**Not Your Average Dance Party**

**A Rube Goldberg Machine by Ammarah Siddiqui**

**What does it do?** Delivers a remote to turn on disco lights to a person entering the room.

**What three simple machines are used?** The pulley, the inclined plane, and the wheel.

**What are the types of energy used?** Mechanical, gravitational, radiant, elastic, and sound.

**What are the three energy transfers?** Mechanical -> Elastic, Mechanical -> Sound, and Gravitational -> Mechanical, among others.

**The Steps**

1. **Gravitational -> Mechanical**

The phone is placed on the inclined plane and due to its height gravitational energy transfers into mechanical energy as it moves down the inclined plane.

1. **Mechanical -> Mechanical and Mechanical -> Sound**

The phone hits the dominoes when using mechanical energy as it is in motion and that transfers to mechanical energy as the Lego piece moves as well.

The phone hitting the Lego piece creates sound as energy when they collide.

1. **Mechanical -> Mechanical and Mechanical -> Sound**

The Lego piece hits the other Lego piece while moving and creates a chain reaction of mechanical energy Lego pieces transferring that energy to the next one.

Each time one Lego piece hits another sound energy is also created upon collision.

1. **Mechanical -> Gravitational**

The last piece of Lego hits the car with mechanical energy and the car begins to move due to the gravitational energy as it is on an inclined plane.

1. **Gravitational -> Mechanical**

The car moved by gravitational energy now hits the boat and transfers mechanical energy that makes the boat move.

1. **Mechanical -> Gravitational, Gravitational -> Sound, and Gravitational -> Elastic**

The boat that has mechanical energy hits the ball which drops due to gravitational energy (it is on the ledge) into the cup.

The ball has gravitational energy and when it drops into the cup then the cup makes a sound, releasing sound energy.

When the ball drops into the cup the string is pulled taught and bounces a bit with elastic energy.

1. **Gravitational -> Mechanical**

The gravity pulls down the cup with the ball in it and moves that lighter cup with the remote upwards toward the door.

1. **Mechanical -> Radiant**

The person picks up the remote and applies mechanical pressure to the button which emits a radiant infrared signal picked up by the lights above.

1. **Mechanical -> Elastic**

The string attached to the pulley string is tied to a rubber band which allows the disco ball to move when the pulley moves up with mechanical energy. The rubber band has elastic energy.

A close up of a whiteboard

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