Teach the IGCSE Standards with Carolina® Kits

Discover Effective Science Kits to Meet Cambridge IGCSE Standards

CAMBRIDGE

As you teach the Cambridge IGCSE, it's crucial to have reliable science investigations to teach science in an engaging, meaningful way that will prepare students well for post-16 study.

Use Carolina® kits to meet the science standards of the Cambridge IGCSE.

- Carolina® kits supplement the Cambridge IGCSE in biology, chemistry, and physics.
- The kits use hands-on investigations that challenge students to step into the shoes of a scientist, collect data, and analyze results.
- Students dig into investigations that foster independent research.
- Immersive labs support the Cambridge IGCSE standards for biology, chemistry, and physics.
- The kits are developed in-house and tested by a team of scientists, many of whom are former teachers.

Straightforward Kits, Minimal Preparation

Carolina® kits contain the framework and objectives that build toward Cambridge IGCSE standards. With inquiry-based student and teacher manuals, digital resources, and helpful teacher tips, you can focus on what you love to do most—teach.

You Guide Them. We Guide You.

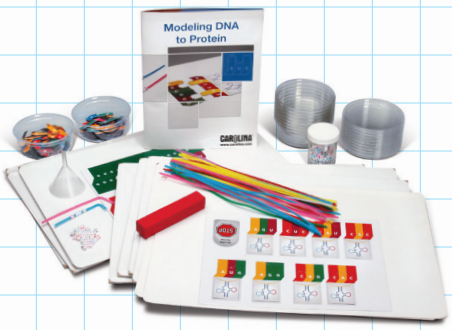
It is important to teach and guide your students in an enriched, engaging learning environment to prepare them for twenty-first century careers in science. Carolina® kits are rigorously tested for quality and meet the highest safety standards. Our technical support team is available to assist you with any questions you may have so you can be assured you are giving your students the very best.

Learn more about the kits at Carolina.com.

CAROLINA®

Carolina® kits help students formulate, analyze, and evaluate:

- hypotheses, research questions, and predictions
- methodologies and techniques
- primary and secondary data
- scientific explanations



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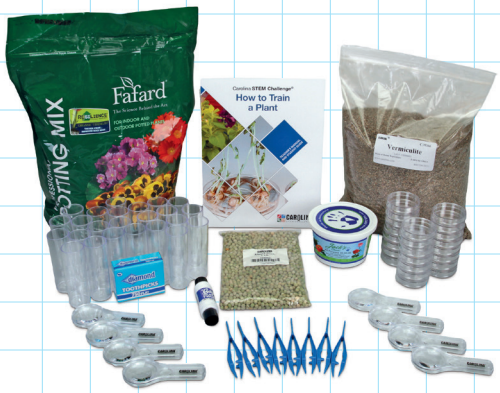

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Biology Kits

Use our kits to address the following biology topics of the IGCSE program:

Standard level (SL) topics

- Statistical Analysis
- Cell Biology
- Molecular Biology
- Genetics
- Ecology
- Evolution and Biodiversity
- Human Physiology
- Metabolism, Cell Respiration, and Photosynthesis

Higher level (HL) topics

- Nucleic Acids
- Plant Biology
- Genetics and Evolution
- Animal Physiology

UNIT	TOPIC	ITEM	KIT NAME
Characteristics and Classification of Living Organisms	1.1 Characteristics of living organisms	131210	Structure and Function Kit: The Evolution of Eukaryotes, Prokaryotes, and Viruses
	1.2 Concept and uses of classification systems	221040	Studying Classification with Cladograms Kit
	1.3 Features of organisms	221200	Basic Zoology Survey Sets
Organization of the Organism	2.1 Cell structure	251001	Inquiries in Science®: Investigating Cell Types Kit
	2.2 Size of specimens		No kit available
Movement Into and Out of Cells	3.1 Diffusion	684064	Cell Size and Diffusion
	3.2 Osmosis	684272	Osmosis and the Cell Membrane Kit
	3.3 Active transport	251022	Inquiries in Science®: Examining Cellular Transport
Biological Molecules	4.1 Biological molecules	201100	Carolina BioKits®: Molecules of Life
Enzymes	5.1 Enzymes	841172	Carolina ChemKits®: Introduction to Enzymes
Plant Nutrition	6.1 Photosynthesis	206100	Carolina BioKits®: Algae Bead Photosynthesis
	6.2 Leaf structure	303508	Discovering Monocot and Dicot Leaves Self-Study Unit, Microscope Slide Set

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UNIT	TOPIC	ITEM	KIT NAME
Human Nutrition	7.1 Diet		No kit available
	7.2 Digestive system	569657	Origami Organelles™ 3-D Paper Model Kit: Digestive System
	7.3 Physical digestion	399611	Digital Dissection: Fetal Pig, Classroom License
		221480M	Pig Dissection BioKit®
	7.4 Chemical digestion	202340	Carolina BioKits®: Digestion
	7.5 Absorption	202340	Carolina BioKits®: Digestion
Transport in Plants	8.1 Xylem and phloem	301304	Pine Stem Microscope Slides, c.s., 12 µm
	8.2 Water uptake	158702	Wisconsin Fast Plants® Growth, Development, and Reproduction Advanced Kits
	8.3 Transpiration	158702	Wisconsin Fast Plants® Growth, Development, and Reproduction Advanced Kits
	8.4 Translocation	158702	Wisconsin Fast Plants® Growth, Development, and Reproduction Advanced Kits
Transport in Animals	9.1 Circulatory system	399611	Digital Dissection: Fetal Pig, Classroom License
		221480M	Pig Dissection BioKit®
	9.2 Heart	221495M	Mammalian Heart Dissection BioKit®
		569653	Origami Organelles™ 3-D Paper Model Kit: Human Heart
	9.3 Blood vessels	221495M	Mammalian Heart Dissection BioKit®
		691003	Carolina STEM Challenge®: Circulatory System Kit
	9.4 Blood	313100	Discovering Human Blood Self-Study Unit, Microscope Slide Set
		700124	Carolina BioKits®: Blood Group Identification
Diseases and immunity	10.1 Diseases and immunity	569654	Origami Organelles™ 3-D Paper Model Kit: Immune System
		216332	CRISPR Adaptive Immunity Kit©
		766250	Bacterial Inhibition Kit
Gas Exchange in Humans	11.1 Gas exchange in humans	569661	Origami Organelles™ 3-D Paper Model Kit: Lungs
		692638	Miniature Lung Function Model
Respiration	12.1 Respiration	399611	Digital Dissection: Fetal Pig, Classroom License
		221480M	Pig Dissection BioKit®
	12.2 Aerobic respiration	202208	Investigating Cellular Respiration and Anaerobic Processes in Yeast Beads
	12.3 Anaerobic respiration	202208	Investigating Cellular Respiration and Anaerobic Processes in Yeast Beads
Excretion in Humans	13.1 Excretion in humans	695803	Kidney Filtration Simulation Kit
Coordination and Response	14.1 Coordination and response	696405	Carolina® Reflexes and Reactions Kit
	14.2 Sense organs	694502	Carolina BioKits®: Exploring Human Senses
	14.3 Hormones	191177P	Lettuce Hormone Interaction Kit
	14.4 Homeostasis	206210P	Homeostasis in Animals Kit
	14.5 Tropic responses	157896	Carolina STEM Challenge®: How to Train a Plant Kit
Drugs	15.1 Drugs	699750	Drug Analysis Kit

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UNIT	TOPIC	ITEM	KIT NAME
Reproduction	16.1 Asexual reproduction	251007	Inquiries in Science®: Understanding Reproduction and Chromosomes Kit
	16.2 Sexual reproduction	251007	Inquiries in Science®: Understanding Reproduction and Chromosomes Kit
	16.3 Sexual reproduction in plants	158702	Wisconsin Fast Plants® Growth, Development, and Reproduction Advanced Kit
	16.4 Sexual reproduction in humans		No kit available
	16.5 Sexual hormones in humans		No kit available
	16.6 Sexually transmitted infections		No kit available
Inheritance	17.1 Chromosomes, genes and proteins	211183	Modeling DNA to Protein Kit
	17.2 Mitosis	171000	Modeling Mitosis and Meiosis Kit
		302396	Onion Mitosis Root Tip Microscope Slides
	17.3 Meiosis	171010	Modeling Mitosis and Meiosis Kit
		176362	Monohybrid Genetics with Corn Kit
	17.4 Monohybrid inheritance	158940	Wisconsin Fast Plants® 72-Hour Monohybrid Genetics
Variation and Selection	18.1 Variation	211105	Genetic Kinship: Following the Globin Gene Through Time
	18.2 Adaptive features	251013	Simulating the Darwinian Theory Kit
		251015	Classifying Across the Kingdoms Kit
		251014	Changing Over Time Kit
	18.3 Selection	158778	Exploring Selection with Wisconsin Fast Plants® and Cotyledons
Organisms and Their Environment	19.1 Energy flow	187012	Carolina EcoKits®: Build Your Own Microcosm
		251011	Building Ecological Pyramids Kit
	19.2 Food chains and food webs	187104P	Food Chains and Energy Flow Kit
	19.3 Nutrient cycles	181061	Carolina Investigations® for Use With AP® Environmental Science: Biogeochemical Cycles
	19.4 Populations	187006	Carolina EcoKits®: Estimating Population Size
		251420	Inquiries in Science®: Analyzing Population Growth
		251422	Inquiries in Science®: Assessing Biodiversity
		251019	Inquiries in Science®: Interacting Populations
Human Influences on Ecosystems	20.1 Food supply	181080	Carolina Investigations® for AP® Environmental Science: Agriculture and Feeding a Growing Human Population
	20.2 Habitat destruction	187222	Changing Ecosystems
	20.3 Pollution	251415	Inquiries in Science®: Testing Water Pollution
		251414	Inquiries in Science®: Experiencing Air Pollution Kit
	20.4 Conservation	251410	Inquiries in Science®: Sustaining Ecosystems Kit
		331160	Analyzing Patterns in Climate Change
		187214	Carolina EcoKits®: Resource Sustainability
Biotechnology and Genetic Modification	21.1 Biotechnology and genetic modification	211337	DNALC Making Lactose-Free Milk Kit
	21.2 Biotechnology	211088	Glow-in-the-Dark Transformation Kit
	21.3 Genetic modification	217006P	BioBuilder® Golden Bread Transformation

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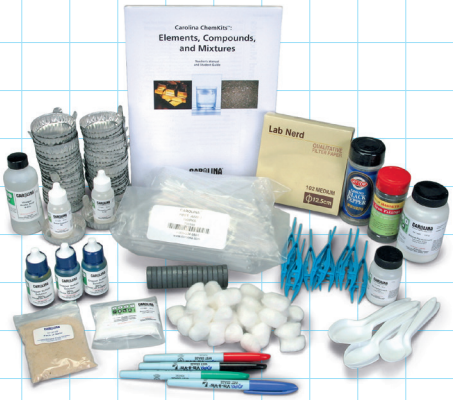
Carolina® kits help students develop a firm understanding of scientific processes.

Learn more about the kits at Carolina.com.



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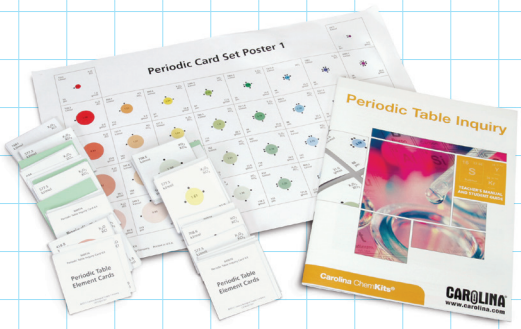

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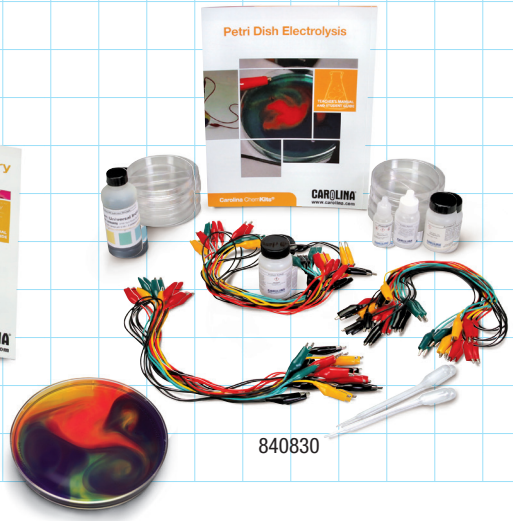

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Chemistry Kits

Use our kits to address the following chemistry topics of the **IGCSE** program:

- Acids and Bases
- Atomic Structure
- Chemical Kinetics
- Energetics/ Thermochemistry
- Equilibrium
- Measurement and Analysis
- Measurement and Data Processing
- Organic Chemistry
- Periodicity
- The Periodic Table: Transition Metals
- Redox Processes
- Stoichiometric Relationships

UNIT	TOPIC	ITEM	KIT NAME
States of Matter	1.1 Solids, liquids and gases	251201	Inquiries in Science®: Changing States of Matter Kit
	1.2 Diffusion		No kit available
Atoms, Elements and Compounds	2.1 Elements, compounds and mixtures	840968	Carolina ChemKits®: Elements, Compounds, and Mixtures Kit
	2.2 Atomic structure and the Periodic Table	840074	Periodic Table Inquiry
	2.3 Isotopes	840715	Radioactive Decay and Half-Life Simulations
	2.4 Ions and ionic bonds	840835	Chemical Bonding
	2.5 Simple molecules and covalent bonds	251204	Inquiries in Science®: Bonding Chemically Kit
	2.6 Giant covalent structures	840838	Carolina ChemKits®: Molecular Modeling
		841174	Carolina ChemKits®: Molecular Structure and Design
	2.7 Metallic bonding	840319	Carolina Chemonstrations: Metal Activity Series
Stoichiometry	3.1 Formulae	251206	Inquiries in Science®: Determining Chemical Formulas
	3.2 Relative masses of atoms and molecules	251206	Inquiries in Science®: Determining Chemical Formulas
	3.3 The mole and Avogadro constant	840717	Introduction to Stoichiometry Kit

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UNIT	TOPIC	ITEM	KIT NAME
Electrochemistry	4.1 Electrolysis	840830	Carolina ChemKits®: Petri Dish Electrolysis
	4.2 Hydrogen-oxygen fuel cells	759947	H-Racer 2.0 Fuel Cell Car
Chemical Energetics	5.1 Exothermic and endothermic reactions	840744	Energy in Chemical Reactions
Chemical Reactions	6.1 Physical and chemical changes	251200	Inquiries in Science®: Understanding Properties of Matter Kit
	6.2 Rate of reaction	251212	Inquiries in Science®: Investigating Reaction Rates Kit
	6.3 Reversible reactions and equilibrium	840594	Carolina Investigations® for AP® Chemistry: Le Châtelier's Principle and Equilibrium Shifts
	6.4 Redox	840842	Carolina ChemKits®: Silver Vials
Acids, Bases and Salts	7.1 The characteristic properties of acids and bases	251214	Inquiries in Science® Discovering Acids and Bases Kit
	7.2 Oxides		No kit available
	7.3 Preparation of salts		No kit available
The Periodic Table	8.1 Arrangement of elements	251203	Inquiries in Science®: Interpreting the Periodic Table Kit
	8.2 Group I properties	251203	Inquiries in Science®: Interpreting the Periodic Table Kit
	8.3 Group VII properties	251203	Inquiries in Science®: Interpreting the Periodic Table Kit
	8.4 Transition elements	251203	Inquiries in Science®: Interpreting the Periodic Table Kit
	8.5 Noble gases	251203	Inquiries in Science®: Interpreting the Periodic Table Kit
Metals	9.1 Properties of metals	251203	Inquiries in Science®: Interpreting the Periodic Table Kit
	9.2 Uses of metals		No kit available
	9.3 Alloys and their properties		No kit available
	9.4 Reactivity series	840319	Metal Activity Series
	9.5 Corrosion of metals	840319	Metal Activity Series
	9.6 Extraction of metals	251403	Inquiries in Science®: Mining for Minerals Kit
Chemistry of the Environment	10.1 Water	331130	Transformative Properties of Water
	10.2 Fertilisers	158725	Wisconsin Fast Plants® Plant Nutrition Kit
	10.3 Air quality and climate	187218	Carolina EcoKits®: Air Quality Survey
Organic Chemistry	11.1 Formulae, functional groups and terminology	251218	Inquiries in Science®: Introducing Organic Chemistry Kit
	11.2 Naming organic compounds	251218	Inquiries in Science®: Introducing Organic Chemistry Kit
	11.3 Fuels	180950	Carolina STEM Challenge®: Biofuels
	11.4 Alkanes	251218	Inquiries in Science®: Introducing Organic Chemistry Kit
	11.5 Alkenes	251218	Inquiries in Science®: Introducing Organic Chemistry Kit
	11.6 Alcohols	251218	Inquiries in Science®: Introducing Organic Chemistry Kit
	11.7 Carboxylic acids	840230	Minit Organic/Inorganic Set
	11.8 Polymers	840339	Carolina Chemonstrations®: Nylon Synthesis
Experimental Techniques and Chemical Analysis	12.1 Experimental design	820105	Carolina STEM Challenge®: Crystal Growing Kit
		840665	Carolina ChemKits®: Exploring Acids and Bases
	12.2 Acid-base titrations	840584	Carolina Investigations® for Use with AP® Chemistry: Microscale Titration: How Much Vitamin C is in Fruit Juices?
	12.3 Chromatography	840642	Carolina ChemKits®: Introduction to Paper Chromatography
	12.4 Separation and purification	840570	Carolina Investigations® for Use with AP® Chemistry: Gravimetric Analysis Kit
	12.5 Identification of ions and gases	840660	Mystery Chemical Reactions Kit

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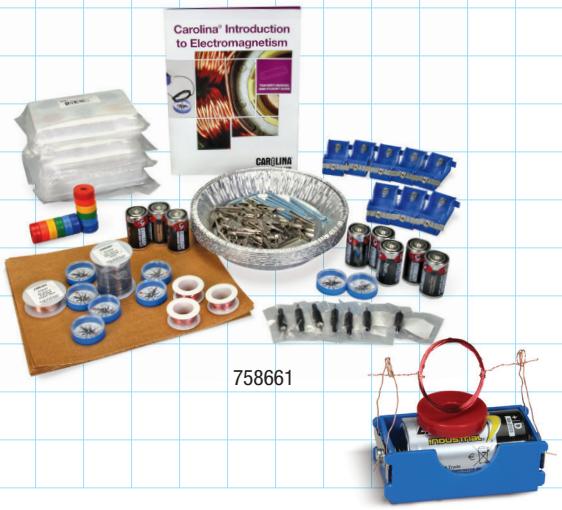
Carolina® kits have short-term and long-term investigations. Learn more about the kits at Carolina.com.



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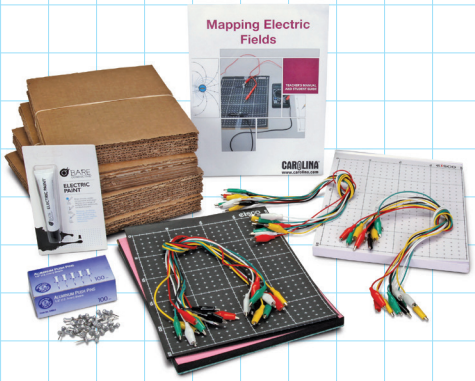

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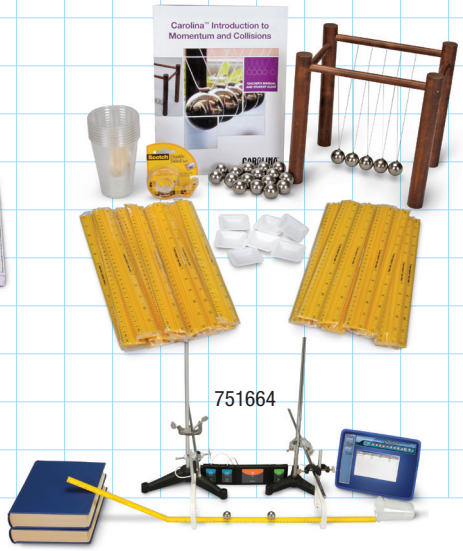

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Physics Kits

Use our kits to address the following physics topics of the **IGCSE** program:

- Atomic, Nuclear and Particle Physics
- Circular Motion
- Electricity and Magnetism
- Energy Production
- Fields
- Electromagnetic Induction
- Forces and Motion
- Gravitation
- Measurements and Uncertainties
- Mechanics
- Quantum and Nuclear Physics
- Thermal Physics
- Waves
- Wave Phenomena

UNIT	TOPIC	ITEM	KIT NAME
Motion, Forces and Energy	1.1 Physical quantities and measurement techniques	751475	Measurement Set
	1.2 Motion	751463	Carolina® Introduction to Force and Motion
	1.3 Mass and weight		No kit available
	1.4 Density	752463	Carolina® Introduction to Density Kit
	1.5 Forces	751463	Carolina® Introduction to Force and Motion
	1.6 Momentum	751664	Carolina® Introduction to Momentum and Collisions
	1.7 Energy, work and power	751346	Simple Machines: Gears, Wheels, and Axles
	1.8 Pressure	840289	Combined Gas Laws
Thermal Physics	2.1 Kinetic particle model of matter	753545	Carolina® Introduction to Heat and Temperature
	2.2 Thermal properties and temperature	753545	Carolina® Introduction to Heat and Temperature
	2.3 Transfer of thermal energy	753720	Carolina® First and Second Laws of Thermodynamics
		750054	Carolina STEM Challenge®: Keep It Hot
Waves	3.1 General properties of waves	754086	Carolina® Introduction to Waves Kit
	3.2 Light	755019	Carolina® Introduction to Light and Optics
	3.3 Electromagnetic spectrum		No kit available
	3.4 Sound	754113	Carolina™ Introduction to Sound Kit

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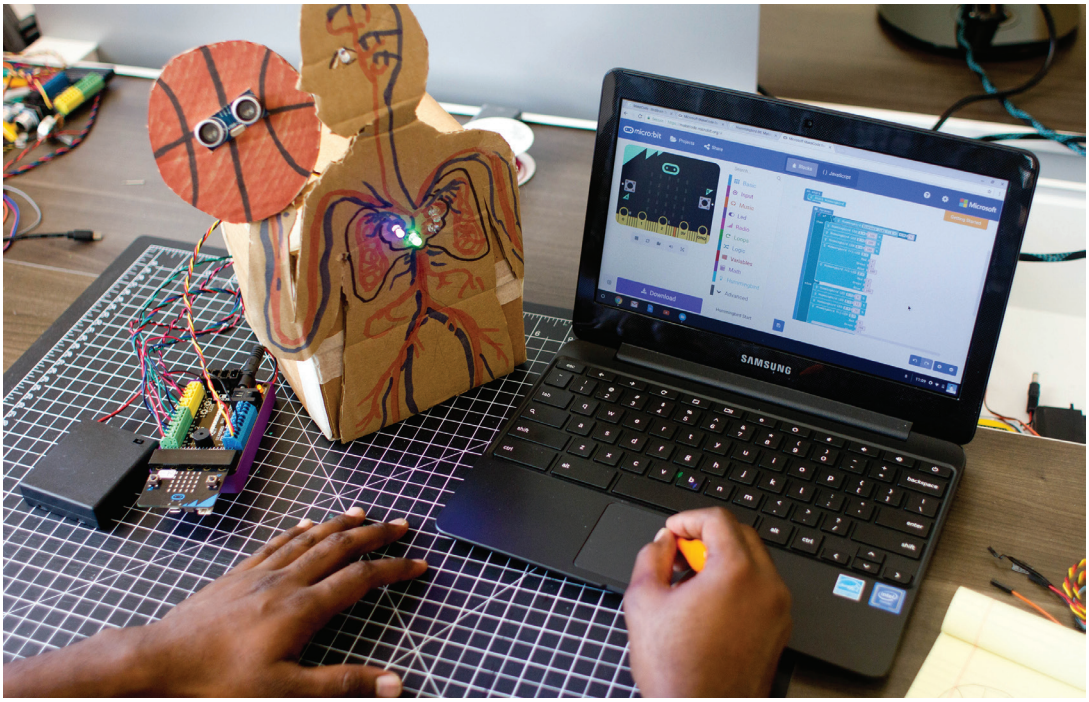
UNIT	TOPIC	ITEM	KIT NAME
Electricity and Magnetism	4.1 Simple phenomena of magnetism	758231	Carolina® Introduction to Magnetism
	4.2 Electrical quantities	755811	Electrostatics Kit
	4.3 Electrical circuits	754034	Carolina® Ohm's Law and Kirchhoff's Rules
	4.4 Electrical safety		No kit available
	4.5 Electromagnetic effects	758661	Carolina® Introduction to Electromagnetism
		756010	Carolina® Mapping Electric Fields
Nuclear Physics	5.1 The nuclear model of the atom	840357	Carolina Chemonstrations®: Energy Transformations with Irradiated Salts
		840232	Carolina ChemKits®: Atomic Theory Kit
	5.2 Radioactivity	840715	Radioactive Decay and Half-Life Simulations
Space Physics	6.1 Earth and the solar system	331106	Planetary Motion Kit
	6.2 Stars and the universe	331104	Stellar Origin of the Elements



Students can design their own investigations with Carolina® kits, fostering independent thinking and research.