HEALTH PROGRAMS ON THE MOBILE SCIENCE LAB:
Community health is the practice of protecting and improving the health of a community. Community health educators work to protect and improve the health of a community by teaching people about health topics in order to help them make healthier choices.

EDUCATION, PREVENTION AND INSPIRATION
The health of a community is closely linked to the individual health of community members. Therefore, the vision of the community health team is to:

- Educate individuals about risk factors for various health conditions
- Prevent or reduce the chances of negative health outcomes among individuals
- Inspire behavior change among individuals that will eventually impact the health of their communities

University of Illinois Extension offers Cook County residents quality health education programs that promote healthy habits. University of Illinois Extension educators with expertise in community health are available to provide workshops on the Mobile Science Lab. Current offerings include:

**Happy Hands, Healthy Bodies – Grades pre-k – Grade 1**
Students investigate what germs are, how germs make people sick and ways to prevent the spread of germs. Students also learn the correct way to wash their hands through interactive games and demonstrations.

**B.O. is a No-Go (Hygiene) – Grades 2-5**
Students engage in a cooperative learning game that requires them to distinguish between good and poor hygiene practices.

**Up In Smoke – Grades 3-7**
The short term and long term effects of smoking on the heart, lungs and other organs are demonstrated through student-centered learning activities.
Ready for a Fight! (HIV and the Immune System) – Grades 5-8
Students differentiate between a healthy immune system and an immune system infected with HIV. Interactive methods such as three-dimensional models and role-plays are used to teach basic immune system concepts.

Brain Drain (Alcohol and the Brain) – Grades 6-8
Students learn about brain functions, how alcohol interferes with normal brain processes and how alcohol affects other important organs.

Everything to Lose (Addiction) – Grades 7-12
Students think critically about what addiction to alcohol or other drugs would take away from their lives.

Mathematics Programs on the Mobile Science Lab:
University of Illinois Extension offers Cook County residents mathematics programs that promote positive attitudes towards mathematics. University of Illinois Extension educators with expertise in mathematics are available to provide workshops on the Mobile Science Lab. Current offerings include:

Not Math Problems ...Math PUZZLES! – Grades 3-8
Students will practice and review a wide variety of concepts in mathematics in order to match patterns using Versa Tiles. These activities can be correlated to specific grade levels and objectives. Activities range from number skills and operations to fractions, decimals, statistics and algebra.

What Are the Chances? – Grades 3-10
Students will design and carry out experiments to solve problems in probability. Theories will be tested using models, dice, and graphing calculators.

Let’s Deal – Grades 1-8
Students will play a variety of card games that will reinforce their skills while adding to their enjoyment of mathematics. Activities will be chosen that are grade level appropriate after consultation with the classroom teacher. Activities can range from number skills and operations to fractions, decimals, statistics and measurement.
Let it Roll – Grades 1-8
Students will play a variety of dice games that will reinforce their skills while adding to their enjoyment of mathematics. Activities will be chosen that are grade level appropriate after consultation with the classroom teacher. Activities can range from number skills and operations to fractions, decimals, statistics and measurement.

Let’s Be Rational About It – Grades 4-8
Students will sharpen their skills with rational numbers through the use of a variety of games. Activities will be chosen that are grade level appropriate after consultation with the classroom teacher. Activities can range from comparing and simplifying to operations with fractions, decimals, and per cent.

Puzzle Time – Grades 1-8
Students will engage in a variety of hands on puzzles such as pentominoes and tangrams. The program can be modified to fit the needs of the class. Students will develop their problem solving skills as well as conceptualize mathematical relationships using manipulatives.

Science Programs on the Mobile Science Lab:
University of Illinois Extension offers Cook County residents quality science education programs that promote and stimulate scientific consciousness of students and enhance their future work force preparedness. This program will be offered by University of Illinois Extension educator with expertise in applied. Current offerings include:

Let it flow - Grades 5 – 8
This is about osmosis and diffusion-the two life processes that affect our biological systems. Students will have hands on activities to demonstrate these processes.

Excellent adventure - Grades 5 – 8
(Cell biology): Students will learn that cells are the building blocks of all organisms. Included in this lesson is a review of both plant and animal cell (organelles) and the role that each plays in cell function. Students will observe life and prepared cell slides under the microscope to increase their knowledge, and learn about the similarities between plant and animal cells.
Biotechnology - Grades 4 – 8
(Study of DNA): Students will learn about DNA, what it is, why it is important, and how it can affect our lives. Students will extract DNA from a strawberry.

It’s What’s Inside that Matters - Grades 6 – 9 $4.00 per student
This is about rat dissection where students will have the opportunity to observe, locate and identify mammalian body structures and study their functions. The activities in these topics address Illinois State science goals 11, 12 and 13: understand the processes of scientific inquiry and technological design to investigate questions, conducts and solve problems; understand the fundamental concepts, principles and interconnections of life, physical and earth/space sciences understand the relationships among science, technology, and society in historical and contemporary contexts.

Hidden Colors of Black Inks - More Than Meets the Eye - Grades: 5-8
Duration: 30-45 min
Students will analyze the composition of various black inks using a technique called paper chromatography. As the inks interact with the paper and solvent, they will separate into their individual components, sometimes revealing surprising colors!

Mellow Yellow - Grades: 5-8
Duration: 30-45 min
Students will discover what physiological secrets our urine reveals about us by conducting simple chemical tests on artificial urine samples. Few things gross out and yet capture the interest of 5th-8th graders like tinkle testing!

 WHAT IS 4-H ON THE MOBILE SCIENCE LAB?
4-H is the youth audience of Cooperative Extension Service. It is the nation’s largest out-of-school educational program for youth. 4-H is an integral part of the University of Illinois (Land Grant University). The overall mission of the 4-H program is to assist youth in acquiring knowledge, developing life skills and forming attitudes that will enable them to become self-directing, productive, and contributing members of society.

Positive Youth Development
In 4-H, youth are the leaders. They’re learning, teaching, serving their communities, and gaining skills for the future –and having fun doing it.
the right opportunities, they will be the ones to make our world a better place and create a positive impact. Therefore, the vision of the Cook County Youth Development team is to:

- That the significance of a service project is in the service itself
- What it truly means to use my head, heart, hands and health
- Develop into volunteers and leaders
- Serve your community
- Explore future career opportunities
- Learn to respect and get along with others
- Develop a positive self-image

University of Illinois Extension offers youth of Cook County the opportunity to quality programming that promotes BIGM (Belonging, Independence, Generosity and Mastery). University of Illinois Extension educators with experience working with youth can provide several workshops for the Mobile Science Lab, such as:

**Walk in My Shoes: A 4-H Aging Awareness Project**
Youth can explore attitudes about aging and older people. Students can also interview an older person and learn to better communicate with them. Lastly, students will participate in simulated aging activities.

**Hide and Seek with Germs (Germ Puppet Show) - Grades Pre K – 2nd**
Knowing where germs hide can help you stay healthy. This workshop identifies the problem and uses logic to draw conclusions. The workshop encourages youth to use “smarts” to share information about how to avoid germs.

**Hot House Detective (Beanie Babies) - Grades K-5th:**
What does it take to make a seed grow? Detectives figure things out through careful observation. Each detective becomes a “walking experiment” by choosing a variable and making a seed necklace. Students will discover what it takes to cause a seed to germinate and grow.

**Robotics 1, 2, and 3 – Grades 3rd-8th**
Students use a commercial robotics kit to explore robots and will use platforms NXT, TETRIX, CEENBoT and VEX. All designs will be recorded in the accompanying Robotics Notebook.
HORTICULTURE PROGRAMS ON THE MOBILE SCIENCE LAB:

The Chicago Urban Horticulture program helps communities develop open spaces into productive community gardens, school gardens and green environments spurring community pride and encouraging redevelopment.

The Adventures of Herman the Worm – A Lesson on Vermi-Composting - Grades: preK-12
Subjects: Biology, Geography, Nutrition, Ecology, Language arts (if the vast vermiculture reading list is assigned in the classroom), and hands-on learning.
Optional: daily (M-F) lab of worm care.
Class Duration: One 45 minute to 1-hour session.
Students will learn about worm anatomy, reproduction, diet, environmental role and benefits of worms. Each student will view adult worms, baby worms and cocoons up close through use of a microscope. A short lesson will be given on how to assemble and maintain an indoor worm bin. It is optional for the classroom to set-up a living worm bin in their school classroom. Check out the Adventures of Herman the Worm website at http://www.urbanext.uiuc.edu/worms

All about Insects – Grasshopper Anatomy - Grades: preK-12
Class Duration: One 45-60 minute session
Students will learn about insects, their anatomy, life stages and function through hands-on, “touch and feel” interaction with preserved grasshoppers. Students will examine giant (2-3”) Louisiana Lubber Grasshoppers and work with an educator in labeling insect body parts and function. Note: Grasshoppers have been safely preserved in a nontoxic solution. Check out the Let’s Talk about Insects website at http://www.urbanext.uiuc.edu/insects

All about Insects – Insect Petting Zoo - Grades: preK-5
Class Duration: One 45 minute session
Students will learn about insects, their anatomy, life stages and function through hands-on, “touch and feel” interaction with Madagascar hissing cockroaches, giant millipedes and tarantulas. Students will examine insects learning how to identify body parts and fun facts about each insect. Check out the Let’s Talk about Insects website at http://www.urbanext.uiuc.edu/insects.