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| **North Carolina 5th STC** |
| *North Carolina Essential Standards* | *STC: Motion and Design* |
| **Forces and Motion** |
| 5.P.1 Understand force, motion and the relationship between them. |
| Preassessment - Lesson 1: Designing Vehicles |
| 5.P.1.1 Explain how factors such as gravity, friction, and change in mass affect the motion of objects. | Lesson 3Lesson 4Lesson 8 – frictionLesson 9 – friction Lesson 10Lesson 12 |
| 5.P.1.2Infer the motion of objects in terms of how far they travel in a certain amount of time and the direction in which they travel. | Lesson 6Lesson 7Lesson 10Lesson 11Lesson 12 |
| 5.P.1.3Illustrate the motion of an object using a graph to show a change in position over a period of time. | Lesson 7Lesson 10Lesson 11 – potential to graph data, not in lesson |
| 5.P.1.4Predict the effect of a given force or a change in mass on the motion of an object. | Lesson 3Lesson 4 |
| Potential and Kinetic Energy | Lesson 6: Basis for Lesson 7 |
| Engineering and Design | Lesson 1 Lesson 6 Lesson 13Lesson 2 Lesson 9 Lesson 14 – Design ChallengeLesson 5 Lesson 11 |