Virginia Applied Studies Curriculum Map

Science

Classification - The student uses various classification methods to organize information. SCI- CLASS

1 Recognize and Recall

- a Sort things based on similarities and differences SCI- CLASS.1A
- b Match basic characteristics of living and non-living things SCI- CLASS.1B

2 Identify and Comprehend

- a Identify where different organisms/item live/belong SCI- CLASS.2A
- b Sort items into groups with similar characteristics SCI- CLASS.2B
- c Categorize items based on features, functions and class SCI- CLASS.2C

3 Interpret and Understand

- a Group items by harmful and not harmful. (i.e., toxic plants, dangerous equipment) SCI- CLASS.3A
- b Explain the differences and similarities between various plants and animals SCI-CLASS.3B
- c Identify organisms based on their environment (i.e., Specific plants need certain conditions to grow) SCI- CLASS.3C
- d Describe similarities between items SCI- CLASS.3D

4 Apply and Generalize

- a Apply knowledge of items to real world situations (e.g., knowing difference between venomous and non-venomous animals, identifying appropriate tools to complete a job) SCI- CLASS.4A
- b Use knowledge of a variety of items/concepts to problem solve real world problems SCI- CLASS.4B
- c Use categorization to sort and explain various pieces of information SCI- CLASS.4C

Ecology - The student utilizes knowledge of natural resources to practice conservation of resources. WRS: 15 SCI-ECO

1 Recognize and Recall

- a Find natural and unnatural items in their environment SCI-ECO.1A
- b Sort between different recyclable and nonrecyclable materials SCI-ECO.1B

2 Identify and Comprehend

- a Recognize which are consumers and which are producers SCI-ECO.2A
- b Name specific things in the environment needed to live (i.e., Water, food, shelter) SCI-ECO.2B
- c Label and sort recyclable materials SCI-ECO.2C

3 Interpret and Understand

- a Verify the importance of the sun in the ecosystem SCI-ECO.3A
- b Identify sources of energy in the environment SCI-ECO.3B
- c Perform resource management tasks (i.e., recycling, reusing, reducing waste) SCI-ECO.3C
- d Understand impact individuals' behavior has on environment and opportunities to conserve resources SCI-ECO.3D

4 Apply and Generalize

- a Apply knowledge of how the ecosystem works to real life experiences SCI-ECO.4A
- b Apply recycling knowledge to own environment SCI-ECO.4B
- c Apply knowledge of energy sources when making decisions about places to live, work, etc. SCI-ECO.4C
- d Utilizes opportunities to conserve resources within household/living routines SCI-ECO.4D
- e Practice habits that will prevent negative human impact on the earth (recycling, planting plants) SCI-ECO.4E

Chemical Reactions - The student identifies and applies chemical characteristics and interactions in a variety of environments. WRS: 11 SCI-CHEM

1 Recognize and Recall

- a Match pictures or objects of chemicals SCI-CHEM.1A
- b Select picture or example of a chemical reaction SCI-CHEM.1B
- c Show that you can build larger things from smaller things SCI-CHEM.1C
- d Choose individual ingredients in cooking SCI-CHEM.1D
- e Recognize hazardous materials SCI-CHEM.1E

2 Identify and Comprehend

- a Identify hazardous chemical label pictures SCI-CHEM.2A
- b Identify the difference between physical and chemical reactions SCI-CHEM.2B
- c Recognize that all matter is made up of smaller particles SCI-CHEM.2C
- d Label the difference between individual ingredients and solutions and compounds in cooking SCI-CHEM.2D

3 Interpret and Understand

- a Examine a variety of chemicals and verify bottles with hazardous labels and ones without SCI-CHEM.3A
- b Perform a variety of safe chemical reactions and explain what happened in the reaction SCI-CHEM.3B
- c Practice utilizing understanding of compounds and solutions by participating in cooking and science experiments that create various compounds and solutions SCI-CHEM.3C
- d Identify and appropriately use chemicals/solutions for completing common household tasks SCI-CHEM.3D

4 Apply and Generalize

- a Apply chemical safety knowledge by identifying household and workplace chemicals; where to find more information about the chemicals; and practicing chemical safety by using personal protective equipment when interacting with chemicals SCI-CHEM.4A
- b Apply knowledge of chemicals, reactions, and hazardous to demonstrate chemical safety in a variety of scenarios SCI-CHEM.4B
- c Safely perform household and job related tasks involving common household chemicals SCI-CHEM.4C

Weather - Demonstrate application of changes and patterns related to weather. SCI-WEA

1 Recognize and Recall

- a Recognize current, past and future weather conditions SCI-WEA.1A
- b Match common weather conditions to seasons SCI-WEA.1B
- c Select processes that show that the earth changes (seedling to tree, clean street to polluted street) SCI-WEA.1C
- d Select the differences between day and night SCI-WEA.1D

2 Identify and Comprehend

- a Label what clothing someone would wear in various weather conditions SCI-WEA.2A
- b Identify characteristics of seasons SCI-WEA.2B
- c Identify activities and characteristics of day and night SCI-WEA.2C

3 Interpret and Understand

- a Plan appropriate activities and clothing based on a weather report SCI-WEA.3A
- b Decide what activities and clothing is appropriate for the seasons SCI-WEA.3B
- c Understand procedures to follow during emergency weather conditions SCI-WEA.3C

4 Apply and Generalize

- a Demonstrate an understanding of weather and seasons by explaining why weather and seasons occur and how to react in a variety of weather and seasonal situations. (Tornado, thunderstorm, hurricane, snow, rain, heat) SCI-WEA.4A
- b Explain what causes a variety of changes on earth and demonstrate behaviors that address these changes SCI-WEA.4B
- c Take correct actions during emergency weather situations SCI-WEA.4C

Measurement - The student compares and analyzes a collection of quantitative data in relation to specific scientific investigations SCI-MEAS

1 Recognize and Recall

- a Sort between something that is a number and something that is not (Quantitative and Qualitative data) SCI-MEAS.1A
- b Choose two different objects (big to small, heavier to lighter, longer to shorter) SCI-MEAS.1B
- c Tell whether it is day or night SCI-MEAS.1C
- d Tell which season we are currently in SCI-MEAS.1D
- e Recognize money SCI-MEAS.1E
- f Identify common measurement tools (ruler, scale, measuring cups and spoons, thermometers) SCI-MEAS.1F

2 Identify and Comprehend

- a Choose and identify quantitative data SCI-MEAS.2A
- b Label objects or numbers from smallest to largest and vice versa SCI-MEAS.2B
- c Tell time by the hour by digital clock SCI-MEAS.2C
- d Identify all seasons by images SCI-MEAS.2D
- e Sort money from highest amount to the least amount SCI-MEAS.2E
- f Identify methods for measuring length, weight, volume, and temperature SCI-MEAS.2F
- g Recognize measuring tools by labeling SCI-MEAS.2G

3 Interpret and Understand

- a Practice lab methods skills while interpreting, organizing, and understanding the corresponding data SCI-MEAS.3A
- b Create a graph or image by applying appropriate data SCI-MEAS.3B
- c Tell time by the hour by digital and analog clocks SCI-MEAS.3C
- d Accurately measure with appropriate measuring tools while incorporating accurate abbreviations SCI-MEAS.3D
- e Recognize the difference between acidic and basic examples SCI-MEAS.3E

4 Apply and Generalize

- a Demonstrate measurement skills by observing and analyzing data in a variety of settings SCI-MEAS.4A
- b Use a variety of information to verify statements, construct number types of graphs with sets of data and demonstrate understanding of graphs and images SCI-MEAS.4B
- c Apply acquired measurement skills to daily activities SCI-MEAS.4C
- d Verify the acidity and basic measurement in a variety of settings SCI-MEAS.4D

Safety - The student follows safety guidelines and demonstrates proper safety techniques. WRS: 11 SCI-SAFETY

1 Recognize and Recall

- a Discriminate between a safe and non-safe environment SCI-SAFETY.1A
- b Match guidelines to equipment SCI-SAFETY.1B
- c List different safe and non-safe scenarios SCI-SAFETY.1C
- d Point to incorrect and correct safety techniques being demonstrated by teacher and students SCI-SAFETY.1D
- e Follow safety rules in all environments SCI-SAFETY.1E

2 Identify and Comprehend

- a Identify safety guidelines and techniques that accompany safety equipment SCI-SAFETY.2A
- b Label safety rules and procedures SCI-SAFETY.2B
- c Recognize and use caution around known hazards (electricity, poison) at all times SCI-SAFETY.2C
- d Label appropriately safe and non-safe situations SCI-SAFETY.2D
- e Identify emergency and non-emergency situations SCI-SAFETY.2E

3 Interpret and Understand

- a Practice safety methods by incorporating acquired safety knowledge to create and maintain a safe environment SCI-SAFETY.3A
- b Maintain a clean safe environment to prevent accidents SCI-SAFETY.3B
- c Verify all instructions before beginning tasks SCI-SAFETY.3C
- d Apply safety rules and procedures and consistently use all necessary safety equipment SCI-SAFETY.3D

4 Apply and Generalize

- a Maintain a safe environment by demonstrating safety guidelines in appropriate settings SCI-SAFETY.4A
- b Follow guidelines with safety equipment at all times and in all settings SCI-SAFETY.4B
- c Apply safety precautions to all situations and environments SCI-SAFETY.4C
- d Verify with teacher/employer/job coach that work areas are in a safe and working manner SCI-SAFETY.4D
- e Actively demonstrate ways to avoid injury to self and others in all environments SCI-SAFETY.4E

Science as Inquiry - The student demonstrates an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations. SCI-INQ

1 Recognize and Recall

- a Respond and list steps to scientific investigations with assistance SCI-INQ.1A
- b Sort picture cards based on a variety of features, functions and classes SCI-INQ.1B
- c Match concepts with images SCI-INQ.1C

2 Identify and Comprehend

- a Identify specific steps to scientific investigation through logical reasoning SCI-INQ.2A
- b Identify the question/problem through scientific investigation SCI-INQ.2B
- c Follow steps to conduct research SCI-INQ.2C
- d Identify a hypothesis in a group setting SCI-INQ.2D
- e Recognize respect for living things SCI-INQ.2E

3 Interpret and Understand

- a Apply informed decisions regarding contemporary issues SCI-INQ.3A
- b Describe respect for living things SCI-INQ.3B
- c Utilize a costs/benefits analysis when making decisions (pros/cons) SCI-INQ.3C
- d Apply question/problem; compile pertinent information; form a hypothesis. (make educated guess as to why an event occurred) SCI-INQ.3D
- e Make and justify decisions based on pertinent data SCI-INQ.3E
- f Maintain proper use of technology and equipment SCI-INQ.3F

4 Apply and Generalize

- a Apply an experimental design in scientific inquiry SCI-INQ.4A
- b Demonstrate the language of science SCI-INQ.4B
- c Demonstrate respect for living things SCI-INQ.4C
- d Apply and demonstrate acquired scientific skills to everyday experiences independently (using gathered information to make decisions) SCI-INQ.4D
- e Maintain proper use of technology and equipment SCI-INQ.4E