

6.7: Thinking about the material

6.7.1: Reflect and research

1. Is there a maximum speed with which an object can spin? (Something about the thing eventually flying apart if it rotates too fast, as the atoms can not be held together at some point - maybe there is a cool video to look up?)

6.7.2: To try at home

1. Spin a mass on a string in a vertical circle, what is the tension in the string when the mass is at the top for it to barely make it around?
2. Spin a mass on a string in a vertical circle, how does the minimum speed at the top of the circle to barely make it around depend on the radius of the circle or the mass?
3. Spin a mass on a string in a vertical circle, describe the motion if the mass does not have the minimum speed to make it around the circle. If it makes it to the top, does it automatically make it all the way around the circle?

6.7.3: To try in the lab

1. Build a conical pendulum and determine whether the opening angle of the cone is related to the speed of the bob, in the way that you expect it to be.
2. Propose an experiment to determine the effects of the drag force on projectile motion.
3. Propose an experiment which investigates an object's motion when placed on a spinning turntable.

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Original source: <https://github.com/OSTP/PhysicsArtofModelling/blob/master/README.md>.