



# HEART OF THE Rockies



**Rocky Mountain National Park**  
Activity Assessment/Scoring Guides  
for Colorado Model Content Standards and Benchmarks  
**Grades 3-6**

*Dear Educator:*

*These scoring guides are designed to meet the objectives of the activities in all levels, K-3, 3-6, and 6-9, of the Heart of the Rockies Teachers Activities Guides. The scoring guide for a particular activity will assist you in assessing an individual student or group of student's level of proficiency for a particular Colorado State Content Standard and benchmark(s). The strands and accompanying concepts, page 8 of each activity guide, the assessing activity meets is also listed for you. Activities and accompanying scoring guides have been selected as assessment tools provide you with a mechanism for determining your student's learning when using these activity guides.*

*Sincerely,*

*Marty Rahl*

*Principal, Rye High School*

*Rye, Colorado*

*Mark DeGregorio*

*Education Specialist*

*Rocky Mountain National Park*

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This project was directed by Mark DeGregorio, Education Specialist, Rocky Mountain National Park.

The assessments were written by Marty Rahl, Principal, Rye High School, Rye, Colorado.

Heart of the Rockies  
Education Program  
Rocky Mountain National Park  
Estes Park, Colorado 80517

For information about *Heart of the Rockies* visit our website at [www.heartoftherockies.net](http://www.heartoftherockies.net) or contact Mark DeGregorio, 970-586-3777.

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# Heart of the Rockies

## Teacher Activity Guide

### 3 - 6 Activities

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# Benchmark Descriptions

- Science 1.0 Scientific Investigation: Students understand the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.
- 1.1 Identifying and evaluating alternative explanations and procedures
  - 1.2 Using examples to demonstrate that scientific ideas are used to explain previous observations and to predict future events
  - 1.3 Asking questions and stating hypotheses that lead to different types of scientific investigations
  - 1.4 Creating a written plan for an investigation
  - 1.5 Using appropriate tools, technologies, and measurement units to gather and organize data
  - 1.6 Interpreting and evaluating data in order to formulate conclusions
  - 1.7 Communicating results of their investigations in appropriate ways
  - 1.8 Using metric units in measuring, calculating, and reporting results
  - 1.9 Explaining that scientific investigations sometimes result in unexpected finding that lead to new questions and more investigations
  - 1.10 Giving examples of how collaboration can be useful in solving scientific problems and sharing findings.
- Science 3.0 Life Science: Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment.
- 3.1 Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment
  - 3.2 Students know and understand interrelationships of matter and energy in living systems.
  - 3.4 Students know and understand how organisms change over time in terms of biological evolution and genetics.
- Science 4.0 Earth and Space Science: Students know and understand the composition of Earth, its history, and the natural process that shape it.
- 4.1 Students know and understand the composition of Earth, its history, and the natural processes that shape it.
  - 4.2 Students know and understand the general characteristics of the atmosphere and fundamental processes of weather.
  - 4.3 Students know major sources of water, its uses, importance, and cyclic patterns of movement through the environment
- Geography 1.0 Students know how to use and construct maps, globes & other geographic tools to acquire, process, & report information about people, places, and environments.
- 1.1 Students know how to use maps, globes, and other geographic tools to acquire, process, and report information from a spatial perspective.
  - 1.2 Students develop knowledge of Earth to locate people, places, and environments.



- 1.3 Students know how to analyze the dynamic spatial organization of people, places, and environments.
- Geography 2.0 Students know the physical and human characteristics of place, and use this knowledge to define and study regions and their patterns of change.
- 2.1 Students know the physical and human characteristics of places.
  - 2.2 Students know how and why people define regions.
  - 2.3 Students know how culture and experience influence people’s perceptions of places and regions.
- Geography 3.0 Students understand how physical processes shape Earth’s surface patterns and systems.
- 3.1 Students know the physical processes that shape Earth’s surface patterns.
  - 3.2 Students know the characteristics and distribution of physical systems of land, air, water, plants, and animals.
- Geography 6.0 Students apply knowledge of people, places, and environments to understand the past and present and to plan for the future.
- 6.1 Students know how to apply geography to understand the past.
  - 6.2 Students know how to apply geography to understand the present and plan for the future.
- Read/Writing 2.0 Write and Speak for a Variety of Purposes
- 2.1 Write and speak for a variety of purposes such as telling stories, presenting analytical responses to literature, conveying technical information, explaining concepts and procedures, and persuading.
  - 2.2 Write and speak for audiences such as peer, teachers, and the community.
  - 2.3 Plan, draft, revise, proofread, and edit written communications.
  - 2.4 Use a variety of devices such as figurative language, symbolism, dialect, and precise vocabulary to convey meaning.
  - 2.5 Organize written and oral presentations using strategies such as lists, outlining, cause/effect relationships, comparison/contrast, problem/solution, and narration
  - 2.6 Use handwriting and at the most appropriate time, word processing to produce a product that is legible.
- Math 5.0 Measurement: Students use a variety of tools and techniques to measure, apply the results in problem-solving situations and communicate the reasoning used in solving these problems.
- 5.1 Understand and apply the attributes of length, capacity, weight, mass, time, temperature, perimeter, area, volume, and angle measurement in problem-solving situations.
  - 5.2 Make and use direct and indirect measurements to describe and compare real-world phenomena.
  - 5.3 Understand the structure and use of systems of measurement.
  - 5.4 Describe and use rates of change and other derived measures.
  - 5.5 Select appropriate units, including metric and U.S. customary, and tools to measure to the degree of accuracy required to solve a given problem.

# The Scoring Guides For The Chosen Activities

## Assess the Following Colorado Model Content Standards:

### 3 - 6 Activities and Scoring Guides That Will Assess Standards

## Science

Science 1.0 - Scientific Investigation: Identify & evaluate alternative explanations & procedures

Pre-Visit Activities:

Activity 7 - School Yard Taxonomy ..... 51

Activity 8 - Temperature Around Us ..... 52

On-Site Activities:

Activity 13 - How A Tree Reveals Its History

Science 3.0 - Life Science: Characteristics of living things, diversity of life, interaction of things with their environment

Pre-Visit Activities:

Activity 7 - School Yard Taxonomy ..... 51

Activity 8 - Temperature Around Us ..... 52

Activity 9 - Habitat Riddles ..... 52

Activity 10 - What's Your Habitat? ..... 53

Activity 19 - Create An Ecosystem ..... 64

Activity 20 - Create A Habitat Inhabitant ..... 64

On-Site Activities:

Activity 13 - How A Tree Reveals Its History ..... 78

Post-Visit Activity:

Activity 2 - More Measurements ..... 86

Science 4.0 - Earth and Space Science: Students know and understand the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space.

Pre-Visit Activities:

Activity 8 - Temperature Around Us ..... 52

Activity 20 - Create A Habitat Inhabitant ..... 64

Post-Visit Activity:

Activity 2 - More Measurements ..... 86

## Geography

Geography 3.0 -Students understand how physical processes shape Earth's surface patterns and systems.

Pre-Visit Activities:

Activity 9 - Habitat Riddles ..... 52

Activity 10 - What's Your Habitat? ..... 53

Activity 19 - Create An Ecosystem ..... 64

Activity 20 - Create A Habitat Inhabitant ..... 64



Post-Visit Activity:

Activity 2 - More Measurements . . . . .	86
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## Reading / Writing

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Read/Writing 2.0 - Write and Speak for a Variety of Purposes: Write and speak for audiences such as peer, teachers, community.

Pre-Visit Activities:

Activity 7 - School Yard Taxonomy 101 . . . . .	51
Activity 8 - Temperature Around Us . . . . .	52
Activity 9 - Habitat Riddles . . . . .	52
Activity 10 - What's Your Habitat . . . . .	53
Activity 20 - Create A Habitat Inhabitant . . . . .	64

Post-Visit Activity:

Activity 2 - More Measurements . . . . .	86
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## Math

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Math 5.0 - Measurement: Students use a variety of tools and techniques to measure, apply the results in problem-solving situations and communicate the reasoning used in solving these problems

Pre-Visit Activities:

Activity 8 - Temperature Around Us . . . . .	52
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On-Site Activities:

Activity 13 - How A Tree Reveals Its History . . . . .	78
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# State Standards Correlations

## Presite Activities

- Activity 1 - Take a Hike  
Science 1.0, 3.1  
Physical Education 2.0
- Activity 2 - Student's Field Journals To The Natural World  
Visual Arts 1.0, 2.0
- Activity 3 - Do You Always Get What You See?  
Science 1.0
- Activity 5 - Good Buddy Observers  
Reading/Writing 2.0  
Science 1.0  
Visual Arts 2.0
- Activity 6 - Whose Shoes Are You?  
Science 1.0, 3.1
- Activity 11 - Habitat Hunt  
Science 1.0, 3.1
- Activity 12 - Defining Adaptation  
Reading/Writing 1.0, 2.0  
Science 3.1
- Activity 13 - Everyday Behavioral Adaptations  
Reading/Writing 2.0  
Science 3.1  
Visual Arts 1.0, 2.0
- Activity 14 - Trees Adapt Too  
Science 3.1  
History 1.3
- Activity 15 - Ecosystem, Community, and Niche Defined  
Science 3.1, 3.2  
Visual Arts 1.0, 2.0
- Activity 16 - Relationships Between Niche, Community and Ecosystem  
Science 3.1, 3.2  
Visual Arts 1.0, 2.0
- Activity 17 - Dinner's On  
Reading/Writing 2.0  
Science 3.1  
Math 3.0
- Activity 21 - Planning the Trip to Rocky Mountain National Park  
Reading/Writing 2.0  
Geography 1.1
- Activity 22 - Exploring Rocky Mountain National Park by Map  
Reading/Writing 2.0  
Geography 1.1

## Onsite Activities

- Activity 1 - Moraine Park Museum - Climate and Ecosystems  
Reading/Writing 2.0  
Science 3.1, 4.1
- Activity 2 - Rocky Mountain National Park's Ecosystems  
Science 3.1
- Activity 3 - Good Buddy Observers  
Reading/Writing 2.0  
Science 1.0  
Visual Arts 2.0
- Activity 4 - Creative Writing  
Reading/Writing 2.0  
Visual Arts 1.0, 2.0
- Activity 5 - Imaginary Journey  
Reading/Writing 2.0  
Visual Arts 1.0, 2.0
- Activity 6 - Scavenger Hike  
Science 1.0
- Activity 8 - Picture Pieces  
Reading/Writing 1.0, 2.0  
Science 1.0, 3.1  
Visual Arts 1.0, 2.0
- Activity 10 - Habitats of Trees  
Reading/Writing 2.0  
Science 3.1
- Activity 11 - What's Your Sign  
Reading/Writing 2.0  
Science 3.1
- Activity 12 - How Does Habitat Affect Needle Length of Ponderosa Pine?  
Reading/Writing 2.0  
Science 3.1  
Math 3.0, 5.0



Activity 14 - Lichens - Tiny In Size, Big In Importance!  
Science 1.0, 3.1, 3.2

Activity 15 - Beavers - The Habitat Makers  
Reading/Writing 2.0  
Science 1.0, 3.1, 3.2

Activity 16 - The Useless Game  
Science 1.0, 3.1

Activity 17 - What's The Use of a Dead or Rotting Log?  
Science 3.1, 3.2

Activity 18 - Interactions in Food Chains and Food Webs  
Reading/Writing 2.0  
Science 3.1, 3.2

## Postsite Activities

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Activity 1 - Creative Writing and Poetry Books  
Reading/Writing 1.0, 2.0

Activity 3 - School Yard Taxonomy 102  
Science 1.0  
Visual Arts 1.0, 2.0

Activity 4 - Habitat Forever  
Reading/Writing 2.0, 4.0  
Science 3.1  
Visual Arts 1.0, 2.0

Activity 5 - More Research Into Rocky Mountain National Park  
Reading/Writing 1.0, 2.0  
Science 1.0, 3.1  
Math 3.0

Activity 6 - Pondering Ponderosas  
Science 1.0, 3.1  
Math 3.0

Activity 7 - Adaptive Armadillos  
Science 3.1  
Visual Arts 1.0, 2.0

Activity 9 - You Can Make a Difference  
Reading/Writing 2.0, 4.0

Activity 10 - Environmental Heroes And Sheroes  
Reading/Writing 2.0  
Visual Arts 1.0, 2.0

Activity 11 - Just Like Home Movies  
Reading/Writing 2.0, 4.0  
Visual Arts 1.0, 2.0

Activity 12 - Environmental Ads  
Reading/Writing 2.0  
Visual Arts 1.0, 2.0

# State Standards Correlations

## Activities by Content Area

### Geography/History

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Geography 1.1 - Students know how to use maps, globes, and other geographic tools to acquire, process, and report information from a spatial perspective.

#### Presite Activities

Activity 21 - Planning the trip to Rocky Mountain National Park

Activity 22 - Exploring Rocky Mountain National Park by Map

History 1.3 - Students use chronology to examine and explain historical relationships.

#### Presite Activities

Activity 14 - Trees Adapt Too

### Math

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Math 3.0 - Students use data collection and analysis, statistics, and probability in problem-solving situations and communicate the reasoning used in solving these problems.

#### Presite Activities

Activity 17 - Dinner's On

#### Onsite Activities

Activity 12 - How Does Habitat Affect Needle Length of Ponderosa Pine?

#### Post-site Activities

Activity 5 - More Research Into Rocky Mountain National Park

Activity 6 - Pondering Ponderosas

Math 5.0 - Students use a variety of tools and techniques to measure, apply the results in problem-solving situations, and communicate the reasoning used in solving these problems.

#### Onsite Activities

Activity 12 - How Does Habitat Affect Needle Length of Ponderosa Pine?

### Reading / Writing

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Reading/Writing 1.0 - Students read and understand a variety of materials.

#### Presite Activities

Activity 12 - Defining Adaptation

#### Onsite Activities

Activity 8 - Picture Pieces



### **Post-site Activities**

- Activity 1 - Creative Writing and Poetry Books
- Activity 5 - More Research Into Rocky Mountain National Park

Reading/Writing 2.0 - Students write and speak for a variety of purposes and audiences.

### **Presite Activities**

- Activity 5 - Good Buddy Observer
- Activity 12 - Defining Adaptation
- Activity 13 - Everyday Behavior Adaptations
- Activity 17 - Dinner's On
- Activity 21 - Planning the Trip to Rocky Mountain National Park
- Activity 22 - Exploring Rocky Mountain National Park by Map

### **Onsite Activities**

- Activity 1 - Moraine Park Museum - Climate and Ecosystems
- Activity 3 - Good Buddy Observers
- Activity 4 - Creative Writing
- Activity 5 - Imaginary Journey
- Activity 8 - Picture Pieces
- Activity 10 - Habitats of Trees
- Activity 11 - What's Your Sign?
- Activity 12 - How Does Habitat Affect Needle Length of Ponderosa Pine?
- Activity 15 - Beavers - The Habitat Makers
- Activity 18 - Interactions in Food Chains and Food Webs

### **Post-site Activities**

- Activity 1 - Creative Writing and Poetry Books
- Activity 4 - Habitat Forever
- Activity 5 - More Research Into Rocky Mountain National Park
- Activity 9 - You Can Make A Difference
- Activity 10 - Environmental Heroes and Sheroes
- Activity 11 - Just Like Home Movies
- Activity 12 - Environmental Ads

Reading/Writing 4.0 - Students apply thinking skills to their reading, writing, speaking, listening, and viewing.

### **Post-site Activities**

- Activity 4 - Habitat Forever
- Activity 9 - You Can Make A Difference
- Activity 11 - Just Like Home Movies

Science 1.0 - Students understand the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.

## **Presite Activities**

- Activity 1 - Take a Hike
- Activity 3 - Do You Always Get What You See?
- Activity 5 - Good Buddy Observers
- Activity 6 - Whose Shoes Are You?
- Activity 11 - Habitat Hunt

## **Onsite Activities**

- Activity 3 - Good Buddy Observers
- Activity 6 - Scavenger Hike
- Activity 8 - Picture Pieces
- Activity 14 - Lichens - Tiny In Size, Big In Importance!
- Activity 15 - Beavers - The Habitat Makers
- Activity 16 - The Useless Game

## **Post-site Activities**

- Activity 3 - School Yard Taxonomy 102
- Activity 5 - More Research Into Rocky Mountain National Park
- Activity 6 - Pondering Ponderosas

Science 3.1 - Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environments.

## **Presite Activities**

- Activity 1 - Take a Hike
- Activity 6 - Whose Shoes Are You?
- Activity 11 - Habitat Hunt
- Activity 12 - Defining Adaptation
- Activity 13 - Everyday Behavioral Adaptations
- Activity 14 - Trees Adapt Too
- Activity 15 - Ecosystem, Community, and Niche Defined
- Activity 16 - Relationships Between niche, Community and Ecosystem
- Activity 17 - Dinner's On

## **Onsite Activities**

- Activity 1 - Moraine Park Museum - Climate and Ecosystems
- Activity 2 - Rocky Mountain National Park's Ecosystems
- Activity 8 - Picture pieces
- Activity 10 - Habitats of Trees
- Activity 11 - What's Your Sign
- Activity 12 - How Does Habitat Affect Needle Length of Ponderosa Pine?



- Activity 14 - Lichens - Tiny in Size , Big In Importance!
- Activity 15 - Beavers - The Habitat Makers
- Activity 16 - The Useless Game
- Activity 17 - What's the Use of a Dead or Rotting Log?
- Activity 18 - Interactions in Food Chains and Food Webs

#### **Post-Site Activities**

- Activity 4 - Habitat Forever
- Activity 5 - More Research Into Rocky Mountain National Park
- Activity 6 - Pondering Ponderosas
- Activity 7 - Adaptive Armadillos

Science 3.2 - Students know and understand interrelationships of matter and energy in living systems.

#### **Presite Activities**

- Activity 15 - Ecosystem, Community, and Niche Defined
- Activity 16 - Relationships Between Niche, Community and Ecosystem

#### **Onsite Activities**

- Activity 14 - Lichens - Tiny In Size, Big In Importance!
- Activity 15 - Beavers - The Habitat Makers
- Activity 17 - What's the Use of a Dead or Rotting Log?
- Activity 18 - Interactions in Food Chains and Food Webs

## **Visual Arts**

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Visual Arts 1.0 - Students recognize and use the visual arts as a form of communication.

#### **Presite Activities**

- Activity 2 - Student's Field Journals To The Natural World
- Activity 13 - Everyday Behavioral Adaptations
- Activity 15 - Ecosystem, Community, and Niche Defined
- Activity 16 - Relationships Between Niche, Community and Ecosystem

#### **Onsite Activities**

- Activity 4 - Creative Writing
- Activity 5 - Imaginary Journey
- Activity 8 - Picture Pieces

#### **Post-site Activities**

- Activity 3 - School Yard Taxonomy 102
- Activity 4 - Habitat Forever
- Activity 7 - Adaptive Armadillos
- Activity 10 - Environmental Heroes and Sheroes

Activity 11 - Just Like Home Movies

Activity 12 - Environmental Ads

Visual Arts 2.0 - Students know and apply elements of art, principles of design, and sensory and expressive features of visual arts.

**Presite Activities**

Activity 2 - Student's Field Journals To The Natural World

Activity 5 - Good Buddy Observers

Activity 13 - Everyday Behavioral Adaptations

Activity 15 - Ecosystem, Community, and Niche Defined

Activity 16 - Relationships Between Niche, Community and Ecosystem

**Onsite Activities**

Activity 3 - Good Buddy Observers

Activity 4 - Creative Writing

Activity 5 - Imaginary Journey

Activity 8 - Picture Pieces

**Post-site Activities**

Activity 3 - School Yard Taxonomy 102

Activity 4 - Habitat Forever

Activity 7 - Adaptive Armadillos

Activity 10 - Environmental Heroes and Sheroes

Activity 11 - Just Like Home Movies

Activity 12 - Environmental Ads

## Physical Education

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Physical Education 2.0 - Students demonstrate competency in physical fitness.

**Presite Activities**

Activity 1 - Take a Hike





# 4

## Look! Listen! Touch! Smell! Don't Touch!

### Assessment

#### Meets Standards/Benchmarks:

- Science 1.0 Scientific Investigation: Identify & evaluate alternative explanations & procedures
- 1.6 Interpreting and evaluating data in order to formulate conclusions
- 1.7 Communicating results of their investigations in appropriate ways
- Science 3.0 Life Science: Characteristics of living things, diversity of life, and interaction of things with their environment
- 3.1 Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment

**Strand; Concept:** \*Similarity/Variety; Sensory and quantitative observation

#### Assessment Objective:

To determine a student's level of proficiency in making observations in the natural world.

#### Task:

Using all the senses except taste make observations and record them in the field journal.

*Score the activity by marking the bubble that best describes the student's level of achievement.*

Student:	Class:	Grade:
<input type="radio"/>		
<input type="radio"/>		
<input type="radio"/>		
<input type="radio"/>		

**SCORING GUIDE**

# School Yard Taxonomy 101



## Meets Standards/Benchmarks:

- Science 1.0 Scientific Investigation: Identify & evaluate alternative explanations & procedures
  - 1.6 Interpreting and evaluating data in order to formulate conclusions
- Science 3.0 Life Science: Characteristics of living things, diversity of life, and interaction of things with their environment
  - 3.1 Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment
- Read/Writing 2.0 Write and Speak for a Variety of Purposes
  - 3.1 Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment

**Strand; Concept:** \* Similarity/Variety; Sensory and quantitative observation, Classification using a key  
 \* Pattern; Niches and habitats  
 \* Interaction/Interdependence; Community, niche, ecosystem

## Assessment Objective:

To determine students understanding of organism identification.



**Task:** Create a taxonomy key for an assigned area.

*Score the activity by marking the bubble that best describes the student's level of achievement.*

Student:	Class:	Grade:
1		
2		
3		
4		

SCORING GUIDE



## Meets Standards/Benchmarks:

- |                  |  |
|------------------|--|
| Science 1.0      | Scientific Investigation: Identify & evaluate alternative explanations & procedures  |
| 1.5              | Using appropriate tools, technologies, and measurement units to gather and organize data   |
| 1.6              | Interpreting and evaluating data in order to formulate conclusions   |
| Science 3.0      | Life Science: Characteristics of living things, diversity of life, and interaction of things with their environment  |
| 3.2              | Students know and understand interrelationships of matter and energy in living systems.  |
| Science 4.0      | Earth and Space Science: Students know and understand the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space.                            |
| 4.2              | Students know and understand the general characteristics of the atmosphere and fundamental processes of weather.   |
| Read/Writing 2.0 | Write and Speak for a Variety of Purposes  |
| 2.1              | Write and speak for a variety of purposes such as telling stories, presenting analytical responses to literature, conveying technical information, explaining concepts and procedures, and persuading. |
| 2.2              | Write and speak for audiences such as peer, teachers, and the community.   |
| Math 5.0         | Measurement: Students use a variety of tools and techniques to measure, apply the results in problem-solving situations and communicate the reasoning used in solving these problems.                  |
| 5.1              | Understand and apply the attributes of length, capacity, weight, mass, time, temperature, perimeter, area, volume, and angle measurement in problem-solving situations.                                |
| 5.5              | Select appropriate units, including metric and U.S. customary, and tools to measure to the degree of accuracy required to solve a given problem.   |

- Strand; Concept:**
- \*Similarity/Variety; Sensory and quantitative observation
  - \*Patterns; Climate and microclimate
  - \*Adaptation/Evolution; Temporal adjustments to change
  - \*Interaction /Interdependence; Community, niche, ecosystem

**Assessment Objective:**

Determine student's proficiency in collection and analyzation of scientific data

**Task:**

Collect and analyze temperature at a variety of sites

**\* Suggestion:**

If this activity is used as an assessment activity it is suggested the answers are written in the field journal.

*Score the activity by marking the bubble that best describes the student's level of achievement.*

Student:	Class:	Grade:
<input type="radio"/>	All nine questions are answered completely providing reasons and explanations. Explanations are written in clear, understandable sentences. Writing conventions are used.	
<input type="radio"/>	Seven or eight of the nine questions are answered completely. Explanations are written in clear, understandable sentences. Writing conventions are used.	
<input type="radio"/>	Four to six of the nine questions are answered completely. Writing conventions are loosely used.	
<input type="radio"/>	Three or less questions are answered. Thee questions may or may not be answered completely. Sentences are not easily understood. Writing conventions are loosely used.	

**SCORING GUIDE**



## Assessment

### Meets Standards/Benchmarks:

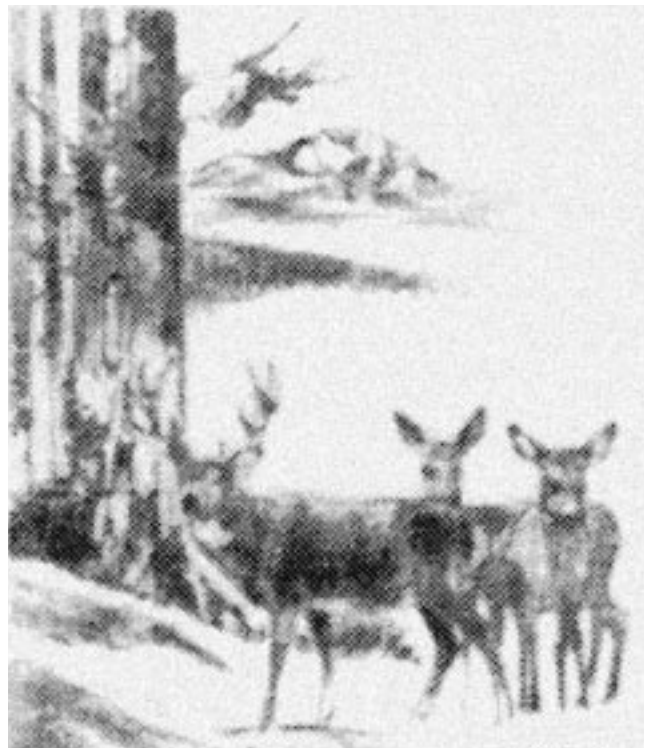
- Science 3.0 Life Science: Characteristics of living things, diversity of life, and interaction of things with their environment
- 3.1 Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment
- Geography 3.0 Characteristics of Places: characteristic and distribution of physical systems of land, air, water, plants, and animals.
- 3.2 Students know the characteristics and distribution of physical systems of land, air, water, plants, and animals.
- Read/Writing 2.0 Write and Speak for a Variety of Purposes
- 2.1 Write and speak for a variety of purposes such as telling stories, presenting analytical responses to literature, conveying technical information, explaining concepts and procedures, and persuading.
- 2.2 Write and speak for audiences such as peer, teachers, and the community.
- 2.4 Use a variety of devices such as figurative language, symbolism, dialect, and precise vocabulary to convey meaning.

- Strand; Concept:**
- \*Similarity/Variety; Sensory and quantitative observation, Requirement of living things
  - \*Pattern; Niches and habitats
  - \*Interaction/Interdependence; Community, niche, ecosystem

### Assessment Objective:

Determine a student's level of proficiency in understanding an animal's relationship with its habitat

- Task:** Create an animal riddle



Score the activity by marking the bubble that best describes the student's level of achievement.

Student:	Class:	Grade:
1	The group's riddle gives six to eight clues. The clues are directed at all the basic needs of the animal; food, water, shelter, and space.	
2	The group's riddle gives three to five clues. The clues are directed at all the basic needs of the animal; food, water, shelter, and space.	
3	The group's riddle gives two clues. The clues are not clearly directed to all the animal's basic needs.	
4	The group's riddle gives two or less clues. The clues are not connected to the animal's basic needs.	

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# 10

## What's Your Habitat?

### Assessment

#### Meets Standards/Benchmarks:

- |                  |  |
|------------------|--|
| Science 3.0      | Life Science: Characteristics of living things, diversity of life, and interaction of things with their environment.   |
| 3.1              | Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment                                    |
| 3.2              | Students know and understand interrelationships of matter and energy in living systems.  |
| Geography 3.0    | Characteristics of Places: characteristic and distribution of physical systems of land, air, water, plants, and animals.   |
| 3.2              | Students know the characteristics and distribution of physical systems of land, air, water, plants, and animals.   |
| Read/Writing 2.0 | Write and Speak for a Variety of Purposes  |
| 2.1              | Write and speak for a variety of purposes such as telling stories, presenting analytical responses to literature, conveying technical information, explaining concepts and procedures, and persuading. |
| 2.2              | Write and speak for audiences such as peer, teachers, and the community.   |
| 2.5              | Organize written and oral presentations using strategies such as lists, outlining cause/effect relationships, comparison/contrast, problem/solution, and narration.                                    |

#### Strand; Concepts:

- \*Similarity/Variety; Habitat types, Requirements of living things
- \*Pattern; Niches and habitats, Distribution of habitats
- \*Interaction/Interdependence; Community, niche, ecosystem

#### Assessment Objective:

Determine a student's level of proficiency in understanding the basic components of a habitat.

#### Task:

Compare and contrast two familiar habitats

Score the activity by marking the bubble that best describes the student's level of achievement.

Student:	Class:	Grade:
4	<p>Each habitat, school and home, is clearly described in detail. The student has listed all four basic needs supplied by each habitat or has noted any basic need(s) that re not provided by one or the other habitats. The comparison is clear in that it compares on to its counterpart in the other habitat. Example: Water is available at school in drinking fountains. At home water is available from the faucet or refrigerator.</p>	
3	<p>Each habitat is described in detail; however one or more of the basic need are missing from either habitat. The comparison of the two habitats shows two or more inconsistencies.</p>	
2	<p>Each habitat is described in general terms. Example: The schoolrooms are big and my house rooms are small. Basic needs are not addressed using specific terms. Example: My house has stuff to drink. Comparisons are not evident.</p>	
1	<p>Only one habitat is addressed. All four basic needs may or may not be addressed in the description.</p>	

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### Assessment

**Meets Standards/Benchmarks:**

- Science 3.0 Life Science: Characteristics of living things, diversity of life, and interaction of things with their environment
- 3.1 Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment

**Strand; Concept:** \*Interaction/Interdependence; Community, niche, ecosystem, Food chain and food web

**Assessment Objective:**

Determine a student's proficiency in understanding predator/prey relationships, producer/consumer relationships, and an organism's niche within an ecosystem.



**Task:** Student's will use a picture to answer questions regarding an ecosystem.

*Score the activity by marking the bubble that best describes the student's level of achievement.*

Student:	Class:	Grade:	<b>SCORING GUIDE</b>
1	All questions have been completely answered. The answers given for the last 3 questions are detailed and site examples. The examples are directly related to the details.		
2	All questions have been moderately answered. The answers given for the last 3 questions are moderately detailed and may or may not site examples. The examples are loosely related to the details.		
3	All questions have been answered; however, the answers are brief and lack detail. Examples are not used.		
4	Some questions are left unanswered. Those that are answered have answers that are unrelated to the questions or do not show the students level of understanding.		

# Create An Ecosystem

---



## Meets Standards/Benchmarks:

- |               |   |
|---------------|---|
| Science 3.0   | Life Science: Characteristics of living things, diversity of life, and interaction of things with their environment   |
| 3.1           | Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment |
| Geography 3.0 | Physical and Human Characteristics of places  |
| 3.2           | Students know the characteristics and distribution of physical systems of land, air, water, plants, and animals.  |

## Strand; Concepts:

\*Similarity/Variety; Habitat types, Requirements of living things \*Patterns; Niches and habitats, Distribution of habitats \*Adaptation/Evolution; Temporal adjustments to change, Seasonal change and life cycles

\*Interaction/Interdependence; Community, Niche, ecosystem, Food Chain and food web

## Assessment Objective:

Determine a student's level of proficiency in understanding communities within an ecosystem.

## Task:

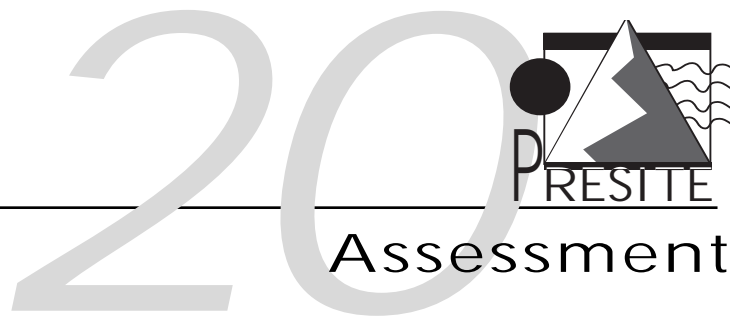
Create a representation of a real or imaginary ecosystem



Score the activity by marking the bubble that best describes the student's level of achievement.

Student:	Class:	Grade:	
4	<p>The representation clearly shows evidence that the group has taken into consideration elevation, landform, water sources, and weather patterns. A variety of plants and animals appropriate to the ecosystem are evident. Interrelationships between animals and between plants and animals are evident. All four basic needs are evident. The niche of at least 3 organisms is evident.</p>		<b>SCORING GUIDE</b>
3	<p>The representation clearly shows evidence that the group has taken into consideration elevation, landform, water sources, and weather patterns. A variety of plants and animals appropriate to the ecosystem are evident; however, interrelationships between animals and between plants and animals are not clearly shown. All four basic needs are evident. The representation does not clearly show the niche of any organism.</p>		
2	<p>The representation does not clearly show evidence that the group has taken into consideration elevation, landform, water sources, and/or weather patterns. One or two plants and/or animals appropriate to the ecosystem are evident; however, interrelationships between animals and between plants and animals are not clearly shown. All four basic needs are not clearly evident.</p>		
1	<p>The representation does not show evidence that the group has taken into consideration elevation, landform, water sources, and/or weather patterns. One or two plants and/or animals are evident but their appropriateness to the ecosystem is questionable. One or more of the four basic needs is missing.</p>		

# Create A Habitat Inhabitant



## Meets Standards/Benchmarks:

- |                  |  |
|------------------|--|
| Science 3.0      | Life Science: Characteristics of living things, diversity of life, and interaction of things with their environment  |
| 3.1              | Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment                                    |
| 3.2              | Students know and understand interrelationships of matter and energy in living systems.  |
| Science 4.0      | Earth and Space Science: Students know and understand the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space.                            |
| 4.1              | Students know and understand the general characteristics of the atmosphere and fundamental processes of weather.   |
| 4.2              | Students know major sources of water, its uses, importance, and cyclic patterns of movement through the environment  |
| Geography 3.0    | Characteristics of Places: characteristic and distribution of physical systems of land, air, water, plants, and animals  |
| 3.1              | Students know the physical processes that shape Earth's surface patterns.  |
| 3.2              | Students know the characteristics and distribution of physical systems of land, air, water, plants, and animals.   |
| Read/Writing 2.0 | Write and Speak for a Variety of Purposes  |
| 2.1              | Write and speak for a variety of purposes such as telling stories, presenting analytical responses to literature, conveying technical information, explaining concepts and procedures, and persuading. |
| 2.2              | Write and speak for audiences such as peer, teachers, and the community.   |

## Strand; Concept:

- \*Similarity/Variety; Habitat types, Requirement of living things
- \*Pattern; Climates and microclimate, Niches and habitats, Distribution of habitats.
- \*Interaction/Interdependence; Community, niche, ecosystem, Food chain and food web



**Assessment Objective:**

Determine a student's level of proficiency in understanding an organism's adaptation to its ecosystem and its niche in an ecosystem.

**Task:**

Create an imaginary organism and place it in an appropriate habitat

*Score the activity by marking the bubble that best describes the student's level of achievement.*

Student:	Class:	Grade:	
4	<p>The group's explanation of their imaginary organism (plant or animal) includes the following: a) a description of the organism and its habitat, b) the organism's niche within the habitat, c) the organism's adaptations that allow its successful survival within its habitat, d) a name for the organism. The explanation of the organism contains many details. The details provide a clear picture of the relationship of the organism to its habitat.</p>		<b>SCORING GUIDE</b>
3	<p>The group's explanation of their imaginary organism addresses three of the four components from above. The explanation of the organism contains many details but some of the details are general and do not seem related to why the organism is suited to its habitat.</p>		
2	<p>The group's explanation of their imaginary organism addresses two of the four components from above. The explanation of the organism is generalized and seems to lack any relationship to its habitat.</p>		
1	<p>The group's explanation of their imaginary organism does not mention any relationship to the habitat. Detail concerning the organism's adaptations is not evident. The organism is not named.</p>		

# What Am I? Tree Identification

## Meets Standards/Benchmarks:

- Science 1.0 Scientific Investigation: Identify & evaluate alternative explanations & procedures
- 1.2 Selecting and using simple devices to gather data related to an investigation
- Science 3.0 Life Science: Characteristics of living things, diversity of life, and interaction of living things with their environment
- 3.1 Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment



**Strand; Concepts:** \*Similarity/Variety; Classification using a key

## Assessment Objective:

Determine a student's level of proficiency in correctly identifying trees and shrubs.

## Task:

Use Rocky Mountain Tree Finder to identify trees and shrubs along a trail.

*Score the activity by marking the bubble that best describes the student's level of achievement.*

Student:	Class:	Grade:
4	The student has correctly identified a different tree or shrub at each of the six locations for which the journal asks. All questions have been answered for a tree or shrub at each location.	
3	The student has correctly identified a tree or shrub at each of the six locations ask for in the journal; however, 1 or 2 trees or shrubs selected at a particular location duplicates information collected at another location. All questions have been answered for a tree or shrub at each location.	
2	The student has correctly identified a tree or shrub at each of the six locations ask for in the journal; however, 3 or 4 of the trees or shrubs selected at a particular location duplicates information collected at another location. Some questions have not been answered for a tree or shrub at a particular location.	
1	The student has correctly identified a tree or shrub at each of the six locations ask for in the journal; however, 4 or more of the trees or shrubs selected at a particular location duplicates information collected at another location. The student has left many questions unanswered.	





# Assessment

# Environmental Factors in Different Communities

## Meets Standards/Benchmarks:

- Science 1.0 Scientific Investigation: Students understand the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.
- 1.1 Identifying and evaluating alternative explanations and procedures
  - 1.2 Using examples to demonstrate that scientific ideas are used to explain previous observations and to predict future events
  - 1.3 Asking questions and stating hypotheses that lead to different types of scientific investigations
  - 1.5 Using appropriate tools, technologies, and measurement units to gather and organize data
  - 1.6 Interpreting and evaluating data in order to formulate conclusions  
Communicating results of their investigations in appropriate ways
- Science 3.0 Life Science: Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment.
- 3.1 Students know and understand the characteristics of living things, the diversity of life, and how living things interact with each other and with their environment
- Science 4.0 Earth and Space Science: Students know and understand the composition of Earth, its history, and the natural process that shape it.
- 4.1 Students know and understand the general characteristics of the atmosphere and fundamental processes of weather.
- Math 5.0 Measurement: Students use a variety of tools and techniques to measure, apply the results in problem-solving situations and communicate the reasoning used in solving these problems.
- 5.1 Understand and apply the attributes of length, capacity, weight, mass, time, temperature, perimeter, area, volume, and angle measurement in problem-solving situations.
  - 5.2 Make and use direct and indirect measurements to describe and compare real-world phenomena.
  - 5.5 Select appropriate units, including metric and U.S. customary, and tools to measure to the degree of accuracy required solving a given problem.

## Strand; Concepts:

- \*Similarity/Variety; Sensory and quantitative observation, Habitat types, Requirements of living things
- \*Patterns; Climate and micro-climate, Niches and habitats, Distribution of habitats
- \*Adaptation/Evolution; Temporal adjustments to change
- \*Interaction/Interdependence; Community, niche, ecosystem

### Assessment Objective:

Determine a student's level of proficiency in collection and interpretation of data

### Task:

Students will collect and interpret data from a specific community

*Score the activity by marking the bubble that best describes the student's level of achievement.*

Student:	Class:	Grade:
4	<input type="radio"/>	All data is collected. The group has compared their data with the data of another group. From the data exchange, the students have answered the comparison questions in detail and by sitting specific examples. Answers are clearly written and focused on the question.
3	<input type="radio"/>	All data is collected. The group has compared their data with the data of another group. From the data exchange, the students have answered the comparison questions in detail; however, some answers lack specific examples. Answers may require some clarification but are focused on the question.
2	<input type="radio"/>	Three or four datum asked for were not collected. The group has compared their data with the data of another group. From the data exchange, the students have answered the comparison questions; however, answers lack detail and specific examples. Answers may require clarification but are not focused on the question.
1	<input type="radio"/>	Data collection is incomplete and the group did not compare their data with the data of another group.

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Student:	Class:	Grade:
4	<input type="radio"/>	All members of the group are responsible for data collection. No one member has taken on greater responsibility than any other. The group has not engaged in discussions that are not connected to the task until the task is complete.
3	<input type="radio"/>	One or more of the group have initially not participated in the data collection. The student's who are collecting data have asked the non-participating students to participate and the students have joined in to the group. Some discussions are not focused on the task.
2	<input type="radio"/>	The group does not organize themselves for the task. One or more of the group do not participated in the data collection. The student's who are collecting data have not asked the non-participating students to participate. Discussions are not focused on the task.
1	<input type="radio"/>	The group is fragmented and not focused on the task. Data is not being collected or is not collected accurately.

**SCORING GUIDE FOR COOPERATIVE LEARNING**



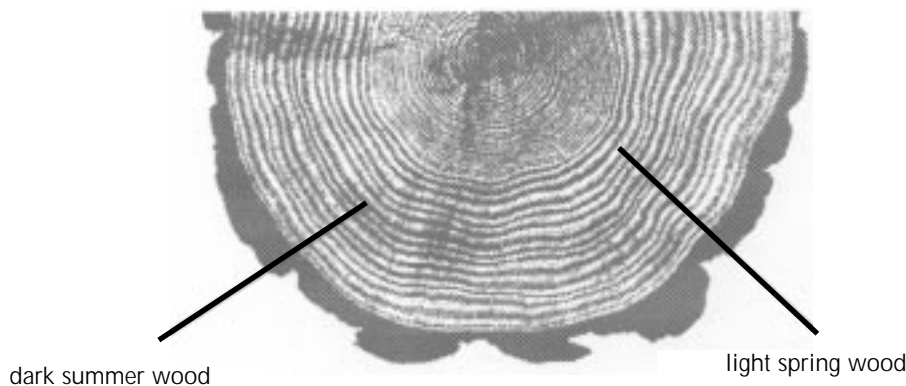


# Assessment

## How a Tree Reveals Itself

### Meets Standards/Benchmarks:

- Science 1.0 Scientific Investigation: Identify & evaluate alternative explanations & procedures
- 1.5 Using appropriate tools, technologies, and measurement units to gather and organize data
  - 1.6 Interpreting and evaluating data in order to formulate conclusions
  - 1.7 Communicating results of their investigations in appropriate ways
  - 1.8 Using metric units in measuring, calculating, and reporting results
  - 1.9 Explaining that scientific investigations sometimes result in unexpected finding that lead to new questions and more investigations
- Science 3.0 Life Science: Characteristics of living things, diversity of life, and interaction of things with their environment.
- 3.2 Students know and understand interrelationships of matter and energy in living systems.
- Math 5.0 Measurement: Students use a variety of tools and techniques to measure, apply the results in problem-solving situations and communicate the reasoning used in solving these problems.
- 5.1 Understand and apply the attributes of length, capacity, weight, mass, time, temperature, perimeter, area, volume, and angle measurement in problem-solving situations.
  - 5.2 Make and use direct and indirect measurements to describe and compare real-world phenomena.
  - 5.4 Describe and use rates of change and other derived measures.



**Strand; Concept:**

- \*Similarity/Variety; Requirement of living things
- \*Patterns; Climate and microclimate
- \*Adaptation/Evolution; Temporal adjustments to change
- \*Interaction/Interdependence; Community, niche, ecosystem

**Assessment Objective:** Determine a student's proficiency level in making accurate observations

**Task:** Observe and record measurements

*Score the activity by marking the bubble that best describes the student's level of achievement.*

Student:	Class:	Grade:
4 <input type="radio"/>	All measurements are made. The average for the growth of 10 years is correct. The journal questions are answered in complete sentences. Specific comparisons and contrasts are made between a student's selected tree stump and another student's tree stump.	
3 <input type="radio"/>	All measurements are made. The average for the growth of 10 years is incorrect. The journal questions are answered but lack clarity. General comparisons and contrasts are made between a student's selected tree stump and another student's tree stump.	
2 <input type="radio"/>	Four or less measurements are missing. Some journal questions are not answered and may lack clarity. The student either compared or contrasted their selected tree stump to another student's tree stump.	
1 <input type="radio"/>	Five or more measurements are missing. Some journal questions are not answered and lack clarity. The student did not compare or contrasted their selected tree stump to another student's tree stump.	

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# Assessment

You, Too, Can Do

## Meets Standards/Benchmarks:

- Geography 6.0 Students apply knowledge of people, places, and environments to understand the past and present and to plan for the future.
- 6.1 Students know how to apply geography to understand the past.
  - 6.2 Students know how to apply geography to understand the present and plan for the future.
- Read/Writing 2.0 Write and Speak for a Variety of Purposes
- 2.1 Write and speak for a variety of purposes such as telling stories, presenting analytical responses to literature, conveying technical information, explaining concepts and procedures, and persuading.
  - 2.2 Write and speak for audiences such as peer, teachers, and the community.
  - 2.3 Plan, draft, revise, proofread, and edit written communications.
  - 2.4 Use a variety of devices such as figurative language, symbolism, dialect, and precise vocabulary to convey meaning.
  - 2.5 Organize written and oral presentations using strategies such as lists, outlining, cause/effect relationships, comparison/contrast, problem/solution, and narration
  - 2.6 Use handwriting and at the most appropriate time, word processing to produce a product that is legible.

**Strand; Concept:** \*Interaction/Interdependence; Community, niche, ecosystem

## Assessment Objective:

Determine a student's level of proficiency in researching and giving an oral presentation about a specific person.

## Task:

Research a person who has had a positive impact on the environment. Prepare and give an oral presentation about this person to the class.

Score the activity by marking the bubble that best describes the student's level of achievement.

Student:	Class:	Grade:
4	<input type="radio"/>	The presentation clearly shows that the student has researched the chosen person. The student has taken on the role of the person whom the presentation about. Contributions of the person are stated and the presenter helps the audience believe the convictions of the person. Many details are given about the person.
3	<input type="radio"/>	The presentation clearly shows that the student has researched the chosen person. The student does not take the role of the person whom the presentation about. Contributions of the person are stated and the presenter helps the audience understand the convictions of the person. Many details are given about the person.
2	<input type="radio"/>	The presentation shows that the student has done some research about the person; however, many question about the person are left unanswered. Contributions are briefly mentioned but without elaboration. Facts are given but they do not seem to lead to a complete understanding of the person.
1	<input type="radio"/>	The presentation is brief and shows that the student did little research. Few facts are given.

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