



1st Form INTEGRATED SCIENCE YEARLY CURRICULUM

Text: Mcmonagle (2016) Integrated Science for CSEC 2nd edition
Credit Hours: 5

Facilitator: Mr. Erick Santizo

Course Description

Integrated Science is very important and relevant; it deals with the study of our biological, physical and chemical environment. The knowledge and understanding of oneself and other organisms will undoubtedly improve the life of the individual as a whole.

It is expected that students will participate <u>in all CCSLC exercise</u> and make sure that <u>all assignments are done and passed in on time</u>. Students are strongly encouraged to pay keen attention to their CCSLC exercises since the grading criteria to be used will be as recommended by CCSLC.

| Grading Scheme | 1 st Semester | 2 nd Semester |
|----------------|--------------------------|--------------------------|
| Tests | 40% | 30% |
| Quizzes | 30% | 15% |
| Presentation | 10% | 20% |
| Assignments | 10% | 10% |
| Participation | 10% | None |
| EXAM | None | 25% |
| Total | 100% | 100% |

| **Discuss how science and technology have been utilized to solve ONE of the challenges **Discuss how science and technology have been utilized to solve ONE of the challenges **Discuss how science and technology obj. 2 (CCSLC) **Discuss how science and technology obj. 2 (CCSLC) **Discuss how science and technology obj. 2 (CCSLC) **Describe the work of at least TWO Caribbean scientists **Plescribe the work of one non-Caribbean scientists **Describe the work of ONE non-Caribbean scientists **Discuss two reasons measurement is important scientific skill **Define the terms length, mass, volume, temperature and time; **Stimulus materifor understanding terms **State the SI units and instruments used to measure length, mass, volume, temperature and time. **Demonstrate the correct use of measuring instruments **Discuss the uses of water **Demonstration experiment **Stimulus materifor understanding terms **Demonstrate the correct use of measuring instruments **Discuss the uses of water **Carry out investigations to show the physical | SCI | mester 1, 2018 | | 1 Form |
|--|------------------------|------------------------------------|--|-----------------------|
| SCIENTIST Science and Technology Science | Date | | | Activities |
| Science and Technology Safety State the meaning of common safety symbols Science and Technology Science a | | MODULE I: WORKING LIKE A | ** Establish rules with students | Review Quiz |
| Secince and Technology Sept 3ad Sept 10d Safety Secince and Technology Sept 3ad Sept 10d Safety Secince and Technology Sept 17d Safety Secince and Technology Sept 17d Safety Secince and Technology Sept 17d Secince and Technology Secince and | Aug 27 th | | **Distinguish between science and technology | Handout |
| Week 2 Sept 3rd - 22rd | -31^{st} | → Science and Technology | | |
| Sept 3 ^{rd - 1} *Apply the scientific method work | Aug | *Science and technology | | |
| Sept 3 nd | Week 2 | → Science and Technology | **Describe ways in which scientists do their | Investigation: |
| Week 3 | Sept 3 rd – | | · · · · · · · · · · · · · · · · · · · | |
| Sept 10 th | 7^{th} | 11 7 | **Apply the scientific method in a given | |
| Week 3 Sept 10 th Maintaining a safe environment *Safety symbols **Baintaining a safe environment *Safety symbols **State the meaning of common safety symbols **Esearch the work of OnE nor-Caribbean scientists **Describe the work of at least TWO Caribbean scientists **State the work of ONE nor-Caribbean scientists **Describe the work of ONE nor-Caribbean scientists **Describe the work of ONE nor-Caribbean scientists **State the structure and time; **State the ST units and instruments used to measure length, mass, volume, temperature and time. **Demonstrate the correct use of measuring instruments **Carry out investigations to show the physical properties of water **State the properties of water **Explain the effects of pollution o | | | | |
| Sept 10 th *Maintaining a safe environment *Safety symbols *State the meaning of common safety symbols *State the fill the meaning of common safety symbols *State the fill the meaning of common safety symbols *State the fill the meaning of common safety symbols *State the fill the meaning of common safety symbols *State the fill the meaning of common safety symbols *State the fill the meaning of common safety symbols *State the meaning of common safety symbols *State the fill the meaning of common safety symbols *State the meaning of common safety symbols *State the meaning of common safety symbols *State the fill the meaning of common safety symbols *State the meaning o | Week 3 | → Safety | **Discuss the importance of maintaining a safe | |
| Week 5 Sept 24th | Sept 10 th | | environment | |
| Week 4 Sept 17th 22st 22st 24th 22st 25t 24th 22st 25t 24th 22st 25t | | | **State the meaning of common safety symbols | |
| Sept 17th — 22st — 8 Cience and Technology — 8 Challenges in the Caribbean — 8 Using Science and technology to solve problems — 28th — | Week 4 | | | Recording and |
| **Discuss how science and technology have been utilized to solve ONE of the challenges solve problems **Discuss how science and technology have been utilized to solve ONE of the challenges solve problems **Discuss how science and technology have been utilized to solve ONE of the challenges obj. 2 (CCSLC) **Describe the work of at least TWO Caribbean scientists **Describe the work of ONE non-Caribbean scientists **Classify living things as plants and animals **Explain the concept of a cell **Classify living things as plants and animals **Characteristics of living things **Classify living things as plant | Sept 17 th | | | communication: |
| Week 5 Sept 24th Seponses to challenges using Science and Technology Science and Technol | | | **Discuss how science and technology have | Research/Report |
| Solve problems Solve problems Science and Technology **Describe the work of at least TWO Caribbean Science and Technology **Caribbean Scientists Science and Technology **Caribbean Scientists **Describe the work of ONE non-Caribbean Science and Technology *Non-Caribbean Scientists **Describe the work of ONE non-Caribbean Science and Technology *Non-Caribbean Scientists **Describe the work of ONE non-Caribbean Science and Technology **Non-Caribbean Scientists **Describe the work of ONE non-Caribbean Science and Technology **Non-Caribbean Science and Technology **Describe the work of ONE non-Caribbean Science and Technology **Describe the work of ONE non-Caribbean Science and Technology **Describe the work of ONE non-Caribbean Science and Technology **Describe the work of ONE non-Caribbean Scientists **Describe the work of ONE non-Caribean **Carabana **State the SI units **Carabana **Ca | | | | |
| Week 5 Sept 24th C28th | | | | |
| Science and Technology | Week 5 | | **Describe the work of at least TWO Caribbean | Group work: |
| **Carribbean Scientists | Sept 24 th | | | |
| Week 6 Oct 1st - 5th Neasurement: an important scientific skill | -28^{th} | | | |
| Science and Technology | Week 6 | Responses to challenges using | **Describe the work of ONE non-Caribbean | |
| State the SI units State the SI units State the SI units and instruments used to measure length, mass, volume, temperature and time. State the SI units and instruments used to measure length, mass, volume, temperature and time. State the SI units and instruments used to measure length, mass, volume, temperature and time. State the SI units and instruments used to measure length, mass, volume, temperature and time. State the SI units and instruments used to measure length, mass, volume, temperature and time. State the SI units and instruments used to measure length, mass, volume, temperature and time. State the correct use of measuring device State the correct use of measuring device State the correct use of measuring device State the properties of water State t | Oct 1st – | | | |
| Scientific skill * Define the terms length, mass, volume, temperature and time; * Stimulus materifor understanding terms * State the SI units and instruments used to measure length, mass, volume, temperature and time; * State the SI units and instruments used to measure length, mass, volume, temperature and time, * Demonstrate the correct use of measuring instruments * Demonstrate the correct use of measuring instruments * Demonstrate the correct use of measuring instruments * Demonstrate the correct use of measuring device instruments * Demonstrate the correct use of measuring of water * Demonstrate the correct use of measuring of water * Carry out investigations to show the physical properties of water * Relate the properties of water with its uses * Relate the properties of water with its uses * Explain the effects of pollution on aquatic life * Describe characteristics of living things * Classify living things as plants and animals * Explain the concept of a cell | | | | |
| Oct 8th – 12th ** Scientific skill ** Define the terms length, mass, volume, temperature and time; ** State the SI units and instruments used to measure length, mass, volume, temperature and time; Use checklist to evaluate students mastery in using measuring device instruments Week 9 Oct 22th – 26th Weter **Properties of water **Properties of water **Water pollution **Effects of pollutants Week 10 Oct 29th – Nov 2nd Wodular II: UNDERSTANDING **Demonstrate the correct use of measuring instruments **Discuss the uses of water **Carry out investigations to show the physical properties of water **Relate the properties of water with its uses **Explain the effects of pollution on aquatic life **Explain the effects of living things **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part | Week 7 | → Measurement: an important | * Discuss two reasons measurement is important | -Demonstration |
| Temperature and time; Stimulus materifor understanding terms | Oct 8 th – | | | experiment |
| Week 8 Oct 15 th – 19 th Week 9 Oct 22 nd – 26 th Wetek 10 Oct 29 th – Nov 2 nd Week 10 Oct 29 th Week 10 Oct 29 th Oct 29 th Nov 2 nd Week 10 Oct 29 th Oct 29 th Nov 2 nd Week 8 Oct 15 th ATTER *State the SI units and instruments used to measure length, mass, volume, temperature and time. *Demonstrate the correct use of measuring instruments **Discuss the uses of water **Carry out investigations to show the physical properties of water with its uses **Relate the properties of water with its uses **Explain the effects of pollution on aquatic life **Discuss the uses of water **Relate the properties of water with its uses **Explain the effects of pollution on aquatic life **Explain the effects of living things **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part | 12 th | * | _ | - Stimulus material |
| Week 9 Oct 22 nd — Water 26 th — Water **Properties of water **Uses of water **Water pollution **Effects of pollutants Week 10 Oct 29 th — Nov 2 nd Week 10 Oct 29 th — Nov 2 nd Week 8 Oct 15 th — 19 th **SI units **State the SI units and instruments used to measure length, mass, volume, temperature and time. **Demonstrate the correct use of measuring instruments **Discuss the uses of water **Carry out investigations to show the physical properties of water **Relate the properties of water with its uses **Explain the effects of pollution on aquatic life **Carryout investigations to show the physical properties of water with its uses **Explain the effects of pollution on aquatic life **Carryout investigations to show the physical properties of water with its uses **Explain the effects of pollution on aquatic life **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part | | | | for understanding |
| Oct 15 th – 19 th Week 9 Oct 22 nd – 26 th Week 10 Oct 29 th – Nov 2 nd Week 10 Oct 20 th – Nov 2 th | | | | |
| time. *Demonstrate the correct use of measuring instruments *Demonstrate the correct use of measuring measuring devices instruments **Discuss the uses of water **Carry out investigations to show the physical properties of water with its uses *Uses of water **Relate the properties of water with its uses **Explain the effects of pollution on aquatic life **Explain the effects of living things **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part **State one function of each major cell part **Investigation: **Planning and designing activity (**CCSLC*) -Recording and communication: **Research/Report Obj. 2 (**CSLC*) | | * SI units | * State the SI units and instruments used to | Use checklist to |
| time. *Demonstrate the correct use of measuring instruments *Demonstrate the correct use of measuring measuring devices instruments **Discuss the uses of water **Carry out investigations to show the physical properties of water with its uses *Uses of water **Relate the properties of water with its uses **Explain the effects of pollution on aquatic life **Explain the effects of living things **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part **State one function of each major cell part **MODULE III: UNDERSTANDING measuring measuring devices *Investigation: **Planning and designing activity (CCSLC) -Recording and communication: **Explain the concept of a cell **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part | Oct 15^{th} – | | measure length, mass, volume, temperature and | evaluate students' |
| Week 9 Oct 22 nd - 26 th Weter **Properties of water **Explain the effects of pollution on aquatic life **Explain the effects of living things **Discuss the uses of water **Carry out investigations to show the physical properties of water with its uses **Explain the effects of pollution on aquatic life **Explain the effects of living things **Classify living things as plants and animals **Explain the concept of a cell **Explain the concept of a cell **State one function of each major cell part | 19 th | | = | mastery in using |
| Week 9 Oct 22 nd – 26 th Water **Properties of water **Uses of water **Water pollution **Effects of pollutants Week 10 Oct 29 nd – Nov 2 nd Week 10 **Characteristics of living things **Classify living things **State one function of each major cell part **Discuss the uses of water **Carry out investigations to show the physical properties of water **Relate the properties of water with its uses **Explain the effects of pollution on aquatic life **Explain the effects of living things **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part | | | *Demonstrate the correct use of measuring | measuring devices |
| Oct 22 nd – 26 th **Carry out investigations to show the physical properties of water **Relate the properties of water with its uses **Explain the effects of pollution on aquatic life **Explain the effects of pollution on aquatic life **Besearch/Report Obj. 2 (CCSLC) **Classify living things as plants and animals **Characteristics of living things **Explain the concept of a cell **State one function of each major cell part | | | instruments | |
| Properties of water *Properties of water *Uses of water *Water pollution *Effects of pollutants Week 10 Oct 29 th − Nov 2 nd Nov 2 nd *Water *Water **Relate the properties of water with its uses **Explain the effects of pollution on aquatic life **Explain the effects of pollution on aquatic life **Describe characteristics of living things **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part **State one function of each major cell part | | MODULE II: INVESTIGATING | **Discuss the uses of water | Investigation: |
| **Relate the properties of water with its uses *Uses of water **Uses of water **Water pollution *Effects of pollutants **Describe characteristics of living things **Classify living things as plants and animals **Explain the effects of pollution on aquatic life **Describe characteristics of living things **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part | | MATTER | **Carry out investigations to show the physical | Planning and |
| *Uses of water *Water pollution *Effects of pollutants **Explain the effects of pollution on aquatic life *Water pollution *Effects of pollutants **Describe characteristics of living things **Classify living things as plants and animals **Explain the effects of pollution on aquatic life communication: **Research/Report Obj. 2 (CCSLC) **Classify living things as plants and animals **Explain the concept of a cell **Explain the effects of pollution on aquatic life -Recording and communication: **Research/Report Obj. 2 (CCSLC) **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part | 26 th | → Water | properties of water | designing activity |
| *Water pollution *Effects of pollutants Week 10 Oct 29 th - Nov 2 nd Nov 2 nd *Water pollution *Effects of pollutants **Describe characteristics of living things **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part communication: **Research/Report Obj. 2 (CCSLC) **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part | | *Properties of water | **Relate the properties of water with its uses | (CCSLC) |
| *Effects of pollutants *Effects of pollutants *Research/Report Obj. 2 (CCSLC) Week 10 Oct 29 th – Nov 2 nd **Describe characteristics of living things **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part **State one function of each major cell part | | *Uses of water | **Explain the effects of pollution on aquatic life | -Recording and |
| Week 10 Oct 29 th - Nov 2 nd N | | - | | |
| Week 10 Oct 29 th − Nov 2 nd MODULE III: UNDERSTANDING LIFE Nov 2 nd **Describe characteristics of living things **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part | | *Effects of pollutants | | Research/Report |
| Oct 29 th − Nov 2 nd LIFE **Classify living things as plants and animals **Explain the concept of a cell **State one function of each major cell part | | | | Obj. 2 (CCSLC) |
| Nov 2 nd Diving Organisms **Explain the concept of a cell **State one function of each major cell part | | | | |
| *Characteristics of living things | Oct 29 th – | | | |
| | Nov 2 nd | | | |
| *Cell Concept | | | 5 1 | |
| | | * | **Differentiate between plant and animal cells | |
| *Function of cell part | | - | | |
| *Plant and animal cells | | | | |
| Week 11 *Describe the relationship from cells through | | | | |
| Nov 5 th – *Relationship from cells through tissues and organs to systems | | | | |
| 9 th tissues and organs to systems **State one function of the major systems in an | 9''' | | | |
| *Functions of the major systems in organism | | | organism | |
| organisms | | organisms | | |

| Week 12 | → Plants | **Explain the importance of plants to humans | |
|---------------------------------------|--|--|-------|
| Nov 12 th | *Importance of plants/Food chain | **Draw and label a diagram of a simple leaf | |
| -16^{th} | *Parts of a leaf | **Describe the process of photosynthesis | |
| | *Photosynthesis | **State the functions of each part of a flower | |
| | *Parts of a flower | **Describe pollination | |
| | *Pollination | **Identify two agents of pollination | |
| Week 13 | → Plants | **Describe fertilization and seed production in | Quiz |
| Nov 19 th | *Fertilization & seed production | plants | Q |
| $-23^{\rm rd}$ | *Germination | **Investigate the conditions necessary for | |
| 23 | Communion | germination | |
| Week 14 | MODULE IV: FOCUSING ON ME | **Compare secondary growth in humans | Test |
| Nov 26 th | → Reproduction | **Identify and state the function of the parts of | 1030 |
| -30^{th} | *Secondary growth in humans | the human reproductive system (male and | |
| 30 | *human reproductive systems | female) | |
| Week 15 | → Reproduction | **Describe the process of sexual reproduction in | |
| Dec 3 rd – | *Sexual reproduction in humans | humans | |
| 7 th | *Contraceptive methods | **Briefly describe the principles governing | |
| / | *Contraceptive methods | different contraceptive methods* | |
| | | *Explain the need for pre- and post-natal care in | |
| | | humans | |
| Week 16 | N Donwoduction | | |
| Nov 27 th | *Pre and post notel come in humans | **Justify the need for screening examination in | |
| | *Pre- and post-natal care in humans | maintaining good reproductive health | |
| – Dec 1st | *Screening Examination | **Discuss the impact of pregnancy on the body | |
| W 1- 15 | *Teenage Pregnancy | of a teenager | Cl.' |
| Week 15 | MODULE IV: FOCUSING ON ME | **Define the term drug | Skits |
| Dec 4 th – 8 th | Drugs | **Discuss the effects of drugs on individuals | |
| | *Definition & Effects of drugs | distance of the state of the st | |
| Week 16 | → Diseases | **Explain what is a disease | Test |
| $10^{th}-14^{th}$ | *Comparing different types of diseases | **Compare the different types of diseases | |
| | *Maintaining personal hygiene | **Explain the importance of maintaining | |
| | *Practicing healthy lifestyle | personal hygiene | |
| | | **Explain the importance of practicing healthy | |
| | | lifestyle | |
| | | | |
| Dec 14- | Christmas Vacation | Three weeks | |
| Jan 4 | MODULE V. EVELOPEIG | *************************************** | |
| Week 17 | MODULE V: EXPLORING | **State at least THREE forms of energy | |
| Jan 7 th – | ENERGY | **Explain the concept of energy | |
| 11 th | Forms of energy | **Identify the form of energy present in a named | |
| | *Concept of energy | object or situation | |
| | *Forms of energy present in named | | |
| | object or situation | | |
| Week 18 | → Forms of energy | **Predict the energy conversions (changes) | |
| Jan 14 th – | *Energy conversions | occurring in given situations | |
| 18 th | *Impact of energy conversions on way | **Discuss the impact of energy conversions on | |
| | of life | our way of life | |

SEMESTER 2, 2019

1st Form

| Week 1 | ▶ Energy sources | **Classify energy as renewable and non- | |
|-----------|-------------------------------------|---|--|
| Jan 21-25 | *Renewable and non-renewable energy | renewable**Compare the feasibility of | |
| | sources | alternative energy sources | |
| | *Alternative energy sources | | |

| Week 2 | ▶ Energy sources | **Define the term fossil fuel | |
|-----------------------|--|--|---------------------|
| Jan 28- Feb | *Fossil fuels | **Discuss the effects of fossil fuels on the | |
| 1 st | *Effects of fossil fuel on the environment | environment | |
| Week 3 | ▶ Energy sources | **Discuss the need to conserve energy | |
| Feb $4^{th} - 8^{th}$ | *Conservation of energy | | |
| Week 4 | MODULE V: HEAT ENERGY+- | **Describe how thermometers are used to | |
| Feb 11 - 15 | → Heat & its Effects | measure an object's temperature | |
| | *Heat and Temperature | **Explain the difference between heat | |
| | | energy and temperature | |
| | | **Describe some of the effects of changing a material's temperature, including changes | |
| | | of state, and expansion and contraction | |
| Week 5 | → Heat & its Effects | **State the difference between conductors | Investigation: |
| Feb 18-22 | *How heat energy travels | and insulators of heat, and give examples of | laboratory report |
| | <i>g</i> , | each | {3 activities using |
| | | **Explain why metals are better conductors | the THREE |
| | | of heat than plastics | methods of heat |
| | | | transfer} |
| W 1 6 | NTL 4 0 *4 F00 4 | 44D 1 1 1 | (CCSLC) |
| Week 6 Feb 25 -Mar | → Heat & its Effects | **Explain how convection currents occur in | |
| Feb 25 -Mar | | liquids and gases **Describe how heat energy can travel as | |
| 1 | | radiation | |
| Week 7 | UNIT VIII: THE UNIVERSE | **Name the different objects that make up | |
| March 5-9 | → The Universe | the solar system | |
| | *The Solar system | **Describe how the planets, asteroids and | |
| | | comets orbit the Sun | |
| W 1.0 | *** | **E 1: 1 d 1 Cd M | |
| Week 8 March 12-16 | *Moon and Earth | **Explain how the phases of the Moon | |
| Maich 12-10 | | occur **Explain how eclipses of the Sun and | |
| | | Moon occur | |
| | | **Explain the role of the Moon in the | |
| | | creation of tides | |
| Week 9 | → The Universe | **Understand that there are many different | |
| March 18-22 | **Building blocks of the Universe | objects beyond our solar system | |
| | | **Describe a galaxy | |
| | | | |
| Week 10 & | EASTER BREAK | | |
| 11 | LIN I DIOM | | |
| March 25- | | | |
| April 5 | | | |
| Week 12 | *The History of the Universe | **Explain what is meant by a light year | |
| April 8 -12 | | **Describe how telescopes help us to | |
| | | understand the Universe **State that many | |
| | | scientists believe that the Universe started | |
| Week 13 | → The Universe | billions of years ago, with a Big Bang **Describe how distant galaxies are moving | |
| April 15-19 | *Exploring Space | rapidly away from us | |
| 74pm 15-17 | Exploring space | **Outline some of the uses of spacecraft | |
| | | **State some requirements for life in space | |
| | | and other planets | |
| Week 14 | → Atomic structure | * Describe the scientists involved in the | |
| April 22-26 | *History of the atomic structure | evolution of the atomic structure | |

| | *Parts of an atom | *Distinguish between sub atomic particles | |
|--------------------------|--|--|--|
| | | *Create a model of the atom | |
| Week 15 | *Periodic table | Use periodic table to calculate neutron | |
| April 29 th – | * Bohrs model and Lewis dot structure. | number. | |
| May 3 rd | | *Draw structures of atoms using the Bohr | |
| | | model and lewis dot structure. | |
| Week 16 | * Metals, Non metals, Metalloids | * Differentiate between characteristics of | |
| May $5^{th} - 9^{th}$ | | elements. | |
| Week 17 | * Ionic bonds | * Explain what are ionic bonds | |
| May $12 - 17$ | | *Draw Ionic bonds | |
| Week 18 | covalent bonds | *explain covalent bonds | |
| May 20-24 | | * Draw covalent bonds. | |
| | | | |
| Week 19 | Review Week | | |
| May 27 - 31 | | | |
| Week 20 | EXAM | | |
| June 3 rd – | | | |
| 7th | | | |
| | | | |

****Activities in BOLD $\underline{\text{MUST}}$ be done for CCSLC