

Science: Dive into the captivating world of scientific exploration, conducting experiments, and discovering the wonders of the natural and physical sciences.

Pre-Kindergarten (PK)

Science:

PK.SC.1: Students will demonstrate curiosity about the natural world through observation and exploration.

PK.SC.2: Students will use their senses to explore and describe objects and phenomena.

PK.SC.3: Students will begin to identify basic characteristics of living and non-living things.

PK.SC.4: Students will participate in simple investigations and share their findings verbally.

Reading (Integrated):

PK.RD.1: Students will listen to and understand simple science-related stories and informational texts.

PK.RD.2: Students will use pictures and observations to make connections to science concepts.

Math (Integrated):

PK.MA.1: Students will use basic counting skills to describe observations (e.g., "I see three red leaves").

PK.MA.2: Students will explore basic shapes and patterns in nature.

Kindergarten (K)

Science:

K.SC.1: Students will make observations and ask questions about the natural world.

K.SC.2: Students will identify and describe basic properties of objects and materials.

K.SC.3: Students will explore and describe the characteristics of living things and their environments.

K.SC.4: Students will conduct simple investigations and record observations through drawings and verbal descriptions.

Reading (Integrated):

K.RD.1: Students will identify and understand vocabulary related to science concepts.

K.RD.2: Students will be able to follow simple instructions for science related activities.

Math (Integrated):

K.MA.1: Students will measure and compare objects using non-standard units.

K.MA.2: Students will sort and classify objects based on observable properties.

Elementary School (Grades 1-5)

Grades 1-2:

SC.1-2.SC.1: Students will plan and conduct simple investigations to answer questions.

SC.1-2.SC.2: Students will collect, record, and share data through drawings, charts, and simple graphs.

SC.1-2.SC.3: Students will identify and describe the basic needs of living things and their habitats.

SC.1-2.SC.4: Students will explore and describe the properties of matter and how they change.

SC.1-2.SC.5: Students will begin to understand cause-and-effect relationships in scientific contexts.

Grades 3-5:

SC.3-5.SC.1: Students will design and conduct controlled experiments to test hypotheses.

SC.3-5.SC.2: Students will analyze and interpret data from investigations, using tables, graphs, and charts.

SC.3-5.SC.3: Students will understand the interdependence of living things and their environments.

SC.3-5.SC.4: Students will explore and explain the properties and changes of matter and energy.

SC.3-5.SC.5: Students will use scientific tools and technology to gather and analyze data.

Reading (Integrated Grades 1-5):

RD.1-5.RD.1: Students will read and comprehend science-related texts, including informational texts and procedural texts.

RD.1-5.RD.2: Students will use scientific vocabulary and apply it in written and oral communication.

RD.1-5.RD.3: Students will be able to extract information from diagrams and charts.

Math (Integrated Grades 1-5):

MA.1-5.MA.1: Students will use measurement tools and units to collect and analyze data.

MA.1-5.MA.2: Students will represent data using tables, charts, and graphs.

MA.1-5.MA.3: Students will use mathematical reasoning to solve science-related problems.

Middle School (Grades 6-8)

Science:

MS.SC.1: Students will develop and use models to explain scientific phenomena.

MS.SC.2: Students will analyze and interpret data to draw conclusions and support claims.

MS.SC.3: Students will understand the structure and function of living systems.

MS.SC.4: Students will explore and explain the interactions of matter and energy in physical and chemical systems.

MS.SC.5: Students will understand the Earth's systems and their interactions.

MS.SC.6: Students will engage in argument from evidence.

Reading (Integrated):

MS.RD.1: Students will read and evaluate complex science-related texts, including research articles and technical documents.

MS.RD.2: Students will distinguish between scientific fact and opinion.

Math (Integrated):

MS.MA.1: Students will use algebraic reasoning to represent and solve scientific problems.

MS.MA.2: Students will apply statistical analysis to interpret scientific data.

High School (Grades 9-12)

Biology:

HS.BIO.1: Students will understand the molecular basis of heredity and the mechanisms of evolution.

HS.BIO.2: Students will analyze the structure and function of living organisms at the cellular and organismal levels.

HS.BIO.3: Students will understand the interactions and interdependence of living systems.

Chemistry:

HS.CHEM.1: Students will understand the structure and properties of matter and the principles of chemical reactions.

HS.CHEM.2: Students will apply chemical principles to solve problems and make predictions.

HS.CHEM.3: Students will be able to properly use laboratory equipment and follow safety procedures.

Physics:

HS.PHY.1: Students will understand the fundamental principles of motion, energy, and forces.

HS.PHY.2: Students will apply mathematical models to describe and predict physical phenomena.

HS.PHY.3: Students will understand the principles of waves and electromagnetism.

Earth and Space Science:

HS.ESS.1: Students will understand the Earth's systems and their interactions, including geological processes, climate, and oceanography.

HS.ESS.2: Students will explore the universe and the principles of astronomy and cosmology.

HS.ESS.3: Students will analyze the impact of human activities on the Earth's systems.

Reading (Integrated):

HS.RD.1: Students will critically evaluate scientific literature and research papers.

HS.RD.2: Students will communicate scientific information effectively in written and oral presentations.

Math (Integrated):

HS.MA.1: Students will apply advanced mathematical concepts, including calculus and statistics, to solve scientific problems.

HS.MA.2: Students will utilize computer modeling and simulation to analyze and interpret scientific data.