

GLOSSARY

Carbon Dioxide – A colorless, odorless gas that passes out of the lungs during respiration.

Circulatory – Moving around in a complete circuit.

Elimination – The process of passing waste from the body.

Hemoglobin – An iron-containing compound found in red blood cells.

Immune – Having the ability to resist disease.

Lymphocyte – White blood cells that protect the body against viruses.

Nutrient – A substance that aids in growth and development.

Plasma – The watery part of blood.

Pulmonary – Relating to the lungs.

Synthetic – Produced artificially; not genuine.

Trillion – One thousand billion.

Vaccine – Killed or weakened viruses used to produce immunity to a disease.

May be reproduced for use in the classroom.

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Show Me Science

The Wonders of Physiology

Blood – Vital to our Existence

K4590DVD

Teachers Guide

SYNOPSIS:

Plasma and red blood cells transport essential nutrients through the circulatory system, while different types of blood cells fight off bacteria and viruses to help keep us healthy. This program explores the composition of blood and looks at the heart and circulatory system. It features animated graphics that demonstrate the pumping of the heart, how red blood cells carry oxygen to the cells and remove carbon dioxide and how white blood cells protect the body.

CURRICULUM UNITS:

- Anatomy
- Biology
- General Science
- Health Science
- Microbiology
- Physiology

CAREER OPPORTUNITIES:

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- Biologist
- Biotechnologist
- Lab Technician
- Medical Doctor
- Nurse Practitioner
- Paramedic
- Physiologist
- Registered Nurse

PROGRAM OVERVIEW:

Cells are small parts of the body, but just like the whole organism, each one has to breathe in oxygen, ingest nutrients and water and get rid of waste. The circulatory system makes it all possible by providing an ever-moving flow of nutrients to the cells and carrying waste away from them

ISSUES & CRITICAL THINKING:

1. After showing the program, ask the class the following:
What is the blood made of?
What do red blood cells do?
How do white blood cells fight infection?
How does the heart and lungs work together?

Have students take each other's pulses and make a chart. Figure out how many times the average person's heart beats in a year.

Compare the circulatory system to a system of roads and discuss how it would work if we were each like a cell reaching into a stream to take what we needed.

Discuss the human body as a whole and how each part is necessary to proper functioning. Ask students to think about how lungs and circulation work with digestion and elimination.