Answer Key: Thinking More About Air Resistance

Some Quantities that might be proportion to Air Resistance Include:

- **Velocity:** the faster we travel, the more air molecules we hit in a given time period, and therefore the larger the drag force experienced
- **Surface Area:** If we have an object with a larger surface area, it will again hit more air molecules as it takes up more space, therefore causing a larger drag force

Students may also respond that air resistance is lower for higher densities. This is half true: dense objects will indeed slow down less due to air resistance. This however is not because the force itself is smaller (a lighter vs heavier object with the same volume/surface area will experience the same air resistance), but rather because of our old friend F = ma. Heavier objects will decelerate less due to air resistance simply because they have less mass. This is why a feather falls so much slower than a brick, despite their theoretical acceleration due to gravity being the same.