

Dear Families,

In class, we are starting a science unit about the human body and how it moves.

The study of movement is an ideal vehicle to teach children how the body works as a whole. Like all functions of the body, movement requires the actions of many organ systems. As the class explores the skeletal, muscular, nervous, circulatory, respiratory, and digestive systems, they begin to appreciate the complex interactions and dependencies that exist between body parts and recognize the importance of protecting them.

During the Human Body in Motion Unit, the children will:

- Think up imaginary organs and cell types to reinforce how the human body is formed from cells which combine to form tissues, tissues which combine to form organs, and organs which combine to form organ systems.
- Experience muscle fatigue to learn that muscle contraction requires energy, and efficient energy production requires a rich supply of oxygen and nutrients from the blood.
- Discover that minerals in bones make the bones strong and understand the importance of including calcium-rich foods in their diets.
- Learn that the human skeleton moves at joints and that the design of these joints affects how bones are able to move.
- Build limb models to discover that the muscles of a limb work in pairs—one pulling the bones in one direction and the other pulling them back in the opposite direction.
- Explore reaction time and several common reflexes to appreciate how the nervous system controls movement.
- Recognize that when we exercise the heart pumps harder and faster to deliver more blood to active muscles—and to all parts of the body—bringing cells the oxygen and nutrients they need to create energy and function, and carrying away their waste.
- Learn that the lungs are where oxygen is delivered to the blood and carbon dioxide is removed.
- Simulate the airway obstruction characteristic of certain respiratory conditions such as asthma, bronchitis, and emphysema to understand how oxygen depletion affects people's ability to be active.
- Learn that their muscles—and all the parts of their body—depend on a healthy digestive system to provide the nutrients and water their cells need to produce energy and function.
- Experiment to discover that food needs to be digested before it can enter the bloodstream.

In addition to the work your child will do in class, you and your child can explore this rich topic together at home in the following ways:

- Reading a science book together that your child checks out from the class Science Center.
- Visiting the web site at www.sciencecompanion.com/links to find a list and descriptions of recommended web sites about the human body, if you have a computer at home with access to the Internet.
- Doing fun, physical activities together. If you are a role model for an active, healthy way of life, your children are more likely to be active and make healthy choices throughout their lives.
- Completing Family Links the teacher sends home after select lessons. Each handout should be added to the back of the Human Body in Motion section of the Family Link Notebook, so you, your child, or the teacher can refer to it any time.

The Human Body in Motion Unit will be fun! We hope the children will bring their discoveries and enthusiasm home, inviting you to learn alongside them—asking questions, discussing their work, and sharing their adventures in science.

Sincerely,