

Name \_\_\_\_\_

Date \_\_\_\_\_



# Motion

"Putting in the Work"

I work for mine, and then I sit back,  
Relax, with my man Spectac.  
But when I lift my smoothie so dramatically  
I do work automatically.  
Because work just means that something moved,  
It takes energy to make it do what it do.  
Now, motion depends on relative position,  
Without that position, there's something you'd be missing.  
Like, I was on a train late last week,  
This guy came over to me, said, "Did you see  
This one tree I saw going superfast?"  
I said, "Naw, the tree was still, you were moving past.  
You had the velocity,  
The speed and direction; it was not the tree."  
But it's all relative, the train leaves the station,  
It speeds up, that's acceleration.  
And we'd keep going superfast,  
But there's friction and it's holding us back.  
There's less friction for things that roll,  
So you don't bowl with a waffle; you bowl with a ball.  
And there's less friction for things that float,  
That's why you never need to put wheels on your boat.  
I made a machine to screw with a bully,  
I used a lever, wedge, a screw, and a pulley.  
  
We're on a world tour.

Flocab and Spectac,  
Using motion every day to get us  
There and back.  
East coast, west coast,  
North, south, worldwide,  
Putting in the work and  
We're keeping it live.

Eh, yo, it's Flocab and Spectac, we're live on tour,  
Let's talk about Sir Isaac Newton and all three laws.  
First, an object at rest stays at rest, of course,  
Unless there's an outside force.  
So the pushing, the pulling, determines the speed,  
Like sticks hitting pucks in a rough game of hockey.  
A cue stick hits the cue ball,  
Transfers force to a new ball,  
Hey, I'm only trying to school y'all.  
Law two has a few different elements:  
Acceleration, mass, and force — it's all relevant.  
Force equals mass times acceleration,  
Like fire from the shuttle when you're blasting off a spaceship.  
Law three is the simplest of all:  
For every action there's a reaction;  
It never hurts when you're relaxing,  
But when you fall you can feel it,  
Newton's three laws of physics are the realest.

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