

Implementing Common Core Standards

Common Core curriculum standards addressed in this unit are organized by content area and explained.

Mathematics:

CCSS.Math.Content.1.MD.A.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.

CCSS.Math.Content.1.MD.C.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

This standard will be addressed as students collect travel distances for each car design by measuring using pre-cut 12 inch squares, organizing measurements into a data table, and then graphing the results.

Language Arts/ Literacy

CCSS.ELA-Literacy.W.1.7 Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions).

CCSS.ELA-Literacy.W.1.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

These literacy standards are integrated into the curriculum unit through the use of student S.T.E.M. Fair journals. Students will be documenting observations and explaining the scientific process using their own grade level appropriate language.

Science

1.P.1.1 Explain the importance of a push or pull to changing the motion of an object.

1.P.1.2 Explain how some forces (pushes and pulls) can be used to make things move without touching them, such as magnets.

1.P.1.3 Predict the effect of a given force on the motion of an object, including balanced forces.

In the unit's introductory activities, students will gain an understanding of force and motion vocabulary and basic movement concepts. These terms will become mastered as students apply to them to the cars created and tested. This includes students' ability to explain, using simple terminology, why each of the cars moves forward.