

STEAM Challenge - Troll Down the Mountain

The Backstory: Kristof's family member, Pebble, a troll from the Valley of the Living Rock, stowed away in Kristof's ice sled. Pebble fell off the sled near the frozen lake at the top of the mountain, but Kristof did not know he was there. The other trolls can see him and need to build an inclined plane to bring Pebble down the mountain.

Your Mission: Your group are the other trolls who need to bring Pebble down the mountain, but Pebble is scared to go too fast. You need to build an inclined plane that will safely deliver Pebble to his troll family's waiting arms (a cup) the safest way possible.

Challenge Rules:

- Use only the materials listed below
- Have a sketched out plan before you build
- Communicate with your group members so everyone gets to talk and do something
- Construct your inclined plane on a flat surface (within the boundaries of the posterboard)
- Maximum height of the mountain is one meter (100 cm), minimum height is up to you, but remember you want to get the troll to take a long time to travel
- Your "troll" (marble) must land in the cup (the arms of his family)

Materials:

- Cups
- Towel tubes
- Tape
- Paper plates
- Your own scratch paper
- String

- Marble
- Scissors

- Poster board for base

Plan your design on the back of this page.