

NEWTON'S LAWS PROJECT

SPORTSCASTER



Option 1

Students will create a video over a sport. Students must explain how all three Newton's laws of motion apply as a newscaster.

For each law you must focus on a part of the sport and show how the law applies.

Must be at least 3-5 minutes long.

STORYBOOK WRITER



Option 2

Student will create a story book that includes scenarios that shows all three laws of motion. Must include a scenario where it calculates for the speed of activity using distance and time.

Must be minimum 11 pages.

AMUSEMENT PARK CREW



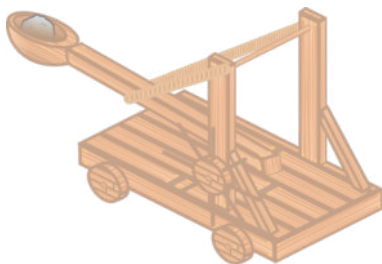
Option 3

Students will create a functioning roller coaster.

Rollercoaster must include at least one jump and a spiral.

Students must explain how all three Newton's laws of motion apply.

CATAPULT CONTEST



Option 4

Students will create a functioning catapult.

Students cannot use popsicle sticks or spoons. Students must explain how all three Newton's laws of motion apply.

ROCKET SCIENTISTS



Option 5

Students will create a functioning rocket that shoots minimum 3 meters.

Students must explain how all three Newton's laws of motion apply.

SPORTSCASTER



Students will create a short video wherein some of you will be the sports players and some of you will be the sportscasters. Your goal is to create a video that mimics that of a sportscaster on television, but instead of giving the stats or play by play of a real game, you will be describing how Newton's laws of motion are at work in the sporting event. Your group may select any sport to use for this video, so long as you can describe each of Newton's three laws of motion. Must be able to calculate speed using distance and time for your sport. [Green screen available upon request]

STORYBOOK WRITER



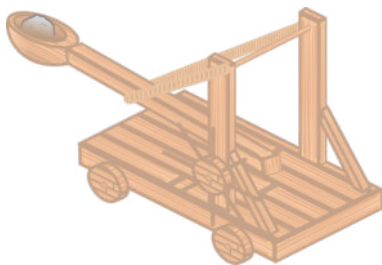
Students have been hired as the new upcoming children's book writer at Park Press. Students will create a children's book with fun characters for children to demonstrate all three laws of motion. In their book they must create a scenario where their characters are doing an activity to calculate the speed using distance and time.

AMUSEMENT PARK CREW



In this task, students work at an amusement park. Your director has just informed you that a junior high class is coming to the amusement park for a field trip. You are charged with being their tour guide, and being able to explain how Newton's laws of motion apply to one of your most popular rides at your park. You must create a prototype of your amusement park ride and describe each of Newton's three laws of motion. Must be able to calculate speed using distance and time for your amusement park ride. .

CATAPULT CONTEST



In this scenario, students are entering a competition at your county fair to create a catapult. The object is to create a catapult that will fling an object over 3 meter in distance. During the judging, you will be required to not only demonstrate your catapult, but to describe how Newton's three laws of motion are at work. Must be able to calculate the speed using distance and time for your catapult launch.

ROCKET SCIENTISTS



In this scenario, students have been chosen as the lead rocket scientists at Johnson Space Center (NASA). You are asked to create a display for the children's area of the center and describe how Newton's three laws of motion are at work during a rocket launch. The rocket demonstration must be able to launch 3 meters. Must be able to calculate the speed using distance and time for your rocket launch demonstration.

NEWTON'S LAWS PROJECT

Project Option: _____

Grade: _____

Participants

	10 points		20 points		30 points	
Description of Newton's Laws of Motion	You failed to describe all three laws of motion as related to your scenario, and/or your descriptions contained major errors.		You described all three laws of motion as related to your scenario, but had some moderate errors in description.		You described all three laws of motion as related to your scenario very clearly and accurately.	
	0 points		5 points		10 points	
Calculations	You did not present or discuss any calculations for the 2nd law of motion nor did you calculate speed for the three trials		You provided calculations, but they were incomplete or inaccurate.		You provided all calculations and they were accurate.	
	0 points		3 points		5 points	
Force Diagram	You did not include a diagram representing all of the forces acting in your scenario.		You provided a diagram representing all the forces acting in your scenario, but it was incomplete or inaccurate.		You provided a diagram representing all the forces acting in your scenario that was accurate.	
	10 points		15 points		25 points	
Presentation Report	Your report was disorganized, and contained multiple errors.		Your report was fairly organized, and the majority of the information was correct.		Your report was very neat and all information was accurate.	
	0 points		5 points		10 points	
Launch	Student was unsuccessful in meeting launch requirements.		Student's were MOSTLY successful during launch of 3 m minimum; Your amusement park ride included spiral and jump and was successful. Your video shows a demonstration of your sport 'launch' where you got data. Story book shows accurate scenario to calculate data.		Student's catapult/rocket launched at or beyond 3 m; Your amusement park ride included spiral and jump and was successful. Your video shows a demonstration of your sport 'launch' where you got data. Story book shows accurate scenario to calculate data.	
	0 points		10 points		20 points	
Product	Did not built or Built a product (rocket, catapult, video, rocket or storybook that did not meet requirements.		Built a product (rocket, catapult, video, rocket or storybook that meets most requirements.		Built a product (rocket, catapult, video, rocket or storybook that meets all requirements and has exceeded expectations.	

