

2018 OUR LCC SCIENCE PACE LEVELS

LCC Class Levels 2 & 3 (PACEs 1013–1024)

The student:

Expands his knowledge of the days of Creation, the first man and woman.

Learns about animals, the seasons and weather, heavenly bodies, plains, flat lands, valleys, hills, and mountains.

Enlarges his vocabulary with the introduction of new words.

Builds reading comprehension.

Continues to build eye-hand coordination by drawing shapes, irregular shapes, and directional lines.

Learns how God made every person unique through the introduction of fingerprints, etc.

Learns about the five senses.

Is encouraged in character development through examples given in each PACE.

LCC Class Levels 3 & 4 (PACEs 1025–1036)

The student:

Observes the faithfulness of God while learning about the solar system.

Learns about the concept and measurement of time.

Learns about animal and plant life cycles.

Recalls and continues the study of God's Creation.

Studies Bible topics such as Jesus' return; sin, death, and the curse; man's freedom to choose to love and obey God.

Read stories using new vocabulary and visual discrimination.

Looks at geological changes after the Flood—jungles and hot lands, tundra and cold lands, volcanoes and earthquakes.

LCC Class Levels 5 & 6 (PACEs 1037–1048)

The student:

Learns about the water cycle—condensation, evaporation, precipitation, cloud shapes, and the characteristics of air and water.

Studies living and nonliving matter, gravity, minerals and their uses, plants' needs, and plant conservatories.

Identifies simple machines.

Learns about respiration and blood circulation, the diaphragm and heart, digestion and saliva.

LCC Class Levels 6 & 7 (PACEs 1049–1060)

The student:

Explores living and nonliving matter and active, dormant, and extinct volcanoes.

Learns about energy—work, force, kinetic, potential, and radiant energy.

Studies oceanography, astronomy, comets, and the aurora borealis and aurora Australis.

Studies the outer, inner, and middle ear; hearing difficulties; and vibration, pitch, and frequency of sounds.

Studies molecular and atomic theories; friction, heat, and gravity; and expansion and contraction.

Views dinosaurs and fossils from a Biblical perspective.

Learns the relationship between the Bible and botany, meteorology, and zoology.

LCC Class Levels 7 & 8 (PACEs 1061–1072)

The student:

Expands his vocabulary base with the addition of new vocabulary words.

Explores the theories, properties, and laws of magnetism, and the uses of magnets; acids, bases, elements, solvents, solutes, and solutions in chemistry; higher and lower plants, and the process of photosynthesis.

Looks at the history, nature, and uses of electricity; chemical, mechanical, and nuclear sources of electricity and measuring electricity.

Learns about the central nervous system, the senses, the structure and function of the skeletal and muscular systems, infectious and noninfectious diseases, treatment of and defense against diseases, and digestion and nutrition.

LCC Class Level 9 (PACEs 1073–1084)

The student:

Continues exploring the skeletal and muscular systems, different types of viruses, bacteria, algae, and fungi.

Studies characteristics of birds and mammals and botany—the needs, conducting, and reproductive systems of plants.

Learns about simple and complex invertebrate animals, the structure and characteristics of vertebrates, embryos, inherited traits, gene functions, and alterations.

Studies ecology—balance and cycles of nature, biomes, effects of water and air pollution, and how pollution can be controlled.

LCC Class Level 10 (PACEs 1085–1096)

The student:

Explores the wonders, resources, and cycles of God's Creation.

Searches proofs of Creation and the Flood.

Studies astronomy—the stars, familiar and unusual, their purpose and message, and planets of the solar system.

LCC Class Level 11 Biology Elective (PACEs 1097-1108)

The student learns about:

1097 Birds. Body structures, body systems and functions

1098 Mammals. Characteristics, body systems, migration and hibernation

1099 Fish, amphibians and reptiles. Scientific proof for creation of these

1100 Sponges, coelenterates, mollusks and echinoderms. Body structure, functions and reproduction. Scientific proof for creation of these

1101 Worms and arthropods. Leeches, flatworms, tapeworms and flukes, roundworms. Spiders, centipedes and millipedes. Insects

1102 Plants, vascular and non-vascular. Leaves, stems, roots, flowers and reproduction.

1103 Microorganisms. Algae, protozoa and fungi. Microscopy. Plant cells and animal cells. Bacteria and viruses

1104 Human skin, skeleton, muscles

1105 Human nerves, circulation, respiration

1106 Human nutrition and growth. Digestive system, nutrients, sugars, vitamins, food groups. Sweat glands, kidneys. Exocrine and endocrine glands
1107 Human reproduction, genetics, embryology
1108 Ecology and conservation. Earth's pre-Flood environment. Ecological succession. Modern environmental problems. Pollution and endangered species

LCC Class Level 12 Physical Science Elective (PACEs 1109-1120)

The student learns about:

1109 Foundations of Physical science; Definition and limitation of science; Science and scripture: The scientific method; Scientific measurement: Fundamental and derived units; conversion; powers of ten notation, scientific notation, significant figures
1110 The Composition of Matter; Introduction: Two views of chemistry; chemistry and you; phases and classification of matter; homogenous substances: Elements; compounds; solutions; Heterogeneous substances: Mixtures; colloids; atomic models and structure
1111 Gas laws; Nature of gases: Air and atmospheric pressure; properties of gases, kinetic theory of gases: pressure and density of gases; Gas Laws: Boyle's law; Charles' law; Gay Lussac's law; combined gas law; Focus on Robert Boyle
1112 The Chemical structure of matter; Formation of chemical compounds: Bonding; electron structure; valence, ionic charges and radicals; chemical formulas and equations; chemical reactions; acids and bases; conservation of matter and definite proportions; structural design: Elemental periods and families
1113 Metals and Metalloids; Chemical and physical properties of metals; Alkali metals: Lithium; sodium; potassium; rubidium and cesium; francium; Alkaline-earth metals: Beryllium; magnesium; calcium; strontium, barium and radium; transition metals; Aluminium and metalloids; Chemical and physical metallurgy
1114 Nonmetallic elements; Water and its elements: Physical and chemical properties of water; reactions with water; Hydrogen; Oxygen; Group VA elements: Nitrogen; Phosphorus; Group VIA elements: Selenium, Sulphur; Halogens; Rare gases
1115 Organic chemistry; Carbon and its compounds: Diamond; graphite; amorphous carbon; Organic compounds; Hydrocarbons; alcohols; aldehydes; carboxylic acids; biochemical compounds: Carbohydrates; lipids; amino acids and proteins
1116 Laws of motion and gravitation; Laws of motion: First, second and third laws of motion; momentum; Gravity: Law of universal gravitation; universal gravitational constant relationship of mass and weight; focus on Isaac Newton; Energy: Energy; work; power; forms, transformation and conservation of energy; simple machines and mechanical advantage
1117 Sound Wave motion; properties of wave motion; reflection; refraction; diffraction; interference; Sound Waves: Nature and speed of sound; pitch; intensity; reflection, refraction, and diffraction of sound waves; resonance; Doppler effect
1118 Light, optics and the Electromagnetic Spectrum; Light: Nature of light; visible spectrum; velocity of light; Optics: Reflection; mirrors; refraction; lenses; polarization; Electromagnetic spectrum; Magnetism; Force of Magnetism; Magnetic substances, domains and fields
1119 Electricity: Electrostatics; Current electricity; Electric circuits; Electronics and computers
1120 Modern Physics: Nuclear radiation; Radioactive decay; Fission and fusion reactions; Physics of the 21st century; Space exploration

