

FOOD SAFETY
FOR LIFE

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HANDS ON

Real-World
Lessons for
Middle School
Classrooms



Dr. Jennifer Richards, Project Director
Department of Food Science and Technology



Project Goals

- Leverage funding for high interest topics to provide models of meaningful, effective instruction at the middle grades level
- Lay the foundation for safe food handling skills while teaching content standards for core subjects
- Provide opportunities for critical thinking, inquiry, and problem solving
- Support educational research

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This we believe...

Curriculum, Instruction, and Assessment

Educators value young adolescents and are prepared to teach them. *Value Young Adolescents*

Students and teachers are engaged in active, purposeful learning. *Active Learning*

Curriculum is challenging, exploratory, integrative, and relevant. *Challenging Curriculum*

Educators use multiple learning and teaching approaches. *Multiple Learning Approaches*

Varied and ongoing assessments advance learning as well as measure it.
Varied Assessments

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Curriculum Design

- Week long instructional unit (5-7 class periods) intended for use by an entire team, but can stand alone in individual disciplines
- Includes lesson plans for math, science, social studies, language arts, and vocabulary
- Traditional and Authentic assessments are included

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Curriculum Design



- Promotes active student engagement and metacognitive practices
- Embedded in inquiry-based instruction
- Supports skills and concepts tested on state-mandated assessments

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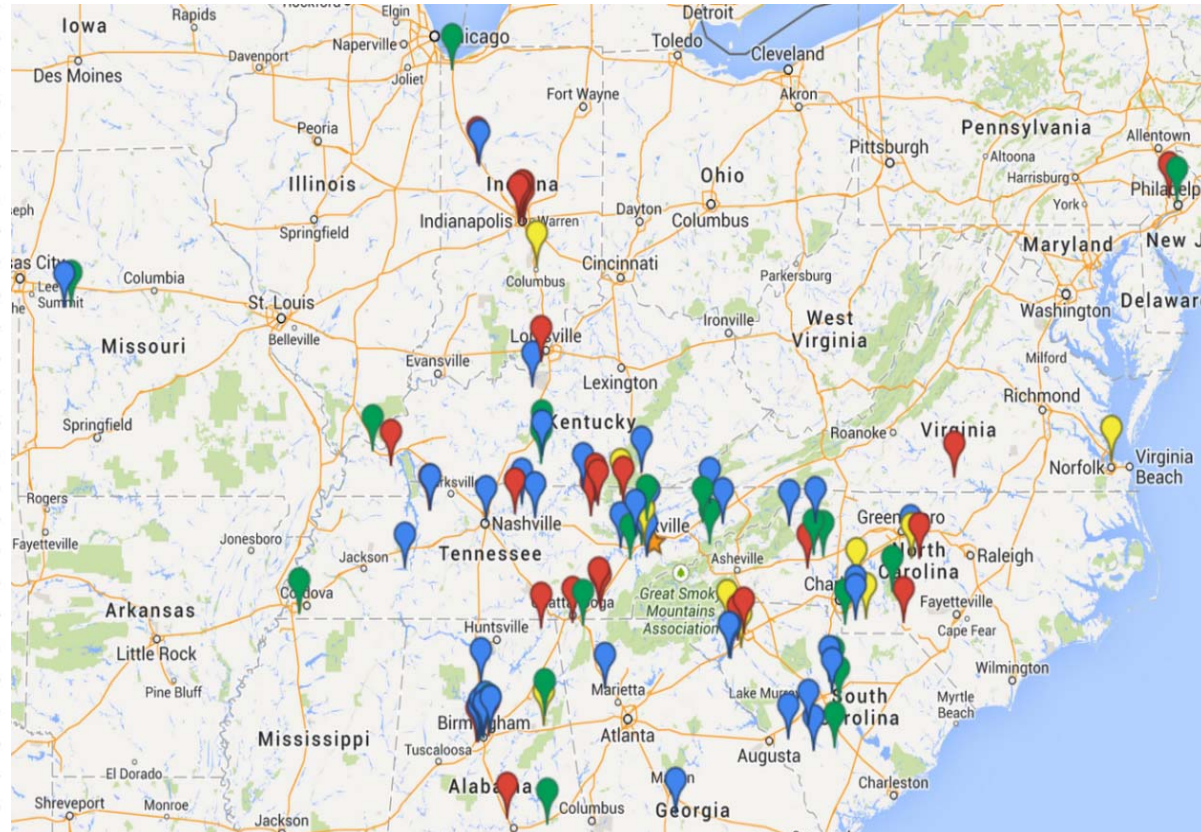
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USE



Pin Color	Uses
Red	1
Blue	2-3
Green	4-5
Yellow	6+

Since 2006, over 42,000 students across 12 states have used the *Hands On* resources and materials

Is *Hands On* Effective?

KNOWLEDGE: *significant increase* following the curriculum ($t(372) = 22.2, p < .001$) and demonstrated *long-term retention* of that knowledge, with science specific knowledge increasing 46%.

BEHAVIORS *improved* after participation ($t(361) = 7.19, p < .001$).

SELF-EFFICACY *significantly improved* following participation ($t(363) = 14.99, p < .001$), and demonstrated long-term retention of these beliefs, with SEFS improving the most on items related to prevention of cross-contamination and foodborne illnesses.

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Consider this...

- On a scale of 1-10, how clean do you think your hands are right now? (1= dirtiest 10=cleanest).
- Make a list of 10 things you have touched since you last washed your hands.



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 **SCIENCE**

- Scientific Inquiry (ex: how to set up a lab, identifying variables, gathering data, etc.)
- Learning about bacteria (ex: What causes it to grow? How can we kill the bad bacteria?)
- Basic cell structure and function

 **LANGUAGE ARTS**

- Reading non-fiction source material for detail and understanding
- Process writing (ex: expository writing)
- Verbal and written communication skills

 **MATHEMATICS**

- Scale and Ratio (ex: magnification of bacteria)
- Exponential growth (ex: bacterial growth)
- Simple statistical analysis and graphical representation of data (ex: mean, median, mode, range, box-and-whiskers plots)

 **SOCIAL STUDIES**

- Understanding standards of living throughout the world
- Informal research skills
- Geospatial mapping skills

Participation as a Project School

- Free professional development training for teachers
- All curriculum materials and supplies (loops, slides, gloves, modeling clay, petri plates, etc)

All provided at ***NO COST*** to the school

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Supplies



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