

Fastballs, Free Throws and Physics



Many physics concepts and principles of motion can be observed and studied through sporting events. Friction, gravity, acceleration, inertia, momentum and action-reaction forces all influence the motions of any sport.



You will be demonstrating your knowledge of Forces and Motion concepts by creating an animation that analyzes your favorite sport.

The sport I am choosing is _____.

1. Pick at least 4 of the following terms to include and to be explained in your animation:

Friction (include type), gravity, acceleration, inertia, momentum, velocity, projectile motion and force

2. Include an explanation of at least 2 of Newton's Laws of Motion.
3. Use the drawing tools in Frames to help illustrate the concepts.

Your Storyboard is due by May 5 and you will have Computer lab time during class on: May 6, 7, 8, 14 & 15. The Computer lab will be available during lunch blocks on those days and a computer in my room will be available on certain days after school to help you finish your animation.

Having pictures of you doing your sport makes for a unique and interesting animation. Any pictures that you would like to add to your animation will need to be in class with you on May 6 (on a CD, memory card or a flash drive). Your title page of the animation will need to have the name of the sport you chose on it, a picture of the event, your name and block number. These pictures may be images from the Frames library, drawn with the Frames tools, photographed by your family or captured from the internet. You will be presenting your animations to the class on Thursday, May 21.

The animation will be graded according to the following rubric. It will be worth 60 points:

Fastballs, Free Throws and Physics Animation

Required Information	5	3	1	0	Self Eval
Force & Motion Term #1 –	Term thoroughly explained with extra detail.	Term minimally explained.	Incorrect information exists.	Term not addressed.	
Force & Motion Term #2 –	Term thoroughly explained with extra detail.	Term minimally explained.	Incorrect information exists.	Term not addressed.	
Force & Motion Term #3 –	Term thoroughly explained with extra detail.	Term minimally explained.	Incorrect information exists.	Term not addressed.	
Force & Motion Term #4 –	Term thoroughly explained with extra detail.	Term minimally explained.	Incorrect information exists.	Term not addressed.	
Newton’s Law # ___	Term thoroughly explained with extra detail.	Term minimally explained.	Incorrect information exists.	Term not addressed.	
Newton’s Law # ___	Term thoroughly explained with extra detail.	Term minimally explained.	Incorrect information exists.	Term not addressed.	
Final Product	5	3	1	0	Self Eval
Storyboard and planning	Fully developed storyboard that shows a logical sequence of the content. Used storyboard extensively during project building process.	Strong storyboard that shows the sequence of the content. Storyboard used as a guideline during project building process.	Rudimentary storyboard created. Referred to storyboard during project building process.	Did not utilize storyboard during process or storyboard is incomplete.	
Creativity (project is unique and original)	Design was unique and interesting. Used more than five original media items.	Design was original. Used three to five original media items.	Made a few changes to background or layout. Used one or two original media items.	Used only design templates. Media and ideas were not original.	
Communicated information in a clear and concise manner (important details are easy to follow)	Correctly used scientific terminology that made the ideas in the project clear. Gave the viewer clues to the meaning of terms.	Correctly used scientific terminology that made the ideas in the project clear.	Incorrectly used scientific terminology.	Did not use scientific terminology.	
Fonts and/or Narration	Fonts were consistent and can be easily seen or narration can be easily heard by everyone.	Fonts can be seen or narration can be heard by most everyone.	Fonts are difficult to see or narration is difficult to hear.	Used too many fonts or sound effects were distracting.	
Timing of animation	Animation moved at a pace that allowed all information to be easily read by everyone.	Animation moved at a pace so that the information could be read by most everyone.	Animation moved at a pace so that the information could be read by some people.	Animation moved too quickly for information to be read by everyone.	
Spelling and Grammar	No mistakes in spelling or grammar.	1 – 3 mistakes in spelling or grammar.	4 – 6 mistakes in spelling or grammar.	More than 6 mistakes in spelling or grammar.	
Total					