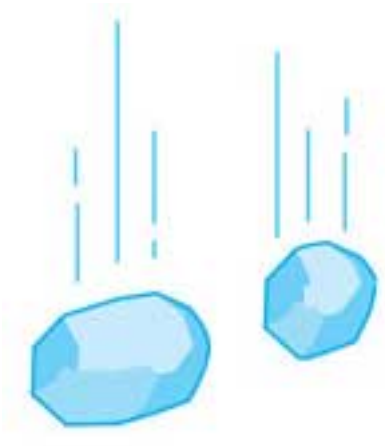
Let's assume that somehow we can do away with air resistance, and that heavy objects fall faster than lighter objects.

The two rocks below weigh 1 lb and 2 lbs, and were released from a high place at the same time.

At a certain instant, the heavier one is moving at 10 m/s.

According to our assumptions, is the lighter rock moving **faster** or **slower**?



A.) Now, imagine that the two weights were instead connected by a string as they fell.

They're falling at different rates. Would the lighter one **slow down** the heavier weight, or would the lighter one **speed up** the heavier weight?

Would the heavier weight now be moving **faster** than 10 m/s or **slower**?

B.) Now, imagine that the two weights are tied together tightly. Together they form an object which weighs 3 lbs.

Would a 3 lb object be falling **faster** than 10 m/s or **slower**?

Can A.) and B.) both be true? How can you make sense of this? Write a sentence or two…