

identified and conceptual change is facilitated. Learners may complete lab activities that help them use prior knowledge to generate new ideas, explore questions and possibilities, and design and conduct a preliminary investigation.

Explanation

The explanation phase focuses students' attention on a particular aspect of their engagement and exploration experiences and provides opportunities to demonstrate their conceptual understanding, process skills, or behaviors. This phase also provides opportunities for teachers to directly introduce a concept, process, or skill. Learners explain their understanding of the concept. An explanation from the teacher or the curriculum may guide them toward a deeper understanding, which is a critical part of this phase.

Elaboration

Teachers challenge and extend students' conceptual understanding and skills. Through new experiences, the students develop deeper and broader understanding, more information, and adequate skills. Students apply their understanding of the concept by conducting additional activities.

Evaluation

The evaluation phase encourages students to assess their understanding and abilities and provides opportunities for teachers to evaluate student progress toward achieving the educational objectives.



Hot Wheels® Speedometry™ encourages inquiry and real-world, problem-based learning through play, hands-on activities and in-depth lesson plans that is mapped to state and national standards including Common Core State Standards (CCSS), Next Generation Science Standards (NGSS) and Texas Essential Knowledge and Skills (TEKS). This education curriculum, co-created with researchers at the University of Southern California Rossier School of Education, combines Hot Wheels® fun, imagination, and action, as well as toys and track to accelerate learning.

Speedometry™ is a free-to-use curriculum targeting fourth grade (8-9 year old) students. Comprised of two units with up to six lessons per unit, Speedometry™ provides coursework intended to cover a period of 10-12 days. Students work in collaborative learning groups to deepen their understanding of speed, angles, slopes, collisions, kinetic energy, and potential energy. The lessons and activities aim to put students on course for success in science and mathematics. A kindergarten curriculum for 5-6 year olds is currently in development and will be released at a later date.

With support from the Mattel Children's Foundation, five faculty members began working with Hot Wheels® designers and (S)cience (T)echnology (E)ngineering (M)ath teachers in April 2013 to develop tools for teaching scientific concepts like velocity, kinetic energy and gravity using the miniature toy cars and modular track already beloved by children. USC Rossier education professors Gale Sinatra, Julie Marsh, Morgan Polikoff, Frederick Freking, and Angela Hasan led the project for a Speedometry™ curriculum for the elementary school students that will help teachers and parents reinforce key STEM concepts. The Speedometry™ curriculum is aligned with the rigorous expectations outlined in the CCSS, NGSS, as well as TEKS, and includes inquiry, play-based, and hands-on activities.

The Rossier team is currently piloting Speedometry™ in schools throughout the greater Los Angeles area, and will evaluate teacher feedback, as well as assess the effects of the curriculum on student knowledge, engagement and motivation to learn. "With the need for more students in the STEM fields, teachers and parents need to find ways to make scientific topics engaging and accessible for students from an early age," said Rossier Dean Karen Symms Gallagher. "The Speedometry curriculum brings science to life for kids while also being grounded by the research and assessment of learning experts in the field of education."

Speedometry for Families

Hot Wheels® Speedometry™ is a fun and engaging way to learn about concepts such as energy, force, and motion. Students also learn scientific and engineering practices such as analyzing and interpreting data. But the fun doesn't have to end when the school bell rings – you can bring Speedometry™ learning home! After all, math and science are all around us.

Continued on page 32...

Supporting Veterans' Children through Transitions

Coming Soon! Spring 2016



This one-day course enables youth-serving educators, professionals, and parents to support the unique transitional issues children face when their parents separate from the military.

The course also addresses the challenges of children whose parents have died or experienced combat-related injuries and illnesses. Participants will develop strategies and resources to help these children thrive.



Learning Objectives:

- ▶ Explore and identify the academic and social-emotional implications for children and youth when their parents voluntarily or involuntarily transition from military to civilian life.
- ▶ Explore and identify the academic and social-emotional implications during military to civilian transition for children and youth whose military parents have died, been wounded, or have combat-related illnesses.
- ▶ Discover resources and integrate positive strategies to address implications of the military-to-civilian life transitions for children and youth.

Upon completion of the training (6 clock hours) participants may apply for continuing education credits for a fee of \$25.00. CE credit applications must be received within 12 months from the completion of the training.

For additional information visit:

www.MilitaryChild.org/professionals/programs/continuing-education-graduate-credit



Provider #: 6283



Provider #: 1307336



Provider #: 2586

The Military Child Education Coalition® solely exists to help the military and veteran-connected child thrive in the face of transition and separation.

Military Child Education Coalition

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Science?

Continued from page 31

Play is more than simply fun. Play helps to develop language skills, control impulses, reduce aggression, develop cooperation skills, and develop empathy. Play is also critical for the development of creative problem solving skills.

These activities are intended to provide a way to practice Science, Math, and Engineering through play. They provide an opportunity for families to share moments of joy, excitement, curiosity, and wonder. Watch the "Activities at Home" video and download the free Hot Wheels® Family Engagement Activities to try Speedometry™ at home with your kids.

[www.hotwheels.com/en-us/
Speedometry.html](http://www.hotwheels.com/en-us/Speedometry.html)



Dr. Frederick W. Freking is an associate professor of clinical education at the USC Rossier School of Education. He began his career in science education as a biology major at the University of California, Santa Barbara. He earned his teaching credential at Azusa Pacific University and taught biology and human anatomy and physiology at Covina High School. His desire to learn science at a deeper level led him to doctoral studies in neuroscience at UCLA. For the past 15 years, he has used his science teaching and science research experiences to prepare future science teachers.