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
What is Hands On?

- Comprehensive curricular program
  - designed for use in the public school system
  - a vehicle to reduce the occurrence of foodborne illness
  - increase awareness and encourage the use of safe food preparation practices.

- Designed to *model best practices* in adolescent instruction
This We Believe
Keys to Educating Young Adolescents

16 Characteristics
- Curricular 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
- Leadership and Organization
  - A shared vision developed by all stakeholders guides every decision. Shared Vision
  - Leaders are committed to and knowledgeable about this age group, educational research, and best practices. Committed Leaders
  - Leaders demonstrate courage and collaboration. Courageous & Collaborative Leaders
  - Ongoing professional development reflects best educational practices. Professional Development
  - Organizational structures foster purposeful learning and meaningful relationships. Organizational Structures
- Culture and Community
  - The school environment is inviting, safe, inclusive, and supportive of all. School Environment
  - Every student’s academic and personal development is guided by an adult advocate. Adult Advocate
  - Comprehensive guidance and support services meet the needs of young adolescents. Guidance Services
  - Health and wellness are supported in curricula, school-wide programs, and related policies. Health & Wellness
  - The school actively involves families in the education of their children. Family Involvement
  - The school includes community and business partners. Community & Business

This chart is based on This We Believe: Keys to Educating Young Adolescents (AML/E/NMSA, 2010). For more information visit us at, www.amle.org/web
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*
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
Curriculum Design

• Promotes active student engagement and metacognitive practices

• Embedded in inquiry-based instruction

• Supports skills and concepts tested on state-mandated assessments
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.
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.
**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

**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)

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

**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
Supplies
Contact

Jennifer Richards
Jennifer.Richards@utk.edu
865-976-1089

www.handsonclassrooms.org

@handson_class HandsOnClassrooms