

Implementing Common Core Standards

North Carolina Essential Standards for Fifth Grade; Forces and Motion

- Forces and Motion
 - 5.P.1 - Understand force, motion and the relationship between them.
 - 5.P.1.1 - Explain how factors such as gravity, friction, and change in mass affect the motion of objects.

Students will discover the factors of gravity, friction, and change in mass as they test their predictions to accomplish the different activities to earn points on their “NASCAR” tasks.
 - 5.P.1.2 - Infer the motion of objects in terms of how far they travel in a certain amount of time and the direction in which they travel.

Students will follow a NASCAR driver of their choice. In their journals they will show time and distances of the various tracks their driver has competed in.
 - 5.P.1.3 - Illustrate the motion of an object using a graph to show a change in position over a period of time.

Students will graph their trials in their science journals. From these graphs they will be able to make a prediction as to where to place their cars on the incline plane to become successful at the task, therefore earning the most points.
 - 5.P.1.4 - Predict the effect of a given force or a change in mass on the motion of an object.

Students can change the mass (redesign their cars) in order to complete the tasks. As they move through the events they will also have to calculate the gravitational pull on their cars due to the inclined plane and the role that friction plays on the cars in order to earn points in the event.