

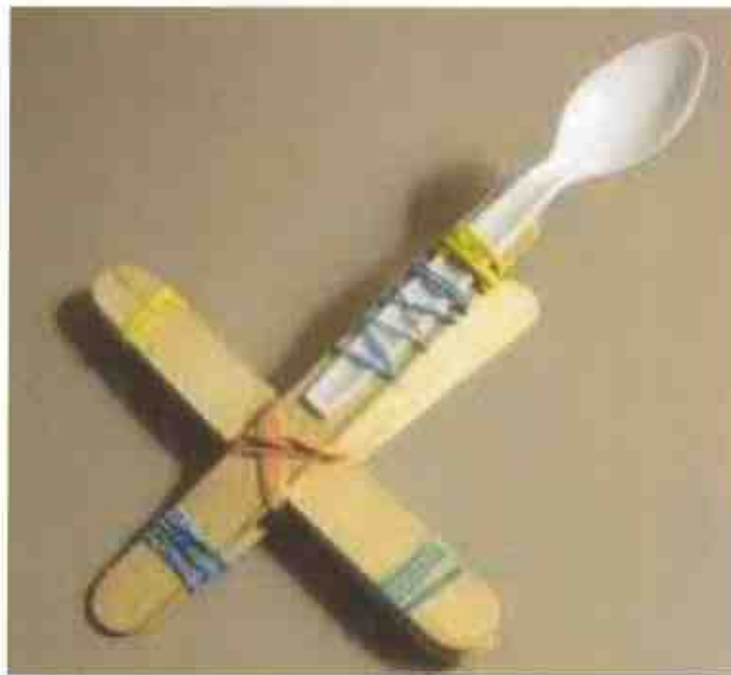
Simple Machines

PSS Kit Number 11

Description Materials for making a catapult

Kit Contains

Popsicle Sticks
Rubber Band
Plastic Spoons



Human Sciences Extension and Outreach

Empowering People. Growing Lives.

Cedar County Extension and Outreach

Building Strong Minds – Simple Machines

What we did

- We started out by reading **Lance Dragon Defends His Castle With Simple Machines**
 - Book is by Eric Braun and illustrated by Anthony Briglia
 - Talked about what simple machines Lance Dragon used in the book and what shapes make up the Simple Machines.
- Talked about Simple Machine – Lever, Inclined Plane, Wedge, Pulley, Wheel and Axle, and Screw
 - Lever – a bar or board that pivots on a fulcrum; when one end is moved, the other end moves in the opposite direction to lift or move an object.
 - Pulley – A wheel, usually with a groove around the outside so that a rope or cable can fit into it; it is used to lift or lower loads more easily
 - Inclined plane – a flat surface that is slanted so that things can be easily moved up and down along it
 - Wheel and Axle – An axle is a rod in the center of a wheel; usually it connects two wheels that turn around it. Wheel is a round frame or object that turns on an axle; when turned, the wheel moves a greater distance than the axle and takes less force to do so. An example would be a wheel barrel
 - Wedge – two inclined planes attached back to back so they create a sharp point that can be used to split things. Example would be a knife or crow bar.
 - Screw – a narrow inclined plane wrapped around a cylinder so that when it is turned onto or into something it tightens or loosens
 - What makes them a Machine
 - A machine uses a push or a pull to make it easier, or require less force, to move something.
- Played a game like Simon Says using motions that a simple machine would make
- Ended our time by making a catapult
 - To make one at home you need
 - 7 popsicle sticks
 - 6 rubber bands
 - 1 plastic spoon
 - Items to launch (we used Cheerios), different weights and sizes would be good
 - To make your catapult follow these directions
 - Stack 5 craft sticks on top of each other and secure both ends with a rubber band. (We used some of the colorful loom bands that seem to be everywhere in our kitchen.) This will be your crossbar.
 - Next, stack 2 craft sticks on top of each other and secure one end with a rubber band.
 - Carefully open up the 2 craft sticks and slide your stack of 5 in between them.
 - Then lay a plastic spoon on top of the top craft stick and secure both ends of the spoon to the craft stick.
 - Finally, criss-cross one more rubber band around the area where the craft sticks intersect, holding it all in place.