

## Motion, Forces, Energy and Design Grades 5-9

Teachers will explore the physics of motion and apply these concepts to technological design. Through designing vehicles, teachers will explore concepts such as friction, kinetic and potential energy, and the effect of gravity on motion. Teachers will also explore energy conservation, energy transfer, transformation, and the use of energy to do work and produce motion through investigations of simple machines. This academy will introduce teachers to Science, Technology and Children Curricula and Materials "Motion and Design" and "Magnets and Motors" and the Science Technology Concepts for Middle School curriculum and materials "Energy, Machines and Motion". Additionally, design projects related to Power and Propulsion will be introduced. Science Standards related to Energy, Forces and Motion, Science and Technology, and Science Inquiry in grades 5-9 will be addressed.

Suggested Audience: Teachers of grades 5-9, special education teachers and those from high-need districts are encouraged to attend.

Institute Dates: July 21-25

Monday 8:30 am - 4:30 pm

Tuesday-Friday 8:30 am - 3:30 pm

Location: 231 Fawcett Hall, Wright State University

Optional Graduate Credit: 2 quarter credit hours from Wright State University

Academic Year Follow-up: 13 hr follow-up

(additional 2 quarter hours) 4:30 – 7:30 in August (TBA)

8:30 – 4:30 WOE Day (October 17, 2008)\*

4:30 – 7:30 in May (TBA)

\*If your district does not observe WOE Day, the EXCEL Center will reimburse your district for the cost of a substitute up to \$100.