WARREN COUNTY SCHOOL DISTRICT

PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: Science 8
Course Number: 00307
Course Prerequisites: None

Course Description: Eighth grade science covers physical science, chemistry and physics, in the areas of matter, energy sources, force and motion. Unifying themes, inquiry and design, and technological devices are incorporated within those areas of study.

Suggested Grade Level: Grade 8
Length of Course: Two Semesters
Units of Credit: 1
PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:
CSPG 32 Biology, CSPG 34 Chemistry, CSPG 56 Physics, CSPG 43 Environmental, CSPG 40 Earth and Space, CSPG 46 General Science, CSPG 54 Middle Level Science
To find the CSPG information, go to CSPG
Certification verified by the WCSD Human Resources Department: ☒Yes ☐No

WCSD STUDENT DATA SYSTEM INFORMATION

Course Level: Academic
Mark Types: Check all that apply.
☒F – Final Average ☒MP – Marking Period ☐EXM – Final Exam

GPA Type: ☐ GPAEL-GPA Elementary ☒ GPAML-GPA for Middle Level ☐ NHS-National Honor Society
☐ UGPA-Non-Weighted Grade Point Average ☐ GPA-Weighted Grade Point Average

State Course Code: 03011
To find the State Course Code, go to State Course Code, download the Excel file for *SCED*, click on SCED 6.0 tab, and chose the correct code that corresponds with the course.

TEXTBOOKS AND SUPPLEMENTAL MATERIALS

Board Approved Textbooks, Software, and Materials:

Title:	Physical iScience
Publisher:	McGraw Hill
ISBN #:	978-0-07-677305-3
Copyright Date:	2017
WCSD Board Approval Date:	4/9/2018

Supplemental Materials: Laboratory equipment to conduct both Physics and Chemistry demonstrations and lab experiences for students. Computer and Smart technology available to both instructor and students.

Curriculum Document

WCSD Board Approval:

Date Finalized:	2/20/2018
Date Approved:	4/9/2018
Implementation Year:	2018-2019

SPECIAL EDUCATION, 504, and GIFTED REQUIREMENTS

The teacher shall make appropriate modifications to instruction and assessment based on a student's Individual Education Plan (IEP), Chapter 15 Section 504 Plan (504), and/or Gifted Individual Education Plan (GIEP).

SCOPE AND SEQUENCE OF CONTENT, CONCEPTS, AND SKILLS

Performance Indicator	**PA Core Standard and/or Eligible Content**	**Month Taught and Assessed for Mastery**
Define science and identify questions that science cannot answer.	3.4.8.D.3	August September
Compare and contrast theories and laws.	3.4.8.D.3	September
Identify a system and its components.	3.4.8.C.2	September
Identify the three main branches of science.	3.4.8.C.2	September
Identify some skills scientists use.	3.2.8.A.1	September
Define hypothesis.	3.4.8.C.2	September
Recognize the difference between observation and inference.	3.4.8.C.2	September
Describe various types of models.	3.4.8.C.2	September
Evaluate scientific explanations.	3.4.8.D.3	September
Evaluate promotional claims.	3.4.8.D.3	September
Identify and use the rules for rounding.	3.2.8.A.1	October
Distinguish between precision and accuracy in measurements.	3.2.8.A.1	October
Identify the purpose of SI.	3.4.8.B.3	October
Identify the SI units of length, volume, mass, temperature, time, and rate.	3.4.8.B.3	October
Describe how to use pictures and tables to give information.	3.4.8.B.3	October
Identify and use three types of graphs.	3.4.8.B.3	October
Distinguish the correct use of each type of graph.	3.4.8.B.3	October
Define distance, speed, and velocity.	3.2.8.B.1	November
Graph motion	3.2.8.B.1	November
Define acceleration.	3.2.8.B.1	November
Predict what effect acceleration will have on motion.	3.2.8.B.1	November

Performance Indicator	**PA Core Standard and/or Eligible Content**	**Month Taught and Assessed for Mastery**
Define momentum.	3.2.8.B.1	November
Explain why momentum might not be conserved after a collision.	3.2.8.B.1	November
Predict motion using the law of conservation of momentum.	3.2.8.B.1	November
Distinguish between balanced and net forces.	3.2.8.B.6	December
Describe Newton's first law of motion.	3.2.8.B.6	December
Explain how friction affects motion.	3.2.8.B.6	December
Explain Newton's second law of motion.	3.2.8.B.6	December
Explain why the direction of force is important	3.2.8.B.6	December
Identify the relationship between the forces that objects exert on each other.	3.2.8.B.6	December
Describe and identify the characteristics of matter.	3.2.8.A.3	January February
Identify the parts of an atom.	3.2.8.A.3	January February
Describe the relationship between elements and the periodic table	3.2.8.A.2	January February
Define atomic mass and atomic number.	3.2.8.A.2	January February
Identify what makes an isotope.	3.2.8.A.2	January February
Contrast metals, metalloids, and nonmetals.	3.2.8.A.2	January February
Identify the characteristics of a compound.	3.2.8.A.4	January February
Compare and contrast different types of mixtures.	3.2.8.A.4	January February
Relate the three states of matter to the arrangement of particles within them.	3.2.8.A.4	January February
Define and compare thermal energy and temperature and changes of state.	3.2.8.B.3	January February
Describe the common physical properties of matter	3.2.8.A.3	January February
Explain how to find the density of a substance.	3.2.8.A.3	January February

Performance Indicator	**PA Core Standard and/or Eligible Content**	**Month Taught and Assessed for Mastery**
Identify physical and chemical changes.	3.2.8.A.3	January February
Identify how electrons are arranged in an atom.	3.2.8.A.3	March April
Compare the relative amount of energy of electrons and the arrangement of electrons in an atom.	3.2.8.A.3	March April
Compare and contrast ionic and covalent bonds.	3.2.8.A.3	March April
Distinguish between compounds and molecules.	3.2.8.A.3	March April
Identify the difference between polar and nonpolar covalent bonds.	3.2.8.A.3	March April
Interpret chemical shorthand	3.2.8.A.3	March April
Determine whether or not a chemical reaction is occurring.	3.2.8.A.3	March April
Examine some reactions that release energy and others that absorb energy.	3.2.8.A.3	March April
Explain the law of conservation of mass.	3.2.8.A.3	March April
Determine how to describe and measure the speed of a chemical reaction.	3.2.8.A.3	March April
Distinguish between substances and mixtures.	3.2.8.A.3	March April
Describe two different types of mixtures.	3.2.8.A.3	March April
Explain how solutions form.	3.2.8.A.3	March April
Describe different types of solutions.	3.2.8.A.3	March April
Compare acids and bases and their properties	3.2.8.A.3	March April
Explain why water is a good general solvent.	3.2.8.A.3	March April
Explain what energy is.	3.2.8.B.2	May
Distinguish between kinetic energy and potential energy.	3.2.8.B.2	May
Identify the various forms of energy.	3.2.8.B.2	May
Apply the law of conservation of energy to energy transformation.	3.2.8.B.2	May

Performance Indicator	**PA Core Standard and/or Eligible Content**	**Month Taught and Assessed for Mastery**
Identify how energy changes form.	3.2.8.B.2	May
Describe how electric power plants produce energy.	3.2.8.B.2	May
Explain what renewable, nonrenewable, and alternative resources are.	3.2.8.B.2	May
Describe the advantages and disadvantages of using various energy sources.	3.2.8.B.2	May

ASSESSMENTS

PSSA Academic Standards, Assessment Anchors, and Eligible Content: The teacher must be knowledgeable of the PDE Academic Standards, Assessment Anchors, and Eligible Content and incorporate them regularly into planned instruction.

Formative Assessments: The teacher will utilize a variety of assessment methods to conduct in-process evaluations of student learning.

Effective formative assessments for this course include: Lab Activities, Posters, Projects, Quizzes, Chapter Tests, and Presentations.

Summative Assessments: The teacher will utilize a variety of assessment methods to evaluate student learning at the end of an instructional task, lesson, and/or unit.

Effective summative assessments for this course include: Practical tests, Written Tests, Projects, Presentations, and Teaching to Peers.