# **Applied Studies Curriculum Map (Accessible)**

# **Domain: Science**

## Competency and Definition: Classification (SCI- CLASS)

The student uses various classification methods to organize information

Workplace Readiness Skills:

### Level 1: Recognize and Recall

1. Sort things based on similarities and differences
2. Match basic characteristics of living and non-living things

### Level 2: Identify and Comprehend

1. Identify where different organisms/item live/belong
2. Sort items into groups with similar characteristics
3. Categorize items based on features, functions and class

### Level 3: Interpret and Understand

1. Group items by harmful and not harmful. (i.e., toxic plants, dangerous equipment)
2. Explain the differences and similarities between various plants and animals
3. Identify organisms based on their environment (i.e., Specific plants need certain conditions to grow)
4. Describe similarities between items

### Level 4: Apply and Generalize

1. 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)
2. Use knowledge of a variety of items/concepts to problem solve real world problems
3. Use categorization to sort and explain various pieces of information

## Competency and Definition: Ecology (SCI-ECO)

The student utilizes knowledge of natural resources to practice conservation of resources

Workplace Readiness Skills: 15

### Level 1: Recognize and Recall

1. Find natural and unnatural items in their environment
2. Sort between different recyclable and non-recyclable materials

### Level 2: Identify and Comprehend

1. Recognize which are consumers and which are producers
2. Name specific things in the environment needed to live (i.e., Water, food, shelter)
3. Label and sort recyclable materials

### Level 3: Interpret and Understand

1. Verify the importance of the sun in the ecosystem
2. Identify sources of energy in the environment
3. Perform resource management tasks (i.e., recycling, reusing, reducing waste)
4. Understand impact individuals’ behavior has on environment and opportunities to conserve resources

### Level 4: Apply and Generalize

1. Apply knowledge of how the ecosystem works to real life experiences
2. Apply recycling knowledge to own environment
3. Apply knowledge of energy sources when making decisions about places to live, work, etc.
4. Utilizes opportunities to conserve resources within household/living routines
5. Practice habits that will prevent negative human impact on the earth (recycling, planting plants)

## Competency and Definition: Chemical Reactions (SCI-CHEM)

The student identifies and applies chemical characteristics and interactions in a variety of environments

Workplace Readiness Skills: 11

### Level 1: Recognize and Recall

1. Match pictures or objects of chemicals
2. Select picture or example of a chemical reaction
3. Show that you can build larger things from smaller things
4. Choose individual ingredients in cooking
5. Recognize hazardous materials

### Level 2: Identify and Comprehend

1. Identify hazardous chemical label pictures
2. Identify the difference between physical and chemical reactions
3. Recognize that all matter is made up of smaller particles
4. Label the difference between individual ingredients and solutions and compounds in cooking

### Level 3: Interpret and Understand

1. Examine a variety of chemicals and verify bottles with hazardous labels and ones without
2. Perform a variety of safe chemical reactions and explain what happened in the reaction
3. Practice utilizing understanding of compounds and solutions by participating in cooking and science experiments that create various compounds and solutions
4. Identify and appropriately use chemicals/solutions for completing common household tasks

### Level 4: Apply and Generalize

1. 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
2. Apply knowledge of chemicals, reactions, and hazardous to demonstrate chemical safety in a variety of scenarios
3. Safely perform household and job related tasks involving common household chemicals

## Competency and Definition: Weather (SCI-WEA)

The student will demonstrate application of changes and patterns related to weather.

Workplace Readiness Skills:

### Level 1: Recognize and Recall

1. Recognize current, past and future weather conditions
2. Match common weather conditions to seasons
3. Select processes that show that the earth changes (seedling to tree, clean street to polluted street)
4. Select the differences between day and night

### Level 2: Identify and Comprehend

1. Label what clothing someone would wear in various weather conditions
2. Identify characteristics of seasons
3. Identify activities and characteristics of day and night

### Level 3: Interpret and Understand

1. Plan appropriate activities and clothing based on a weather report
2. Decide what activities and clothing is appropriate for the seasons
3. Understand procedures to follow during emergency weather conditions

### Level 4: Apply and Generalize

1. 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)
2. Explain what causes a variety of changes on earth and demonstrate behaviors that address these changes
3. Take correct actions during emergency weather situations

## Competency and Definition: Measurement (SCI-MEAS)

The student compares and analyzes a collection of quantitative data in relation to specific scientific investigations.

Workplace Readiness Skills:

### Level 1: Recognize and Recall

1. Sort between something that is a number and something that is not (Quantitative and Qualitative data)
2. Choose two different objects (big to small, heavier to lighter, longer to shorter)
3. Tell whether it is day or night
4. Tell which season we are currently in
5. Recognize money
6. Identify common measurement tools (ruler, scale, measuring cups and spoons, thermometers)

### Level 2: Identify and Comprehend

1. Choose and identify quantitative data
2. Label objects or numbers from smallest to largest and vice versa
3. Tell time by the hour by digital clock
4. Identify all seasons by images
5. Sort money from highest amount to the least amount
6. Identify methods for measuring length, weight, volume, and temperature
7. Recognize measuring tools by labeling

### Level 3: Interpret and Understand

1. Practice lab methods skills while interpreting, organizing, and understanding the corresponding data
2. Create a graph or image by applying appropriate data
3. Tell time by the hour by digital and analog clocks
4. Accurately measure with appropriate measuring tools while incorporating accurate abbreviations
5. Recognize the difference between acidic and basic examples

### Level 4: Apply and Generalize

1. Demonstrate measurement skills by observing and analyzing data in a variety of settings
2. Use a variety of information to verify statements, construct number types of graphs with sets of data and demonstrate understanding of graphs and images
3. Apply acquired measurement skills to daily activities
4. Verify the acidity and basic measurement in a variety of settings

## Competency and Definition: Safety (SCI-SAFETY)

The student follows safety guidelines and demonstrates proper safety techniques.

Workplace Readiness Skills: 11

### Level 1: Recognize and Recall

1. Discriminate between a safe and non-safe environment
2. Match guidelines to equipment
3. List different safe and non-safe scenarios
4. Point to incorrect and correct safety techniques being demonstrated by teacher and students
5. Follow safety rules in all environments

### Level 2: Identify and Comprehend

1. Identify safety guidelines and techniques that accompany safety equipment
2. Label safety rules and procedures
3. Recognize and use caution around known hazards (electricity, poison) at all times
4. Label appropriately safe and non-safe situations
5. Identify emergency and non-emergency situations

### Level 3: Interpret and Understand

1. Practice safety methods by incorporating acquired safety knowledge to create and maintain a safe environment
2. Maintain a clean safe environment to prevent accidents
3. Verify all instructions before beginning tasks
4. Apply safety rules and procedures and consistently use all necessary safety equipment

### Level 4: Apply and Generalize

1. Maintain a safe environment by demonstrating safety guidelines in appropriate settings
2. Follow guidelines with safety equipment at all times and in all settings
3. Apply safety precautions to all situations and environments
4. Verify with teacher/employer/job coach that work areas are in a safe and working manner
5. Actively demonstrate ways to avoid injury to self and others in all environments

## Competency and Definition: Science as Inquiry (SCI-INQ)

The student demonstrates an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations.

Workplace Readiness Skills:

### Level 1: Recognize and Recall

1. Respond and list steps to scientific investigations with assistance
2. Sort picture cards based on a variety of features, functions and classes
3. Match concepts with images

### Level 2: Identify and Comprehend

1. Identify specific steps to scientific investigation through logical reasoning
2. Identify the question/problem through scientific investigation
3. Follow steps to conduct research
4. Identify a hypothesis in a group setting
5. Recognize respect for living things

### Level 3: Interpret and Understand

1. Apply informed decisions regarding contemporary issues
2. Describe respect for living things
3. Utilize a costs/benefits analysis when making decisions (pros/cons)
4. Apply question/problem; compile pertinent information; form a hypothesis. (make educated guess as to why an event occurred)
5. Make and justify decisions based on pertinent data
6. Maintain proper use of technology and equipment

### Level 4: Apply and Generalize

1. Apply an experimental design in scientific inquiry
2. Demonstrate the language of science
3. Demonstrate respect for living things
4. Apply and demonstrate acquired scientific skills to everyday experiences independently (using gathered information to make decisions)
5. Maintain proper use of technology and equipment