and precision and record data using scientific notation and International System (SI) units (2). | **Kids Space Place**<br>**Part Task Trainers (PTT's)**<br>**NASA Tram Tours** |
| Organize and evaluate data and make inferences from data, including the use of tables, charts, and graphs (2). | **Kids Space Place**<br>**Part Task Trainers (PTT's)**<br>**Manned Maneuvering Unit Simulator** |
| Communicate valid conclusions supported by the data through various methods such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports (2). | **Kids Space Place**<br>**Part Task Trainers (PTT's)**<br>**NASA Tram Tours** |
| Express and manipulate relationships among physical variables quantitatively, including the use of graphs, charts, and equations (2). | **Kids Space Place**<br>**Part Task Trainers (PTT's)** |
| In all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the stu- | **Kids Space Place**<br>**Starship Gallery**<br>**Part Task Trainers (PTT's)**<br>**NASA Tram Tours** |

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| dent (3). | |
| Explain the impacts of the scientific contributions of a variety of historical and contemporary scientists on scientific thought and society (3). | **Part Task Trainers (PTT's)**<br>**Starship Gallery**<br>**NASA Tram Tours** |
| Research and describe the connections between physics and future careers (3). | **Part Task Trainers (PTT's)**<br>**Starship Gallery**<br>**NASA Tram Tours**<br>**Internet Blast-Off Stations** |
| Analyze and describe accelerated motion in two dimensions using equations, including projectile and circular examples (4). | **Kids Space Place**<br>**Part Task Trainers (PTT's)**<br>**Manned Maneuvering Unit Simulator** |
| Calculate the effect of forces on objects, including the law of inertia, the relationship between force and acceleration, and the nature of force pairs between objects (4). | **Kids Space Place**<br>**Part Task Trainers (PTT's)**<br>**Manned Maneuvering Unit Simulator** |
| Identify and describe motion relative to different frames of reference (4). | **Kids Space Place**<br>**Part Task Trainers (PTT's)**<br>**Manned Maneuvering Unit Simulator** |
| Investigate examples of kinetic and potential energy and their transformations (6). | **Kids Space Place**<br>**Part Task Trainers (PTT's)**<br>**Manned Maneuvering Unit Simulator**<br>**Shuttle Main Engine Mock-Up** |
| Demonstrate and apply the laws of conservation of energy and conservation of momentum in one dimension (6). | **Kids Space Place**<br>**Part Task Trainers (PTT's)**<br>**Manned Maneuvering Unit Simulator** |
| Examine and describe oscillatory motion and wave propagation in various types of media (8). | **Kids Space Place** |
| Investigate and analyze characteristics of waves, including velocity, frequency, amplitude, and wavelength, and calculate using the relationship between wave-speed, frequency, and wavelength (7) | **Kids Space Place** |

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| Compare characteristics and behaviors of transverse waves, including electromagnetic waves and the electromagnetic spectrum, and characteristics and behaviors of longitudinal waves, including sound waves (7). | **Kids Space Place** |