Physics with Mathematica Fall 2019   Exercise #11   13 Nov 2019

Animation of an Oscillating Block

Create an animation that shows a square block undergoing simple harmonic motion on a horizontal surface. You can make the amplitude and equilibrium position anything you like. Fill in the face of the block with solid red.

The block should slide with its bottom sitting on the positive x-axis, which should extend from zero to a little bit beyond the rightward extension of the block's motion. The y-axis should extend from zero to the top of the block. Make sure you set up the aspect ratio so that the block indeed appears as a square.

A nice touch would be to add a spring that attaches to the y-axis on one side, and the left hand side of the block on the other side. Make the spring horizontal with the attachments points halfway up the side of the block. You can draw the spring as a sine wave, but with wavelength and endpoints that change appropriately with the motion of the block.

Send the grader an email with your notebook as an attachment.