## February 8, 2023 MSE 2101 topics

- How fast do I need to throw a snowball to hit my own back?
  - What if I throw it faster? Elliptical orbits.
  - Even faster? Parabolic orbits.
  - And even faster? Hyperbolic orbits.
- First cosmic speed: getting a satellite into orbit
- Second cosmic speed: satellite escapes Earth's gravitational pull
- Newton's law also explains tides!