

# Middle School – Science Standards

**1. Newton's 1<sup>st</sup> Law of Motion-** Recreate a crash to show how objects transfer energy. An object at rest stays at \_\_\_\_\_ until a greater force is added. (Law of conservation of energy)

SC.8.E.5.9.1, SC.8.L.18.4, SC.7.P.11.2, SC.7.N.1.1, SC.7.P.11.3, SC.6.P.11.1  
SC.6.N.1.1 SC.6.N.3.4, SC.6.P.13.3, SC.6.P.13.2

**2. Newton's 2<sup>nd</sup> Law of Motion-** Find the angle that will get the ball to its destination. If a ball has too much force on it then it will roll \_\_\_\_\_ of the target?

SC.8.E.5.9.1, SC.7.P.11.2, SC.7.N.1.1, SC.7.P.11.3, SC.6.P.11.1 SC.6.N.1.1  
SC.6.N.3.4, SC.6.P.13.1, SC.6.P.13.3, SC.6.P.12.1

**3. Newton's 3<sup>rd</sup> Law of Motion-** Explore the concept with Newton's Cradle. If four balls are dropped then \_\_\_\_\_ balls will bounce?

SC.8.E.5.9.1, SC.7.P.11.2, SC.7.N.1.1, SC.7.P.11.3, SC.6.P.11.1 SC.6.N.1.1  
SC.6.N.3.4, SC.6.P.13.1, SC.6.P.13.3

**4. X-ray Vision-** X-rays are part of the electromagnetic spectrum. X-rays have smaller wavelengths and therefore higher energy than ultraviolet waves.

SC.8.E.5.11, SC.8.E.5.10, SC.7.P.10.1 SC.7.N.1.1 SC.7.N.3.2, SC.7.P.10.3,  
SC.7.P.11.2 SC.7.N.1.1 SC.7.P.11.3,

**5. Potential Energy/Kinetic Energy** - Demonstrate how stored energy can be used to move objects. A stretched rubber band has \_\_\_\_\_ energy.

SC.6.P.11.1 SC.6.N.1.1 SC.6.N.3.4, SC.7.P.11.2 SC.7.N.1.1 SC.7.P.11.3, SC.8.P.8.1,  
SC.8.L.18.4, SC.8.E.5.9.1, SC.912.P.10.1

**6. Rotation Station-** Students stand on a turntable to feel the rotation. When an object is rotating it has \_\_\_\_\_ inertia. (Law of Conservation of Energy)

SC.8.L.18.4, SC.8.E.5.9.1, SC.6.P.11.1, SC.6.N.1.1, SC.6.N.3.4, SC.7.P.11.2,  
SC.7.N.1.1, SC.7.P.11.3,

**7. Food Chain Activity-** A food chain shows the relationships among plants, animals, and other organisms in an \_\_\_\_\_.

SC.7.L.17.1, SC.7.L.17.2, SC.912.L.15.6, SC.912.L.17.9, SC.912.L.17.6, SC.7.L.17.3,  
SC.7.N.1.1, SC.6.L.14.6 HE.6.C.1.5, SC.8.L.18.4, SC.8.L.18.3 SC.7.N.3.2, SC.8.L.18.1,  
SC.8.N.1.6, SC.912.L.18.7

**\*Exhibits are subject to availability**

**8. Balance-** Concepts on center of gravity. If something is balanced then the forces are \_\_\_\_\_

SC.6.P.13.2, SC.6.P.13.3, SC.8.E.5.9.1, SC.8.E.5.7, SC.8.E.5.4 SC.8.P.8.2 SC.8.N.1.1

**9. Astronomy-** Students will get to explore the Earth's sky to the outer edge of the universe. Earth is covered primary by \_\_\_\_\_.

SC.6.E.7.4, SC.8.E.5.11, SC.8.E.5.10, SC.8.E.5.3, SC.8.E.5.1, SC.8.E.5.2, SC.8.E.5.4, SC.8.P.8.2, SC.8.N.1.1, SC.8.E.5.5, SC.8.E.5.10, SC.8.E.5.6, SC.8.N.3.1, SC.7.N.3.2, SC.912.E.5.4, SC.8.E.5.8, SC.8.N.3.2, SC.8.N.1.6, SC.7.N.2.1, SC.8.E.5.7, SC.8.E.5.9.1, SC.8.E.5.9.2, SC.8.E.5.12, SC.8.N.4.2, SC.8.N.4.1,

**10. Sound Effects-** Learn how sound works and then try to create new sounds. Humans have tiny \_\_\_\_\_ that pickup sound waves.

SC.7.P.11.3, SC.7.P.10.1 SC.7.N.1.1 SC.7.N.3.2, SC.7.P.10.3, SC.8.E.5.11, SC.8.E.5.10

**11. Electromagnet/Magnetic Play Station-** Learn about how polarized objects interact. If two objects polarity are the same, then they will \_\_\_\_\_. Compare the strength of a magnet with and without electrical power added. \_\_\_\_\_ makes magnets stronger.

SC.6.P.13.2, SC.6.P.13.1, SC.8.P.8.4, SC.8.N.1.1, SC.7.P.10.1 SC.7.N.1.1 SC.7.N.3.2,

**12. Conductor (Hand Battery) -** Demonstrate that people are conductors of electrical energy. Conductor's \_\_\_\_\_ the flow of energy.

SC.6.P.13.1, SC.6.E.7.1, SC.6.N.1.1, SC.7.P.11.2, SC.7.N.1.1, SC.7.P.11.3, SC.8.P.8.4, SC.8.N.1.1

**13. Circuits-** Build a circuit using several pieces. \_\_\_\_\_ convert energy and make it visible.

SC.6.P.11.1, SC.6.N.1.1, SC.6.N.3.4, SC.7.P.11.2, SC.7.N.1.1, SC.7.P.11.3,

**14. Recycling –** Humans activities have had positive and negative impacts on the environment. Some negative impacts include deforestation, loss of biodiversity, and polluting the air and water. It is important to recycle to reduce our waste that has effected the local environments.

SC.7.L.17.3, SC.7.N.1.1, SC.7.E.6.6, HE.7.C.1.4, SC.8.L.18.3, SC.7.N.3.2, SC.6.E.7.9

**15. Atmospheric Pressure -** Observers will notice that the bag conforms to the bag-person's body. This happens because higher air pressure always wants to move toward regions of lower air pressure. Global patterns such as the jet stream and ocean currents influence local weather in measureable terms, such as: air temperature and pressure, wind direction and speed, humidity and precipitation, and fronts

SC.6.E.7.6, SC.912.E.7.5 SC.912.E.7.6, SC.6.E.7.3, SC.6.N.1.1, SC.6.E.7.7, SC.6.E.7.8, SC.8.E.5.7

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16. **Fossils and Minerals** – There are three different types of rocks: Igneous, Sedimentary, Metamorphic. There are two main types of fossils: trace and body.

SC.7.E.6.2, SC.7.E.6.6, SC.912.E.6.2, SC.7.E.6.3, SC.7.E.6.4, SC.7.L.15.2, SC.7.N.3.2, SC.7.N.1.3, SC.7.L.15.3, SC.7.N.3.2, SC.7.L.15.1, SC.7.N.3.1

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