## Physics

Timeframe: Week 6 and 7

Topic: Newton's Second Law of Motion

Objectives
The student will understand the difference in force and pressure.
The student will understand that friction is a force.
The student will learn to draw and interpret free body diagrams.
The student will understand that an unbalanced force must cause an acceleration.
The student will understand the importance of Newton's second law.
The student will know key facts about Newton's life.

Lessons
Friction, pressure and Newton's second law
Air resistance
Newton history

Activities
Lecture
Worksheets
Video
Lab activity
Demonstrations
Review
Exam

TEKS

HS. Science processes.
HS. The student, for at least 40% of instructional time, conducts field and laboratory investigations using safe, environmentally appropriate, and ethical practices.
HS.1A Demonstrate safe practices during field and laboratory investigations.
HS. The student uses scientific methods during field and laboratory investigations.
HS.2C Organize, analyze, evaluate, make inferences, and predict trends from data.
HS.2A Plan and implement experimental procedures including asking questions, formulating testable hypotheses, and selecting equipment and technology.
HS.2F Read the scale on scientific instruments with precision.
HS.2B Make quantitative observations and measurements with precision.
HS. The student uses critical thinking and scientific problem solving to make informed decisions.
HS.3B Express laws symbolically and employ mathematical procedures including vector addition and right-triangle geometry to solve physical problems
HS. Science concepts
HS. The student knows the laws governing motion.
HS.4C Demonstrate the effects of forces on the motion of objects.
HS.4D Develop and interpret a free-body diagram for force analysis.