# Science of Racing Series

Correlations to National Science Standards
Activities 01 - 06

☑ Comprehensive coverage

✓ Partial coverage



# PROGRAM STANDARD C:

Mathematics is important in all aspects of scientific inquiry.

The science program should be coordinated with the mathematics program to enhance student use and understanding of mathematics in the study of science and to improve student understanding of mathematics.

| 1 2 3 4 5 6 |   |   |   |   |   |
|-------------|---|---|---|---|---|
| Ø           | V | V | Ø | V | V |

### PROGRAM STANDARD B:

Properties & changes of properties in matter, Motions and forces, Transfer of energy

# MOTIONS AND FORCES

The motion of an object can be described by its position, direction of motion, and speed. That motion can be measured and represented on a graph.

An object that is not being subjected to a force will continue to move at a constant speed and in a straight line.

If more than one force acts on an object along a straight line, then the forces will reinforce or cancel one another, depending on their direction and magnitude. Unbalanced forces will cause changes in the speed or direction of an object's motion.

| ACTIVITIES |   |           |          |          |   |  |
|------------|---|-----------|----------|----------|---|--|
| 1          | 2 | 3         | 4        | 5        | 6 |  |
| V          | V | $\square$ |          | V        |   |  |
| <b>✓</b>   | V | <b>✓</b>  | <b>✓</b> | <b>✓</b> |   |  |

 $\overline{\mathbf{M}}$ 

# TRANSFER OF ENERGY

Energy is a property of many substances and is associated with heat, light, electricity, mechanical motion, sound, nuclei, and the nature of a chemical. Energy is transferred in many ways.

Heat moves in predictable ways, flowing from warmer objects to cooler ones, until both reach the same temperature.

Electrical circuits provide a means of transferring electrical energy when heat, light, sound, and chemical changes are produced.

In most chemical and nuclear reactions, energy is transferred into or out of a system. Heat, light, mechanical motion, or electricity might all be involved in such transfers

| ACTIVITIES |   |   |   |   |   |
|------------|---|---|---|---|---|
| 1          | 2 | 3 | 4 | 5 | 6 |
| ✓          | ✓ | ✓ | ✓ | V | V |
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# CONTENT STANDARD D:

Most objects in the solar system are in regular and predictable motion. Those motions explain such phenomena as the day, the year, phases of the moon, and eclipses.

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# CONTENT STANDARD G:

The introduction of historical examples will help students see the scientific enterprise as more philosophical, social, and human. Middle-school students can thereby develop a better understanding of scientific inquiry and the interactions between science and society.

| 1 | 2 | 3                       | 4                       | 5 | 6  |
|---|---|-------------------------|-------------------------|---|----|
| V | V | $\overline{\mathbf{A}}$ | $\overline{\mathbf{A}}$ | V | N. |

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