

**Newton's Laws**  
**Walter Smith & Marian McKenzie, 9-05**  
**(Tune: Funiculi, Funicula)**

G7 C  
"A thing at rest will stay at rest," says Newton.

G7 C G7 C  
That's his first law. That's his first law.

G7 C  
And some point out this only is transmutin'

G7 C G7 C  
His second law, but that's no flaw.

Em B7 Em B7 Em  
'Cause Newton's second law says  $F$  is  $ma$

B7 Em B7 Em  
If there's no force, no  $a$  of course!

G D7 G D7 G  
Acceleration zero means we can say

D7 G D7 G  
No delta- $v$ , so there you see!

Chorus tune:

G G G7 G  
Velocity depends upon your frame.

G G G7 C  
At rest or moving, they're really just the same!

C E Am  
A tree for me stands still you see

E Am  
But from a train it moves with  $v$ !

F C  
Newton's 1 -2-3

G7 C  
His laws are good for you and me!

G7 C

**“Each action has an opposite reaction” --**

G7 C G7 C

**Law number three confuses me.**

G7 C

**Both opposite and equal, this abstraction**

G7 C G7 C

**What does it mean? It seems obscene!**

Em B7 Em B7 Em

**Well, here’s the key that gives you knowledge ample:**

B7 Em B7 Em

**To be exact, the forces act**

G D7 G D7 G

**On different objects and here’s an example:**

D7 G D7 G

**If I touch you, you touch me too!**

Chorus tune:

G G G7 G

**If a horse starts pulling on a cart,**

G G G7 C

**The cart pulls back on the horse in equal part.**

C E Am

**The horse, of course, has no remorse,**

E Am

**Because it feels a forward force**

F C

**From the ground upon the horse,**

G7 C

**As Isaac Newton would endorse!**