

Lewis Central Middle School (grades 6-8) STEM Curriculum Outline

Big Ideas/Concepts	Major Projects	Real Life Connections	Discipline Connections
Air can be used to do work.	<ul style="list-style-type: none"> ● Wind Turbines ● Glider/Parachute Construction ● Air Jets ● Skimmers 	<ul style="list-style-type: none"> ● Wind Energy ● Mechanic Careers ● Mechanical Engineering 	<ul style="list-style-type: none"> ● Math/Geometry ● Science: Lift, Velocity ● Employability Skills (Iowa Core) ● Engineering Process
Machines are moved by many means.	<ul style="list-style-type: none"> ● Gravity Cruiser Design ● Motorized Car Challenge ● Marvelous Machines ● Fuel Cell Vehicle Challenge 	<ul style="list-style-type: none"> ● Green Energies ● Role-Play of an Engineer faced with a problem in a factory 	<ul style="list-style-type: none"> ● Science/Math: Levers, Pulleys, Inclines ● Engineering Process: Gearing ● Employability Skills (Iowa Core)
Water is a resource.	<ul style="list-style-type: none"> ● Designing Water Filters ● Cleaning Oil Spills ● Designing Submersible 	<ul style="list-style-type: none"> ● Clean Water Sources ● Operation of Boats through knowledge of sonar, depth finders, etc. ● Hooks to engage students involve things like the Titanic, BP Oil Spill and its after effects 	<ul style="list-style-type: none"> ● Ecology ● Environmental Science ● Engineering Process ● Employability Skills (Iowa Core)
Student Experiences in the Classroom	<ul style="list-style-type: none"> ● Career exploration within each big idea ● Experience developing a branding of a business complete with logo, commercials, brochures, videos ● All projects are done within a collaborative team environment of three students ● Role-playing within projects ● Active research to consider problems and pose solutions ● Use of technologies is embedded in all that is done in these units of instruction 		