

Free Fall Day 1

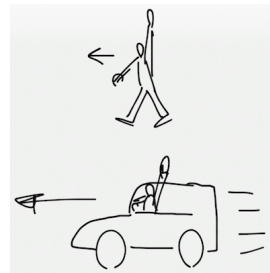
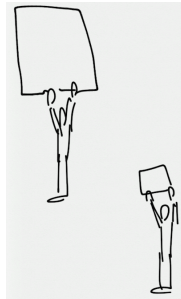
Names: _____

After each part, call Mr. Mont over to verify

1. Use the ticker tape timer to show that gravity is an acceleration.

**Free Fall is defined as motion under the influence of gravity only.
(No drag, friction or other forces.)**

2. What are three things that drag depends on?



3. For each of the following situations, decide whether they are:

- A) Perfect Free Fall - no air drag.
- B) Close to Free Fall - not much air drag.
- C) Not close to Free Fall - a lot of air drag.

_____ Jumping out of an airplane with a parachute.

_____ Jumping out of an airplane with no parachute (during the first few seconds.)

_____ Dropping a ball to the ground.

_____ Jumping out of a spaceship above the atmosphere.

_____ Dropping a dandelion seed.

4. Come up with your own example of each one:

A) Perfect Free Fall - no air drag.

B) Close to Free Fall - not much air drag.

C) Not close to Free Fall - a lot of air drag.

5. What is...

a) The actual acceleration due to gravity in free fall on Earth?

b) What do you think we're going to round it to, to make calculations easy?

c) Using the rounded number, how much speed do you gain every second in free fall here on Earth?

6. Using the rounded number, how fast would you be going (in m/s) after falling for...

a) one second?

b) two seconds?

c) three seconds?

d) ten seconds?