



Hands on Health

Exhibit Description

Hands on Health, the University of Montana spectrUM Discovery Area's popular traveling exhibit, inspires learners of all ages to explore human health and careers in the health sciences. Through interactive exhibits and activities, visitors explore health and the human body and learn about the opportunities that await them in the health professions.

Visitor to Hands-on-Health will explore the health, medical, and exercise sciences through exhibits including an X-Ray Table, a Health Assessment Station to measure your vitals before and after exercise, and a Giant Nose with the sniffles, where your students diagnose the cause of the runny nose.

Participate in guided dissections, dissections, nutrition activities and health assessment experiments. These and many more exciting experiences await you and your students at **Hands on Health**.

To bring Hands on Health to your school, **call 728-7836**.



Overview of Montana State Standards and Next Generation Science Standards applied in Hands on Health field trips.

Montana OPI State Standards

The Montana State Content Standards applied in Hands on Health come from three areas: Career and Technical Education; Health Enhancement; and Science.

Career and Technical Education Standard 1

Students experience various career opportunities and assess personal career pathways.

- explore and investigate career opportunities

Career and Technical Education Standard 4

Students acquire and demonstrate appropriate current technical skills leading to an occupation.

- follow basic technical instruction

Health Enhancement Standard 1

Students have a basic knowledge and understanding of concepts that promote comprehensive health.

- describe the basic structure and function of the major human body systems, emphasizing growth and development
- identify personal health-enhancing strategies (nutrition, exercise)

Health Enhancement Standard 2

Students demonstrate competency in a variety of movement forms

- combine movement skills in applied and dynamic settings

Health Enhancement Standard 5

Students demonstrate the ability to use critical thinking and decision making to enhance health.

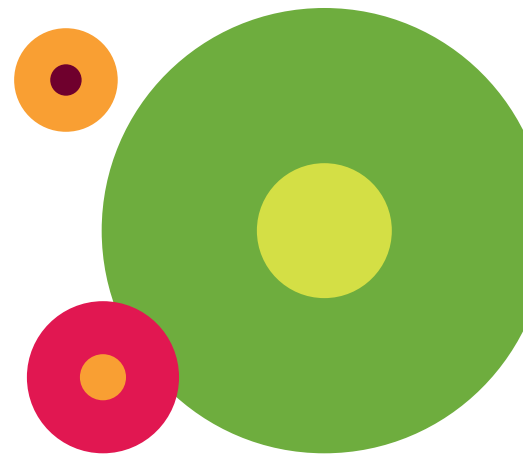
- access valid health information and resources
- predict results of positive health decisions

Science Standard 3

Students, through the inquiry process, demonstrate knowledge of characteristics, structures, and function of living things.

Science Standard 5

Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.



Next Generation Science Standards

Physical Sciences 4: Waves and their Applications in Technologies for Information Transfer

4-PS4-2. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.

Life Sciences 1: From Molecules to Organisms: Structures and Processes

K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

3-LS1-1. Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-LS1-2. Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

MS-LS1-1. Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.

MS-LS1-2. Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.

MS-LS1-3. Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.

MS-LS1-7. Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

HS-LS1-1. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.

HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

Life Sciences 3: Inheritance and Variation of Traits

1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

MS-LS3-1. Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.

Life Sciences 4: Biological Evolution: Unity and Diversity

3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

MS-LS4-5. Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.



Key Concepts explored in Hands on Health

- The structure and function of human organs
- Processes of human systems, such as digestive, nervous, and respiratory system
- Careers available in health and medical fields

Pre-Visit Discussion

We invite you to have a science discussion with your class before visiting Hands on Health to explore what they already know about health, human body, and careers in the medical field.

These topics will be explored at your field trip.

- How does blood pump through your body and through the heart?
- What are different organs of the body? What are their functions?
- How does your eye send images to your brain?
- What types of careers are available in the medical field?

Post-Visit Discussion

After visiting Hands on Health, we invite you to review the pre-visit discussion items.

- What did your students learn from their visit to Hands on Health?
- What was their favorite part of the exhibition?
- Are they interested in pursuing a career in the health sciences?

Favorite Health Science Sites

Check out these great websites to get more information about health sciences to use in your classroom!

- health.umd.edu
- scigirlsconnect.org/page/health-1
- kidshealth.org
- edheads.org