Grade 4	Grade 5	Grade 6	
PLANTS ▪ Plants and living things • Using plants Parts of plants • The function of plants	CELLS • Cell composition • Plant and animal cells • Life of cells • Growth of cells	PLANT SYSTEMS • Parts of a plant • Systems of photosynthesis • Transport systems • Regulatory systems	LIFEPAC 4
ANIMALS • Animal structures • Animal behavior • Animal instincts • Man protects animals	PLANTS: LIFE CYCLES • Seed producing plants • Spore producing plants • One-celled plants • Classifying plants	ANIMAL SYSTEMS • Digestive system • Excretory system • Skeletal system • Diseases	LIFEPAC 5
MAN'S ENVIRONMENT • Resources • Balance in nature • Communities • Conservation and preservation	ANIMALS: LIFE CYCLES • Invertebrates • Vertebrates • Classifying animals • Relating function and structure	PLANT AND ANIMAL BEHAVIOR • Animal behavior • Plant behavior • Plant-animal interaction • Balance in nature	LIFEPAC 6
MACHINES • Work and energy • Simple machines • Simple machines together • Complex machines	BALANCE IN NATURE Needs of life • Dependence on others • Prairie life • Stewardship of nature	MOLECULAR GENETICS • Reproduction • Inheritance • DNA and mutations • Mendel's work	LIFE SC 4
ELECTRICITY AND MAGNETISM • Electric current • Electric circuits • Magnetic materials • Electricity and magnets	TRANSFORMATION OF ENERGY • Work and energy • Heat energy • Chemical energy • Energy sources	CHEMICAL STRUCTURE • Nature of matter • Periodic Table • Diagrams of atoms • Acids and bases	LIFE A 5
CHANGES IN MATTER • Properties of water • Properties of matter Molecules and atoms • Elements	RECORDS IN ROCK: THE FLOOD • The Biblical account • Before the flood • The flood • After the flood	LIGHT AND SOUND • Sound waves • Light waves • The visible spectrum • Colors	LIFE A 6
WEATHER • Causes of weather Forces of weather • Observing weather • Weather instruments	RECORDS IN ROCK: FOSSILS • Fossil types • Fossil location • Identifying fossils • Reading fossils	MOTION AND ITS MEASUREMENT • Definition of force • Rate of doing work • Laws of motion • Change in motion	LIFEPAC 7
THE SOLAR SYSTEM • Our solar system • The big universe • Sun and planets • Stars and space	RECORDS IN ROCK: GEOLOGY • Features of the earth • Rock of the earth • Forces of the earth • Changes in the earth	SPACESHIP EARTH • Shape of the earth • Rotation and revolution • Eclipses • The solar system	LIFE SC 8
THE PLANET EARTH ▪ The atmosphere • The hydrosphere • The lithosphere • Rotation and revolution	CYCLES IN NATURE • Properties of matter • Changes in matter • Natural cycles God's order	SUN AND OTHER STARS • The sun • Investigating stars • Common stars • Constellations	LIFEPAC 9
GOD'S CREATION • Earth and solar system • Matter and weather • Using nature • Conservation	LOOK AHEAD • Plant and animal life • Balance in nature ▪ Biblical records • Records of rock	THE EARTH AND THE UNIVERSE • Plant systems • Animal systems • Physics and chemistry • The earth and stars	LIFEPAC 10

INSTRUCTIONS FOR SCIENCE

The LIFEPAC curriculum from grades two through twelve is structured so that the daily instructional material is written directly into the LIFEPACs. The student is encouraged to read and follow this instructional material in order to develop independent study habits. The teacher should introduce the LIFEPAC to the student, set a required completion schedule, complete teacher checks, be available for questions regarding both content and procedures, administer and grade tests, and develop additional learning activities as desired. Teachers working with several students may schedule their time so that students are assigned to a quiet work activity when it is necessary to spend instructional time with one particular student.

The Teacher Notes section of the Teacher's Guide lists the required or suggested materials for the LIFEPACs and provides additional learning activities for the students. The materials section refers only to LIFEPAC materials and does not include materials which may be needed for the additional activities. Additional learning activities provide a change from the daily school routine, encourage the student's interest in learning, and may be used as a reward for good study habits.

If you have limited facilities and are not able to perform all the experiments contained in the LIFEPAC curriculum, the Science Project List for grades 3-12 may be a useful tool for you. This list prioritizes experiments into three categories: those essential to perform, those which should be performed as time and facilities permit, and those not essential for mastery of LIFEPACs. Of course, for complete understanding of concepts and student participation in the curriculum, all experiments should be performed whenever practical. Materials for the experiments are shown in Teacher Notes – Materials Needed.

Science Projects List

Key

1 = Those essential to perform for basic understanding of scientific principles.

2 = Those which should be performed as time permits.

3 = Those not essential for mastery of LIFEPACs.

S = Equipment needed for home school or Christian school lab.

E = Explanation or demonstration by instructor may replace student or class lab work.

H = Suitable for homework or for home school students. (No lab equipment needed.)

Science 401

pp	11	(2)	H
	23	(1)	H

Science 402

none

Science 403

pp	25-27	(1)	H & S (seasonal)
	31	(2)	H
	42	(3)	S

Science 404

pp	10	(1)	H
	16	(1)	H
	16	(3)	H
	18	(1)	S
	22	(1)	S

Materials Needed for LIFEPAC

Required:
one sheet of poster board (any color)
one meter stick or yard stick
two felt tip pens (black and red)
one sharp pencil with an eraser
a large nail, a hammer
a block of wood
four textbooks, each at least 3 centimeters thick
a toy truck or car
a board about 1 meter long that is wider than the toy truck
a spring balance
one wood screw and one nail, each about 2 1/2 centimeters long
two thin pieces of wood
one screwdriver
a drawing compass
a spring balance
heavy twine
corrugated cardboard (from sides of a heavy box)
a piece of wood about 60 centimeters long and 30 centimeters wide
a broomstick cut to the length of 60 centimeters
two wood side pieces (2x2's would be best) at least 30 centimeters long, each notched on one end so the broomstick will lie loosely in the notches
two pulleys
a light rope about two meters long
a two-kilogram weight
a spring scale
a broomstick

Suggested:
one seesaw and a friend
one wood screw and one nail each about 2 1/2 centimeters long
two thin pieces of wood
one hammer
one screwdriver

Additional Learning Activities

Section I Machines are Needed

1. Place a board at a slight slope. Let a toy truck roll down the slope. Now place it at the top of the slope and place a small block of wood in front of each wheel. Allow several students to try it. Discuss with the students the reason why the blocks cling to the board and prevent the truck from rolling down the slope.
2. Have the class experiment with weights. Lift a one-kilogram weight with one hand and a two-kilogram weight with the other. Use other weights and explain why it is harder to lift the heavier weights.
3. Put several books in a cardboard box and push it a short distance across a table top. Put several pencils parallel to each other and in a straight line so the box will roll on them. Push the box again. How do the pencils allow the box to move more easily? Explain to the class.

SECTION ONE

1.1 atmosphere
1.2 troposphere
1.3 ozone
1.4 sun
1.5 Choose from:
troposphere, exosphere, ionosphere, stratosphere, or mesosphere
1.6 a. across the land ənd water
b. up ənd down
1.7 Example:
It thins out (gets thinner ənd thinner).
1.8 Any order:
a. balloons
b. airplanes
c. sailboats
or gliders, kites
1.9 second day
1.10 Hint:
The air in the glass pusʌɐd some of the water down.
1.11 It returned to the same level əs it was in thɐ beginning.
1.12 no
1.13 because of the air in the glass
1.14 air fills space. (The air takes the place of water.)
1.15 yes
1.16 no
1.17 The window glass is transparent. The pəpeɪ is not.
1.18 radiation
1.19 air (atmosphere)
1.20 transparent
1.21 transparent
1.22 nearest (closest)
1.23 cooler
1.24 three ənd one-half
1.25 two
1.26 Heat rays from the sun pass through space.
1.27 Heat rays from the sun pəss through our atmosphere.
1.28 Heat rays strike the ground ənd warm it.
1.29 The ground əbsoxbs heat from the sun.
1.30 The ground heats the air above it.
1.31 no
1.32 no
1.33 It must have bɐɐn the air (pressure) that is pushing against the card board. Air pusʌɐs from all directions.
1.34 c. ɯoon
1.35 c. equal to
1.36 b. air
1.37 a. altitude
1.38 false
1.39 true
1dO false
1.41 true
I.42 true
1.43 true
I.44 false
I.45 false
I.46 moisture
1.47 fog
1.48 steam
1.49 cloud
1.50 vapor
1.51 d
1.52 b
1.53 f
1.54 c
1.55 a