Homework: Do things in space collide?
Think about it with scale models…

1. Let’s scale the size of the Sun down to that of a basketball. The closest star to our Sun is Proxima Centauri, at 4.3 light years. How far is this in our scaled-down model? (Useful #s: Sun’s radius = $7 \times 10^5$ km; Basketball radius = 10 cm; 1 ly = $9.5 \times 10^{12}$ km)

2. Now let’s scale our whole galaxy down to the size of a basketball. (I know our galaxy is not spherical, but we’re just comparing overall size!) The closest galaxy comparable to ours is Andromeda, at 2900 kly away. How far is this in our model? (Useful #s: Galaxy radius = 50 kly)

3. Are stars or galaxies closer to one another relative to their size? Which do you think are more likely to collide: stars within a galaxy, or whole galaxies with one another?

4. What do you think happens when these objects “collide”? 