

***READY for SCHOOL* Parent News: Early Science – How Things Work**

Children are constantly experimenting to find out how things work. What may sometimes look like purposeless, repetitive activities are often very specific scientific observations to understand the workings of the world. For example, one of the basic principles of physics is understanding that there are six simple machines that can make our work easier. Simple machines include a lever, inclined plane, wheel and axle, screw, wedge and pulley. While the names are not particularly important to most young children, chances to experiment with these simple machines are needed in developing an early understanding of physics. For example:

- Observing that a ball rolls more quickly down a ramp than it does when it is rolled across the flat floor gives an early understanding of the **inclined plane**.
- Fascination with all things with wheels – wheelbarrows, small trucks, tricycles, scooters, etc. – gives children early practice with the advantages of the **wheel and axle**.

It is important to encourage children's incidental experiments with simple machines throughout your home. When you have time, you can help guide the experience.

- Children can experiment with building or using ramps for marble rolls, small car races, or moving water from one place to another.
- Children love to use wheeled vehicles (a wheelbarrow or small dump truck) to help with the work of moving blocks, dirt or other materials. While you are working in the yard, your toddler can move dirt with a toy dump truck or move objects from place to place with a child-sized wheelbarrow.
- Safe plastic workbenches, which give children an early opportunity to master the use of tools, are often favorites of toddlers including hammers (levers), screws and vices (a machine that includes screws).
- Pulleys help with lifting. With your assistance, you could help your child use or make a small pulley to make it easier to lift small buckets of sand, blocks, etc. Small pulleys can be purchased at the hardware store or can be made from a coat hangar and empty spool of thread.

Some of us may not feel like science is our strongest area of expertise; but it doesn't take a mastery of physics to notice children's interests in how things work and then build upon and extend these interests to nurture inquisitive scientists.