Objective: Model the relationship between angle of incline (θ) and parallel component of weight ($mg\sin\theta$). Phet ramp lab found at https://phet.colorado.edu/en/simulation/legacy/the-ramp. Java is required to run this lab, so your Chromebook won't work (though another household computer might, if it has Java installed)(Java software is available free online). Though I would prefer you get to play with the sim, if you can't, just use the data in my debrief video to complete the lab. Choose "Introduction" tab from the home screen. Pick the filing cabinet as the object. Pick the position as 5 m. Select "frictionless" and immediately hit "pause". The parallel component of weight can be measured on the graph where it is called "Parallel Force", specifically "$F_{gravity}$". When you graph the data in Logger Pro or Graphical Analysis, you will see a shape you haven't seen before. Still attempt to linearize it and if you cannot, the debrief lab will show you how. $F_{\parallel}$ means "parallel force".

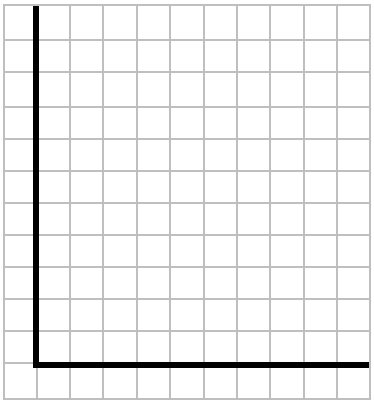
Diagrammatical Model:

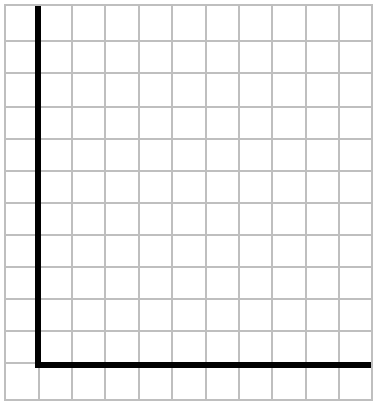
Experimental Design:

Data Collection

θ (°)	$F_{\parallel}$ (N)

Graphical Model





Mathematical Model:

Word Model: