

Questions

Questions for your child's teacher:

- ◆ What do I need to do to help my child with class work, test, homework etc.
- ◆ How will my child be graded/assessed in your class?
- ◆ Are there any resource materials in addition to the textbook that will help me to better assist my child?
- ◆ How can I interpret the assignment to my child?
- ◆ What clues, and buzz words should I use with my child to enhance their understanding of the subject?
- ◆ When is it enough studying, practicing, etc. at the home setting to not discourage my child?

Activities for Home

What can I do to help my child

- ◆ Contact the teacher/school to schedule an appointment
- ◆ Monitor your child's progress (check homework, missing assignments, etc.)
- ◆ Provide homework space-appropriate light, space, and a quiet place.
- ◆ Be sure your child gets plenty of rest.
- ◆ Take advantage of science educational resources (i.e. books, OGT materials and homework help) at the Cleveland Public Library to link home and school
- ◆ Encourage your child to participate in science fairs.

A Message from the CMSD

~School Parent Organization~

Dear parents,

This information was created by CMSD families for CMSD families. It is intended to create home and school partnerships to enhance the academic skills of all 10th grade students.

NOTES:

★ Cleveland Metropolitan
School District

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SCIENCE



What should my tenth grader learn about Science?

Earth and Space Sciences

- ◆ Explain how evidence from stars and other celestial objects provide information about the processes that cause changes in the composition and scale of the physical universe.
- ◆ Explain that many processes occur in patterns within the Earth's systems.
- ◆ Explain the 4.5 billion-year-history of Earth and the 4 billion-year-history of life on Earth based on observable scientific evidence in the geologic record.
- ◆ Describe the finite nature of Earth's resources and those human activities that can conserve or deplete Earth's resources.
- ◆ Explain the processes that move and shape Earth's surface.
- ◆ Summarize the historical development of scientific theories and ideas, and describe emerging issues in the study of Earth and space sciences.

Life Sciences

- ◆ Explain that cells are the basic unit of structure and function of living organisms, that once life originated all cells come from pre-existing cells, and that there are a variety of cell types.
- ◆ Explain the characteristics of life as indicated by cellular processes and describe the process of cell division and development.
- ◆ Explain the genetic mechanisms and molecular basis of inheritance.
- ◆ Explain the flow of energy and the cycling of matter through biological and ecological systems (cellular, organism and ecological).
- ◆ Explain how evolutionary relationships contribute to an understanding of the unity and diversity of life.
- ◆ Explain the structure and function of ecosystems and relate how ecosystems change over time.
- ◆ Describe how human activities can impact the status of natural systems.
- ◆ Describe a foundation of biological evolution as the change in gene frequency of a population over time. Explain the historical and current scientific developments, mechanisms and processes of biological evolution.

Physical Sciences

- ◆ Describe that matter is made of minute particles called atoms and atoms are comprised of even smaller components. Explain the structure and properties of atoms.
- ◆ Explain how atoms react with each other to form other substances and how molecules react with each other or other atoms to form even different substances.
- ◆ Describe the identifiable physical properties of substances (e.g., color, hardness, conductivity, density, concentration and ductility). Explain how changes in these properties can occur without changing the chemical nature of the substance.
- ◆ Explain the movement of objects by applying Newton's three laws of motion.
- ◆ Demonstrate that energy can be considered to be either kinetic (motion) or potential (stored).
- ◆ Explain how energy may change form or be redistributed but the total quantity of energy is conserved.
- ◆ Demonstrate that waves (e.g., sound, seismic, water and light) have energy and waves can transfer energy when they interact with matter.
- ◆ Trace the historical development of scientific theories and ideas, and describe emerging issues in the study of physical sciences.

Science and Technology

- ◆ Explain the ways in which the processes of technological design respond to the needs of society.
- ◆ Explain that science and technology are interdependent; each drives the other.

Scientific Inquiry

- ◆ Participate in and apply the processes of scientific investigation to create models and to design, conduct, evaluate and communicate the results of these investigations.

Scientific Ways of Knowing

- ◆ Explain that scientific knowledge must be based on evidence, be predictive, logical, subject to modification and limited to the natural world.
- ◆ Explain how scientific inquiry is guided by knowledge, observations, ideas and questions.
- ◆ Describe the ethical practices and guidelines in which science operates.
- ◆ Recognize that scientific literacy is part of being a knowledgeable citizen.