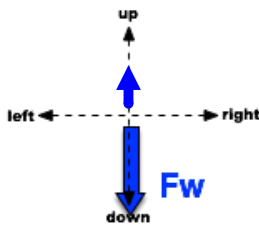
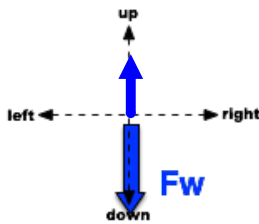


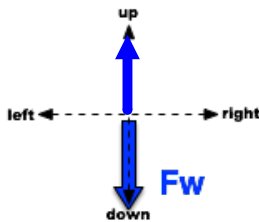
Falling with Drag



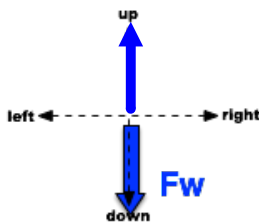
Just started to fall.



After falling for a few seconds.



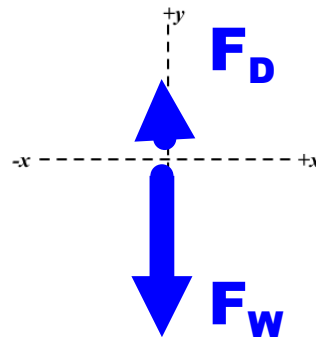
After falling for a while.



Eventually... Speed is constant!
Terminal Speed

In air, falling is a competition between weight (force of gravity) and drag.

As objects fall faster and faster, drag increases, but weight is constant.



Eventually, the drag will equal the weight, making the Net Force zero, and the speed up stops.

That's TERMINAL SPEED.

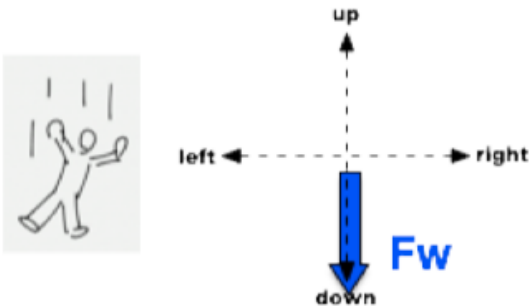
Do heavier objects fall faster?

Not always

But heavier objects with less surface area
or an aerodynamic shape will take longer
for Drag to equal Weight,
and so have a higher **terminal velocity**.

Falling without Drag: **Free Fall**

When there is no Drag, all objects fall at the same rate.



With only gravity acting, what kind of motion will you have the whole way down?

Speed up!

If you make Drag not an issue, objects fall at the same rate again.