# HUDSONVILLE MIDDLE SCHOOL COURSE FRAMEWORK

**COURSE/SUBJECT** | **Discovery Science 1st year**

| **UNIT PACING**<br>Names of units and approximate pacing | **UNIT LEARNING TARGETS**<br>By the end of the unit, students will be able to... | **STANDARD**<br>Which standards (i.e. common core, MMC, etc.) does this address? |
|---|---|---|
| Marshmallow Challenge, Timeline Set-up, and Introduction to Discovery Science | Students will be able to identify the process used in Discovery Science.<br>Students will be able to identify habits of good scientists and engineers.<br>Students will be able to create the framework for a class timeline. | NGSS<br>6. Constructing explanations (for science) and designing solutions (for engineering) |
| Growing your own Biosphere | Students will be able to show the differences between abiotic and biotic factors of in a biosphere.<br>Students will be able to share examples of producers, consumers, and decomposers. | NGSS<br>2. Developing and using models |
| Vermicomposting - the beauty of Red Wigglers | Students will be able to identify the benefit of decomposers in ecosystem and draw a picture of the world without them.<br>Students will be able to identify the four parts of soil and make optimal soil for growing vegetables. | NGSS<br>4. Analyzing and interpreting data |
| Rocket Balloons | Students will be able to demonstrate the transfer of energy from potential to kinetic energy using a balloon rocket. | NGSS<br>8. Obtaining, evaluating, and communicating information |
| Suspension Bridge | Students will be able to identify and explain the four major bridge types: beam, arch, suspension, and cantilever bridge. | NGSS<br>2. Developing and using models<br>6. Constructing explanations (for science) and designing solutions (for engineering) |
| Deployable Egg Parachutes | Students will be able to identify the importance of an objects position, giving potential energy.<br>Students will be able to describe the difference between force, work, and energy. | NGSS<br>2. Developing and using models<br>6. Constructing explanations (for science) and designing solutions (for engineering) |

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|---|---|---|
| Keep-a-Cube | Students will be able to decipher the difference between heat energy transfer and describe what is happening in each transfer type: convection, conduction, and radiation. | NGSS<br>2. Developing and using models<br>6. Constructing explanations (for science) and designing solutions (for engineering) |
| Microscope Week | Students will be able to carryout observations on living things. | NGSS<br>3. Planning and carrying out investigations |
| Puff Mobile | Students will be able to create and design a mobile that transfers wind energy into kinetic energy of a moving object. | NGSS<br>2. Developing and using models<br>6. Constructing explanations (for science) and designing solutions (for engineering) |