

## Rock-it Science Observations For Winter Lessons 2010

### Simple Machines (younger groups)

Students experimented with inclined planes and pulleys.

They may have noticed:

- Plastic tub lids slide easily on tilted tables
- People can counteract each-other's weight on two slides back-to-back.
- Sliding backwards can be scary!

Then they played tug-of-war while standing on small wooden islands.

They may have noticed:

- As they played tug-of-war, the islands did not move
- When one side attached their rope to the other island and pulled as hard as they could, the islands still didn't move.
- If the people on the island being pulled all jumped together, the island would move!
- When a single pulley was used, the islands still didn't move.
- With two pulleys, a strong group may be able to move a light group
- It was hard to get a good grip on the rope because the islands were so small
- The ropes made hands red and sore
- It was easier when people pulled together at the same time
- When one person tried to do everything alone it usually didn't work at all
- With four pulleys, all groups were able to move the others.
- It was hard to predict which island would move
- The more pulleys used, the more rope had to pass by
- Wood can scratch floor paint
- Small bumps in the floor can easily stop a moving wooden pallet.