

8/1/2012



Assessing with  
Learning  
Progressions in  
Science

## FOSS LANDFORMS



Photo source: Microsoft

### Instructional Tools

Contributors: Stacey Coad, Becky Crawford, Fred Eckes, Carrie Henderson, Kassie Kaptein,  
Rachael Leck, & Lisa L. Lockwood



**Northwest Educational  
Service District 189**

*Together We Can*

**Funding information:**  
Mathematics & Science Partnership under Title II, Part B  
Program Code: 62  
CFDA 84.366B

## Instructional Tools

In this packet you will find a set of instructional supports for science materials. These documents represent the work-in-progress of teachers in the Assessing with Learning Progressions in Science Project, a Math Science Partnership through the Northwest Educational Service District in Washington State. While we encourage others to use the materials, please know the power of these tools lies in the collaborative discussion and analysis that occurs during their creation. We strongly suggest that anyone utilizing these tools make them your own, adjusting them to fit your teaching context and district priorities. Professional development tools to aid you in this process are available on the ALPS project web page [www.nwesd.org/nwalps](http://www.nwesd.org/nwalps). For access to editable versions of these documents please contact Nancy Menard [nmenard@nwesd.org](mailto:nmenard@nwesd.org).

## Overview of the Tools (not every unit tool-set will include all of these tools)

### Unit Overview

The unit overview grid lays out learning targets or important scientific ideas from Washington State Standards for each investigation in the module and clarifies the success criteria for each learning target. It also details the formative assessments that have been designed to assess each target in the investigation.

### Learning Progressions

A learning progression is a graphical representation of the path students take toward mastery of a science “big idea”. The ALPS *Learning Progression* documents include a description of an important big idea from the *Washington State Science Learning Standards* and the progression of building-block learning targets that students master on their way toward an understanding of that big idea. For each building-block learning target the student success criteria is identified and one or more formative assessment tasks to elicit evidence of student understanding are suggested.






### Formative Assessment Tasks

The suggested formative assessment tasks are examples of tools used by the teachers in the ALPS project to gather evidence of student understanding. The *Assessment Task Cover Sheet* details each assessment and gives administration tips and suggestions for instructional adjustments based on some of the common student struggles they encountered.

### Student Work Samples

Selected student work samples from students in ALPS classrooms give a picture of the range of student responses gathered from sample formative assessments. The *Student Work Sample Cover Sheet* describes the student work samples and the teacher’s interpretation of student understanding.

# Landforms Unit Overview

Lesson	Learning Targets & Success Criteria	Assessment
Investigation 1 Part 1	<p> A model is not exactly the same as the thing being represented</p> <p>✓ I can... evaluate the differences between the model and the object or process that it represents</p>	Create a Venn Diagram comparing a model and the object it represents.
<i>Investigation 1</i> <i>Part 2</i>	<p> Models and maps are ways of representing landforms and human structures.</p> <p>✓ I can... explain how the model or map can be used to understand the system.</p>	Identify the system represented by a map or model, and then give an example of a situation where a map or model would be useful. Explain your thinking
Investigation 2 Part 1	<p> Erosion is the movement of earth by various natural processes.</p> <p>✓ I can...define erosion and the major forces that cause it.</p>	Use the Frayer Model (definition, characteristics, examples, non-examples, center circle contains erosion)
Investigation 2 Part 2	<p> Weathering is the breaking down of rock caused by various physical processes..</p> <p>✓ I can...describe weathering and give examples of different causes of weathering.</p>	<p><b>T/F/Justification</b></p> <ol style="list-style-type: none"> <li>1. Water can break rocks apart. (T)</li> <li>2. Wind can't damage rocks. (F)</li> <li>3. Weathering process is about rocks not sand. (F)</li> <li>4. Weathering creates new soil. (T)</li> </ol>
Investigation 2 Part 3	<p> Soils are formed by weathering, erosion, decaying of matter and deposition</p> <p>✓ I can...explain how soil is formed and describe its composition.</p>	<p>Concept Cartoon: What is soil made of? Which child do you agree with? Explain why.</p> <ol style="list-style-type: none"> <li>1. Soil is made up of dirt.</li> <li>2. Soil is made up of rocks, pebbles, sand, and clay.</li> <li>3. Soil= salt+oil.</li> <li>4. Soil is made up of animal waste.</li> </ol>

**Assessing with Learning Progressions in Science**

Math Science Partnership  
File Name: LF\_LF\_overview

**Funding information:**

Mathematics & Science Partnership under Title II, Part B  
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CFDA 84.366B

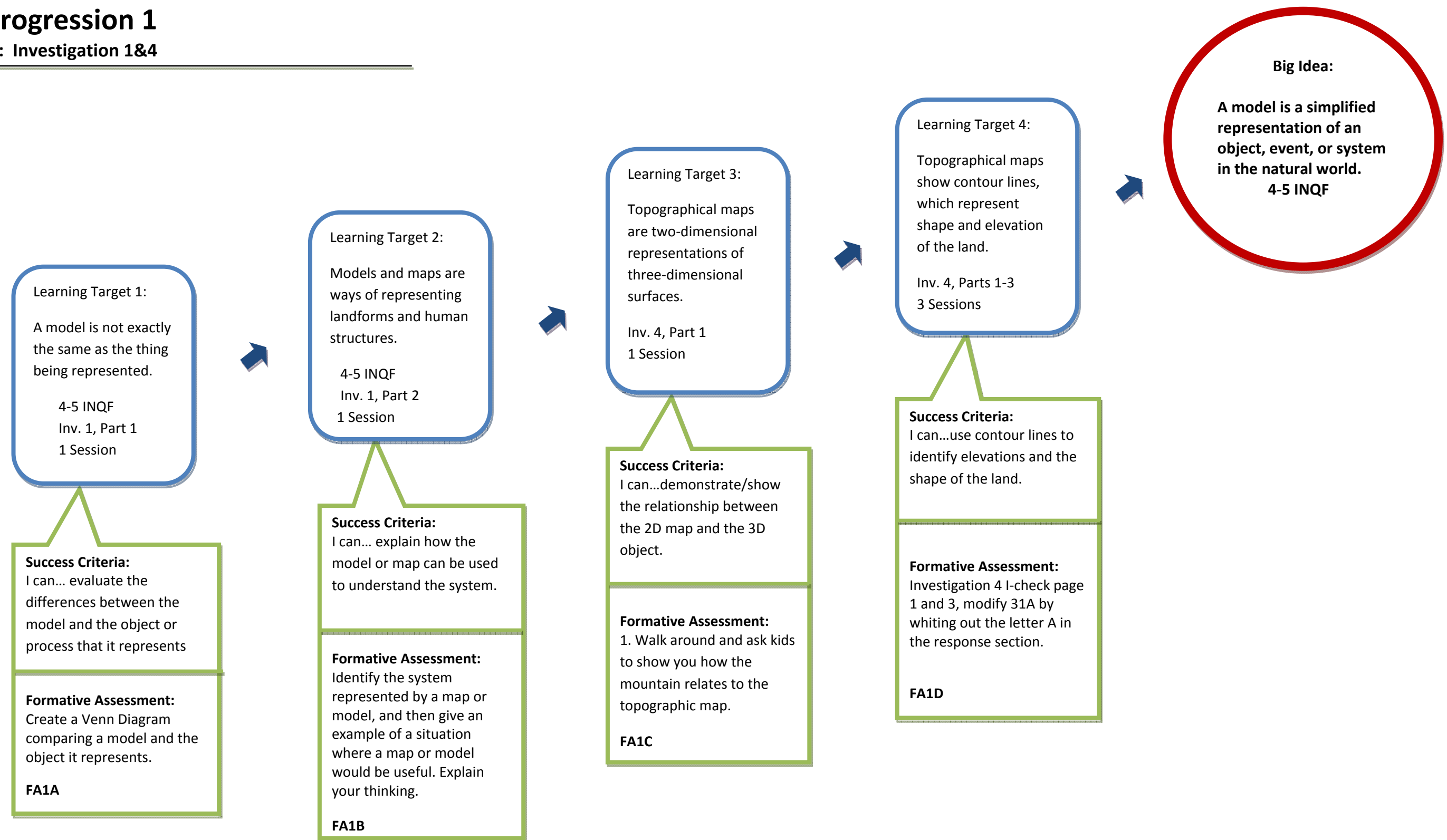
Lesson	Learning Targets & Success Criteria		Assessment						
Investigation 2 Part 3	Earth Materials	<ul style="list-style-type: none"> <li>🎯 Erosion plays an important role in the formation of soil and landforms.</li> <li>✓ I can...identify examples that show change in landforms and soil due to erosion.</li> </ul>	Use the unlabeled landform map from the landforms journal cover to label and/or draw in two examples of landforms and two examples of change in soil.						
Investigation 3 Part 1	Systems	<ul style="list-style-type: none"> <li>🎯 Systems contain subsystems that contribute to their functionality</li> <li>✓ I can... describe how parts of a system interact.</li> </ul>	Sketch a stream table system. Label its subsystems (parts), and explain how they interact with the whole system.						
Investigation 3 Part 2	Systems	<ul style="list-style-type: none"> <li>🎯 Change in a system input may change output of a system.</li> <li>✓ I can...describe the effect on a system if the input is changed.</li> </ul>	<p>1. T-Table with input and output of stream table:</p> <table style="margin-left: 20px;"> <tr> <td style="padding-right: 20px;">Input</td> <td>Output</td> </tr> <tr> <td>1.</td> <td>1.</td> </tr> <tr> <td>2.</td> <td style="text-align: center;">→ 2.</td> </tr> </table> <p>2. What differences did you observe in landforms when the slope was changed?</p>	Input	Output	1.	1.	2.	→ 2.
Input	Output								
1.	1.								
2.	→ 2.								
Investigation 3 Part 3	Systems	<ul style="list-style-type: none"> <li>🎯 Erosion can affect ecosystems.</li> <li>✓ I can... predict how erosion may affect an ecosystem.</li> </ul>	1. Investigation 3: I-check , pg. 4 (4 locations to build a house)						
Investigation 4 Part 1	Models	<ul style="list-style-type: none"> <li>🎯 Topographical maps are two-dimensional representations of three-dimensional surfaces.</li> <li>✓ I can...demonstrate/show the relationship between the 2D map and the 3D object.</li> </ul>	1. Walk around and ask kids to show you how the mountain relates to the topographic map.						
Investigation 4 Parts 1-3	Models	<ul style="list-style-type: none"> <li>🎯 Topographical maps show contour lines, which represent shape and elevation of the land.</li> <li>✓ I can...use contour lines to identify elevations and the shape of the land.</li> </ul>	Investigation 4 I-check page 1 and 3, modify 31A by whiting out the letter A in the response section.						

**Assessing with Learning Progressions in Science**

**Funding information:**

# Learning Progression 1

## FOSS Landforms: Investigation 1&4



## LANDFORMS

Big Idea: A model is a simplified representation of an object, event, or system in the natural world.

### Formative Assessment Task Cover Sheet

Learning Target #1, Assessment Task	
Assessment Task Details	Teacher Background
<b>Brief Description of the Assessment Task:</b> Create a Venn Diagram comparing a model and the object it represents	<b>Administration Tips:</b> Investigation 1 Part 1  <b>Suggestions for Instructional Adjustments:</b> Start a model museum so that kids have many examples of various models and how they relate to what they represent.
<b>Learning Target:</b> A model is not exactly the same as the thing being represented	
<b>Success Criteria:</b> I can... evaluate the differences between the model and the object or process that it represents	
Student Task Sheet Included: yes Student Work Samples Included: no	

Learning Target #2, Assessment Task	
Assessment Task Details	Teacher Background
<b>Brief Description of the Assessment Task:</b> Identify the system represented by a map or model, and then give an example of a situation where a map or model would be useful. Explain your thinking.	<b>Administration Tips:</b> Investigation 1 Part 2
<b>Learning Target:</b> Models and maps are ways of representing landforms and human structures.	
<b>Success Criteria:</b> I can... explain how the model or map can be used to understand the system.	
Student Task Sheet Included: yes Student Work Samples Included: yes	

#### Assessing with Learning Progressions in Science

Math Science Partnership  
File Name: LF\_modelsACS

#### Funding information:

Mathematics & Science Partnership under Title II, Part B  
Program Code: 62  
CFDA 84.366B

## LANDFORMS

Big Idea: A model is a simplified representation of an object, event, or system in the natural world.

Learning Target #3, Assessment Task	
Assessment Task Details	Teacher Background
<p><b>Brief Description of the Assessment Task:</b> Walk around and ask kids to show you how the mountain relates to the topographic map.</p>	<p><b>Administration Tips:</b> Investigation 4 Part 1</p>
<p><b>Learning Target:</b> Topographical maps are two-dimensional representations of three-dimensional surfaces.</p>	
<p><b>Success Criteria:</b> I can...demonstrate/show the relationship between the 2D map and the 3D object.</p>	
<p>Student Task Sheet Included: yes Student Work Samples Included: no</p>	

Learning Target #4, Assessment Task	
Assessment Task Details	Teacher Background
<p><b>Brief Description of the Assessment Task:</b> Using FA4B kids analyze contour lines.</p>	<p><b>Administration Tips:</b> Investigation 4 Parts 1-3</p>
<p><b>Learning Target:</b> Topographical maps show contour lines, which represent shape and elevation of the land.</p>	
<p><b>Success Criteria:</b> I can...use contour lines to identify elevations and the shape of the land.</p>	
<p>Student Task Sheet Included: yes Student Work Samples Included: no</p>	

Name \_\_\_\_\_

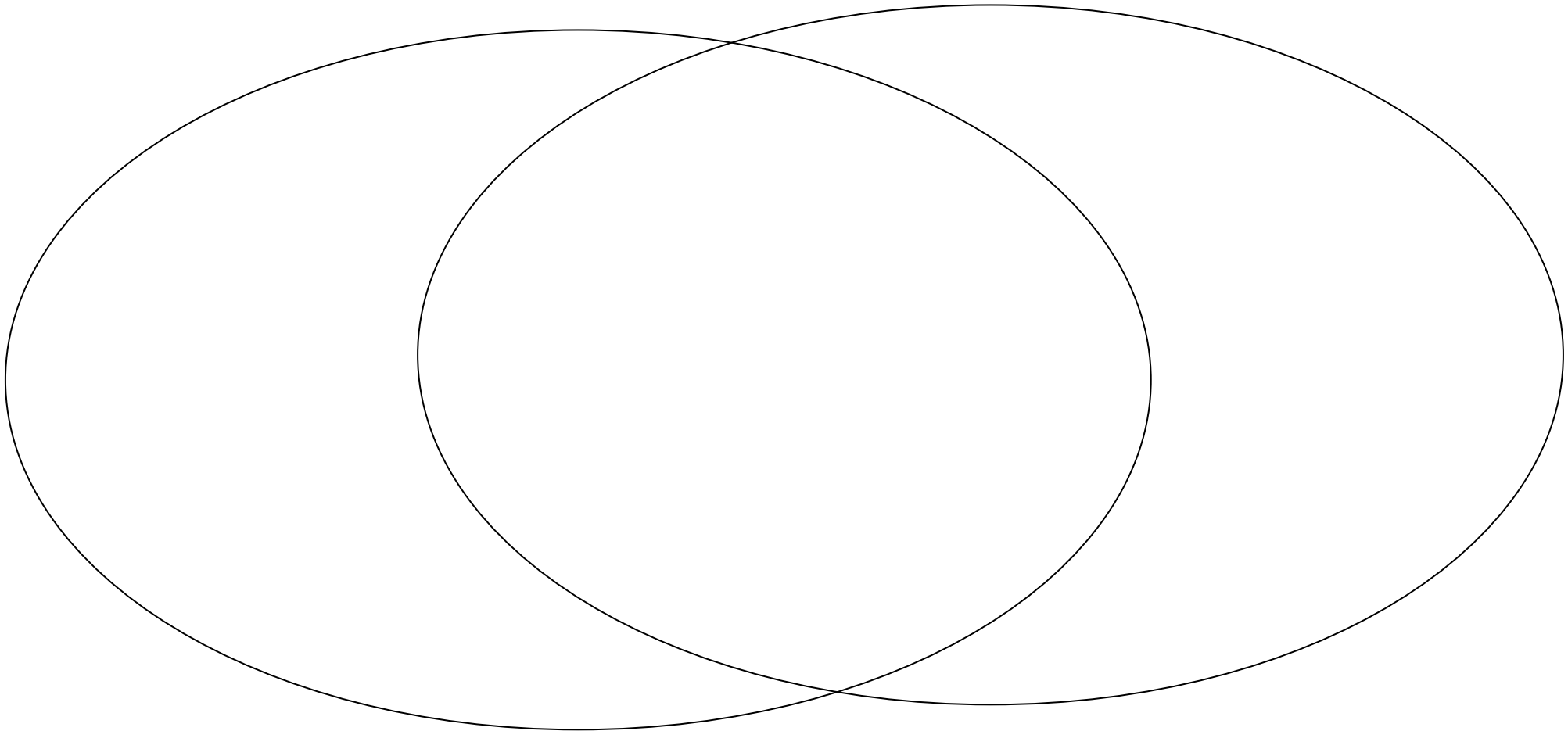
Date \_\_\_\_\_

Science – Landform Kit Investigation # 1

Fill out the Venn Diagram comparing a model and the object it represents.

Object: \_\_\_\_\_

Model \_\_\_\_\_





Name \_\_\_\_\_

Date \_\_\_\_\_

Science – Landform Kit

Learning Progression #1 - Investigation # 4

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1) Give a situation where a map would be useful. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

List at least two reasons why a map is useful in this situation

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2) Give a situation where a model would be useful. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

List at least two reasons why a model is useful in this situation. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## LANDFORMS

Big Idea: A model is a simplified representation of an object, event, or system in the natural world.

Target #2, Assessment: Use of Maps and Models

### Formative Assessment Student Work Cover Sheet

#### Student Work Description

**Sample 1:** Student understands that a map is useful for helping you get to where you want to be and a model is a convenient substitute for the real thing. This student may overgeneralize how accurate a model may be.

**Sample 2:** Student understands cardinal directions and how to put them to use on a map. Student understands the difference between a map and a model.

**Sample 3:** Student understands that maps contain marked locations. Student understands that a model is the representation of the real thing.



Name \_\_\_\_\_

Date 2/3/12

Science - Landform Kit

Sample 2

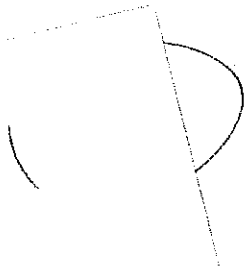
Learning Progression #1 - Investigation # 4

1) A situation where a map would be useful is on vacations,  
travel, or sailing

because it helps you find directions  
like north west east south.

2) A situation where a model would be useful is for  
scientists

because they would help models  
for figuring what  
stuff are in it.



Name \_\_\_\_\_

Date \_\_\_\_\_

Science – Landform Kit

Sample 3

Learning Progression #1 - Investigation # 4

1) A situation where a map would be useful is if i'm lost in the woods, or in a island

because it will show me where to find places like a buffet, a school, a house

2) A situation where a model would be useful is my house: it will show you where my dogs are, or the bathroom

because it will show you my hole house.

Teacher Name \_\_\_\_\_ Date \_\_\_\_\_

Science – Landform Kit

Investigation # 4

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Walk around and ask kids to show you how the mountain relates to the topographic map.

**Kids who grasped the concept**

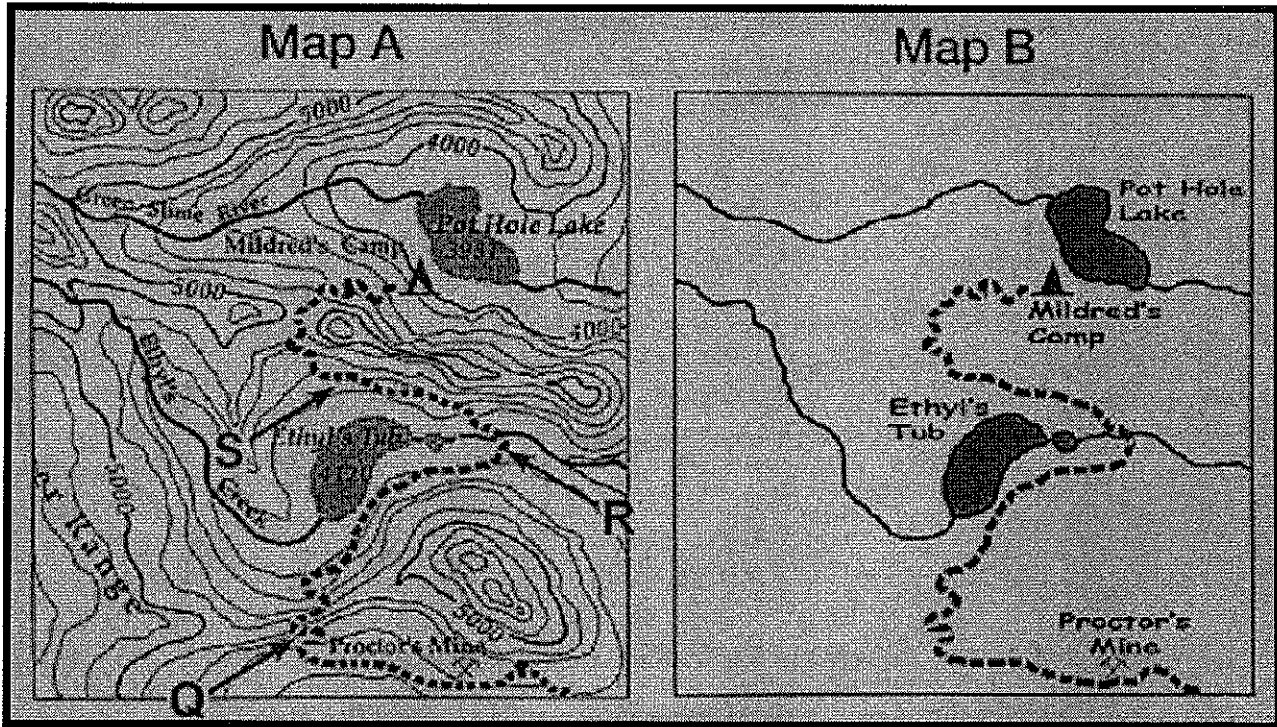
**Kids who need more explanation**

Name \_\_\_\_\_

Date \_\_\_\_\_

Science – Landform Kit

Investigation # 4



1) Pam and her family were planning a hike. Pam found two maps of the same area. Her friend recommended that she use the topographic map.

a) Which map is the topographic map? (circle one)    Map A                      Map B

Why would Pam's friend recommend using the topographic map for the hike?

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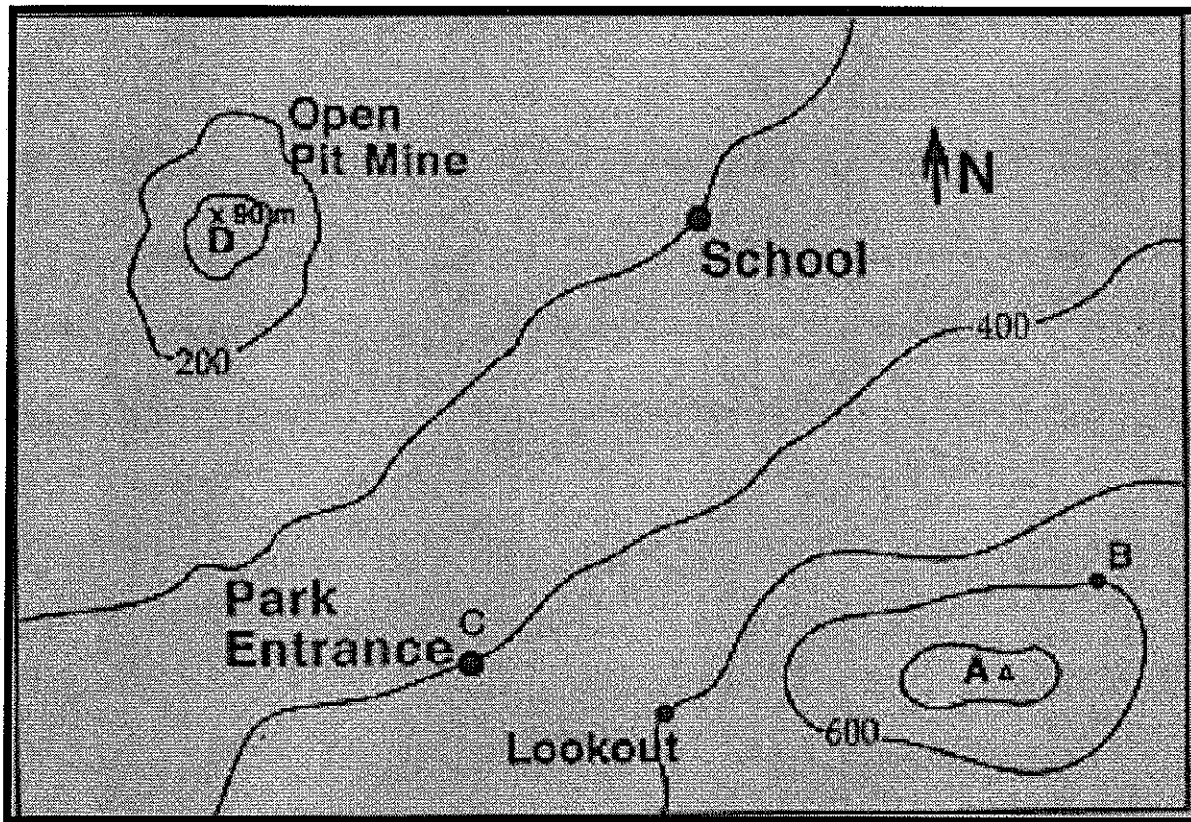
b) Which letter on the map is the steepest part of the trail? \_\_\_\_\_

How do you know it is the steepest part of the trail?

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2)



a) What is the highest point on this map? \_\_\_\_\_

Explain why you chose that elevations.

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b) Which letter indicates the lowest point on the map? \_\_\_\_\_

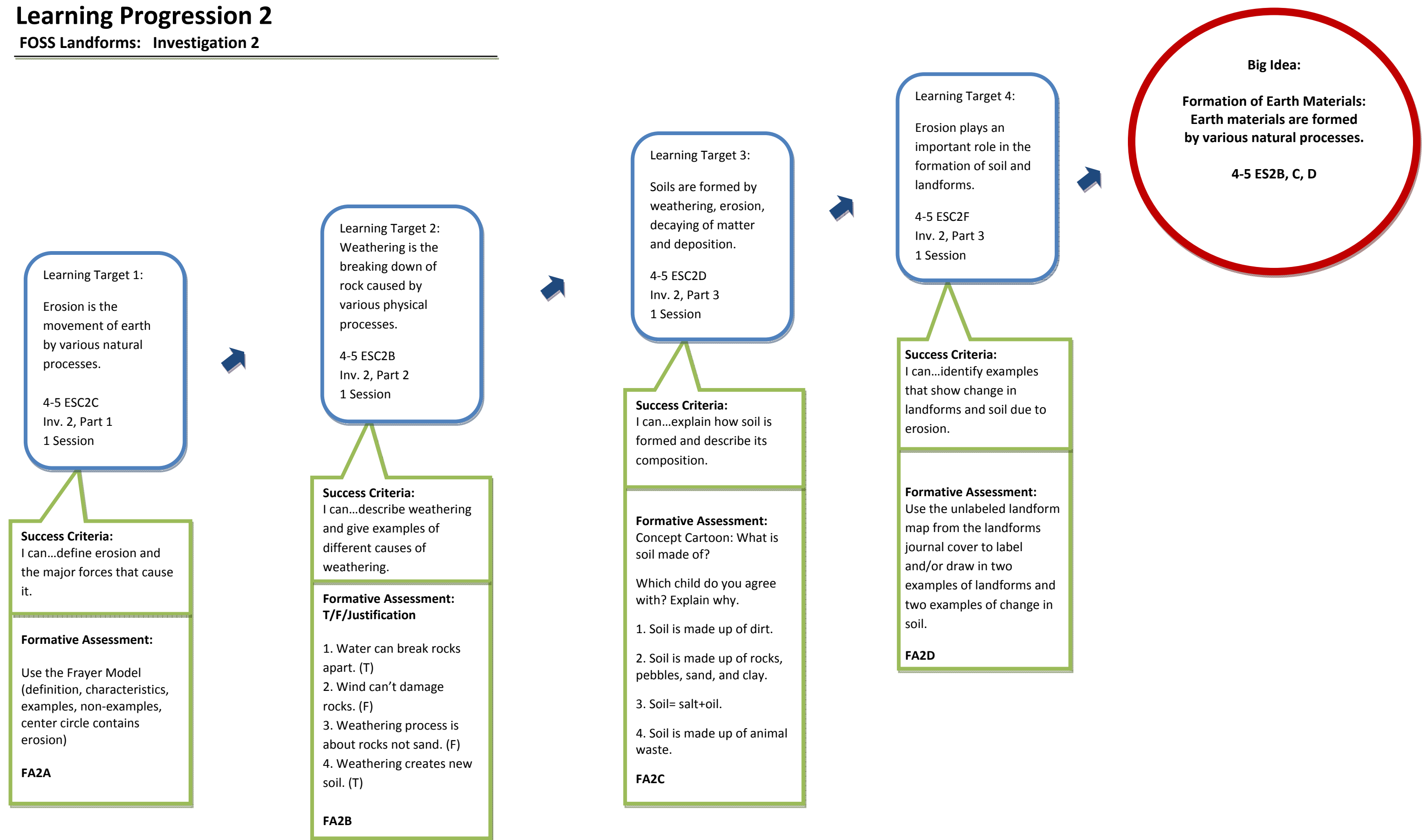
What is the elevation at the lowest point? \_\_\_\_\_

c) What is the difference in elevation between the park entrance and the lookout? \_\_\_\_\_



# Learning Progression 2

## FOSS Landforms: Investigation 2



# LANDFORMS

Big Idea: **Formation of Earth Materials: Earth materials are formed by various natural processes**

## Formative Assessment Task Cover Sheet

Learning Target #1, Assessment Task	
Assessment Task Details	Teacher Background
<p><b>Brief Description of the Assessment Task:</b> Use the Frayer Model (definition, characteristics, examples, non-examples, center circle contains erosion)</p>	<p><b>Administration Tips:</b> Investigation 2 Part 1: You will need to complete a Frayer Model on another concept first so that students understand how to complete a Frayer Model.</p> <p><b>Suggestions for Instructional Adjustments:</b> You may want to insert a Bill Nye video about erosion before having the kids complete the assessment.</p>
<p><b>Learning Target:</b> Erosion is the movement of earth by various natural processes.</p>	
<p><b>Success Criteria:</b> I can...define erosion and the major forces that cause it</p>	
<p>Student Task Sheet Included: yes Student Work Samples Included: no</p>	

Learning Target #2, Assessment Task	
Assessment Task Details	Teacher Background
<p><b>Brief Description of the Assessment Task: T/F Justification</b></p> <p>1. Water can break rocks apart. (T) 2. Wind can't damage rocks. (F) 3. Weathering process is about rocks not sand. (F) 4. Weathering creates new soil. (T)</p>	<p><b>Administration Tips:</b> Investigation 2 Part 2 As you complete part 2 be sure to introduce and explain the term "weathering."</p> <p><b>Suggestions for Instructional Adjustments:</b> Look for additional resources about weathering.</p>
<p><b>Learning Target:</b> Weathering is the breaking down of rock caused by various physical processes</p>	
<p><b>Success Criteria:</b> I can...describe weathering and give examples of different causes of weathering.</p>	
<p>Student Task Sheet Included: yes Student Work Samples Included: yes</p>	

## LANDFORMS

Big Idea: **Formation of Earth Materials: Earth materials are formed by various natural processes**

Learning Target #3, Assessment Task	
Assessment Task Details	Teacher Background
<p><b>Brief Description of the Assessment Task:</b> Concept Cartoon: What is soil made of? Which child do you agree with? Explain why.</p> <ol style="list-style-type: none"> <li>1. Soil is made up of dirt.</li> <li>2. Soil is made up of rocks, pebbles, sand, and clay.</li> <li>3. Soil= salt+oil.</li> <li>4. Soil is made up of animal waste</li> </ol>	<p><b>Administration Tips:</b> Investigation 2 Part 3 You may want the children to name or number the figures first so that they can properly talk about them in the assessment.</p>
<p><b>Learning Target :</b> Soils are formed by weathering, erosion, decaying of matter and deposition</p>	
<p><b>Success Criteria:</b> I can...explain how soil is formed and describe its composition.</p>	
<p>Student Task Sheet Included: yes Student Work Samples Included: no</p>	

## LANDFORMS

Big Idea: **Formation of Earth Materials: Earth materials are formed by various natural processes**

Learning Target #4, Assessment Task	
Assessment Task Details	Teacher Background
<b>Brief Description of the Assessment Task:</b> Use the unlabeled landform map from the landforms journal cover to label and/or draw in two examples of landforms and two examples of change in soil.	<b>Administration Tips:</b> Investigation 2 Part 3
<b>Learning Target:</b> Erosion plays an important role in the formation of soil and landforms.	
<b>Success Criteria:</b> I can...identify examples that show change in landforms and soil due to erosion	
Student Task Sheet Included: yes Student Work Samples Included: no	

**Funding information:**

Name \_\_\_\_\_

Date \_\_\_\_\_

Science – Landform Kit Investigation # 2

Use the Frayer model below to define Erosion.

<p><b><u>Definition:</u></b></p>	<p><b><u>Characteristics:</u></b></p>
<p><b><u>Examples:</u></b></p>	<p><b><u>Non-Examples:</u></b></p>

**Erosion**

Name \_\_\_\_\_

Date \_\_\_\_\_

Science – Landform Kit Investigation #2

Decide whether the statement is True or False and then write a sentence or two about why you think this way.

Statement	True	False	Why I think so...
1. Water can break rocks apart.			
2. Wind can't damage rocks			
3. Weathering process is about rocks not sand.			
4. Weathering creates new soil.			

## LANDFORMS

Big Idea: **Formation of Earth Materials: Earth materials are formed by various natural processes.**

Target 2, Assessment: T/F Justification

### Formative Assessment Student Work Cover Sheet

#### Student Work Description

**Sample 1:** Student understands the weathering process and justifies answer with complete thoughts.

**Sample 3:** Student understands the weathering process and uses correct scientific vocabulary.

Name \_\_\_\_\_

Date \_\_\_\_\_

Science – Landform Kit

Investigation #2

Decide whether the statement is True or False and then write a sentence or two about why you think this way.

Statement	True	False	Why
1. Water can break rocks apart.	✓		Water is forceful and patient and particle by particle it erodes the rocks beneath it.
2. Wind can't damage rocks		✓	Wind can move really fast and rip up sand and parts of rock and create sand dunes.
3. Weathering process is about rocks not sand.		✓	Weathering can happen to anything. It just takes time.
4. Weathering creates new soil.	✓		Weathering can erode rocks and bring it to other places with dust particles, creating new soil.



Name \_\_\_\_\_

Date \_\_\_\_\_

Science - Landform Kit

Investigation #2

Decide whether the statement is True or False and then write a sentence or two about why you think this way.

Statement	True	False	Why I think so...
1. Water can break rocks apart.	✓	✗	Heavy rainfall can weather rocks, b/c it hits the rock hard.
2. Wind can't damage rocks	✗	✓	Wind CAN damage rock, b/c after time it would wear away the rock's face.
3. Weathering process is about rocks not sand.	✗	✓	Sand is what the little bits of worn of rock turn into tiny pieces of rock sand.
4. Weathering creates new soil.	✓	✗	It does create soil, b/c the bits of rock, mud and clay that were part of the rock become soil.

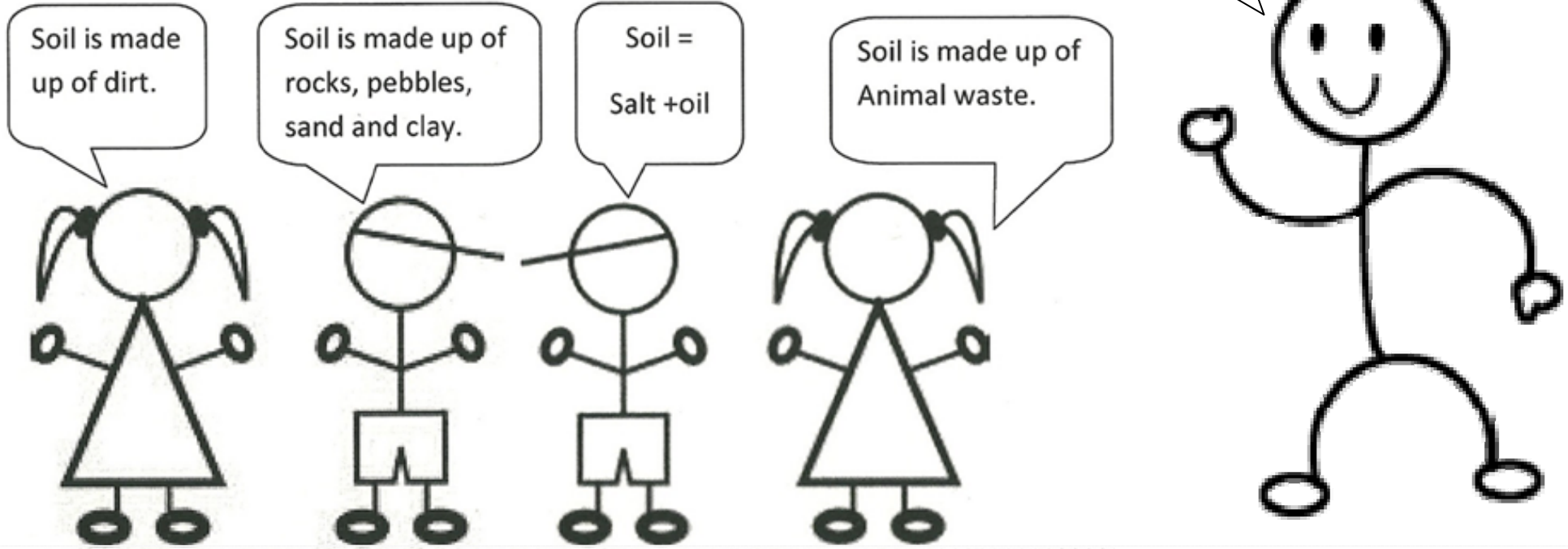
Name \_\_\_\_\_

Date \_\_\_\_\_

Science – Landform Kit

Investigation #2

This teacher is asking his students about an important learning goal from their Landform kit.



Which student do you agree with? Explain why.

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Name \_\_\_\_\_

Date \_\_\_\_\_

Science – Landform Kit

investigation #2

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1. Label two landforms.
2. Label an existing example or draw/label a new example of erosion.
3. Label an existing example or draw/label a new example of deposition.



FOSS Landforms, Picture from Investigation Duplicate Master, Landforms Journal Student Sheet, page 2.2000.  
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# Learning Progression 3

## FOSS Landforms: Investigation 3

Prerequisite skill:  
Models can be used to understand systems.  
(Investigation 1)  
4-5 INQF

Learning-Target 1:  
Systems contain subsystems that contribute to their functionality  
  
4-5 SYSA, B  
Inv. 3, Part 1  
1 Session

**Success Criteria:**  
I can... describe how parts of a system interact.

**Formative Assessment:**  
Sketch a stream table system. Label its subsystems (parts), and explain how they interact with the whole system.

**FA3A**



Learning Target 2:  
Change in a system input may change output of a system.  
  
4-5 SYSC  
Inv. 3, Part 2  
1 Session

**Success Criteria:**  
I can... describe the effect on a system if the input is changed.

**Formative Assessment:**  
1. T-Table with input and output of stream table:  
Input                      Output  
1.                      →                      1.  
2.                      →                      2.

2. What differences did you observe in landforms when the slope was changed?

**FA3B**



Learning Target 3:  
Erosion can affect ecosystems.  
  
4-5 SYSD  
4-5 ES2F  
  
Inv. 3, Part 3  
2 Sessions

**Success Criteria:**  
I can... predict how erosion may affect an ecosystem.

**Formative Assessment:**  
1. Investigation 3: I-check , pg. 4 (4 locations to build a house)

**FA3C**



**Big Idea:**  
  
**Systems: A system can be analyzed by the study of its subsystems and larger more inclusive systems.**  
**4-5 SYSA, B, C, D**

Later big ideas that build on this big idea include:  
  
Technology involves changing the natural world to meet human needs and wants.  
  
**4-5 APPA**

## LANDFORMS

Big Idea: **Systems: A system can be analyzed by the study of its subsystems and larger more inclusive systems.**


### Formative Assessment Task Cover Sheet

Learning Target #1, Assessment Task	
Assessment Task Details	Teacher Background
<b>Brief Description of the Assessment Task:</b> Sketch a stream table system. Label its subsystems (parts), and explain how they interact with the whole system.	<b>Administration Tips:</b> Investigation 3 Part 1  <b>Suggestions for Instructional Adjustments:</b> Break down other systems into subsystems explaining how they contribute to the functionality of the system. (Grandfather Clock, Ecosystem, Computer, Bicycle, etc.)
<b>Learning Target:</b> Systems contain subsystems that contribute to their functionality.	
<b>Success Criteria:</b> I can... describe how parts of a system interact.	
Student Task Sheet Included: yes Student Work Samples Included: no	

**Funding information:**

## LANDFORMS

Big Idea: **Systems: A system can be analyzed by the study of its subsystems and larger more inclusive systems.**

Learning Target #2, Assessment Task	
Assessment Task Details	Teacher Background
<p><b>Brief Description of the Assessment Task:</b> T-Table with input and output of stream table:</p> <p>Input                      Output</p> <p>1.                              1.</p> <p>2.                       2.</p> <p>2 .What differences did you observe in landforms when the slope was changed?</p>	<p><b>Administration Tips:</b> Investigation 3 Part 2 Make sure that you talk about what input/outputs are. One example is number machines; another example would be a bicycle.</p>
<p><b>Learning Target:</b> Change in a system input may change output of a system.</p>	
<p><b>Success Criteria:</b> I can...describe the effect on a system if the input is changed.</p>	
<p>Student Task Sheet Included: yes Student Work Samples Included: yes</p>	

## LANDFORMS

Big Idea: **Systems: A system can be analyzed by the study of its subsystems and larger more inclusive systems.**

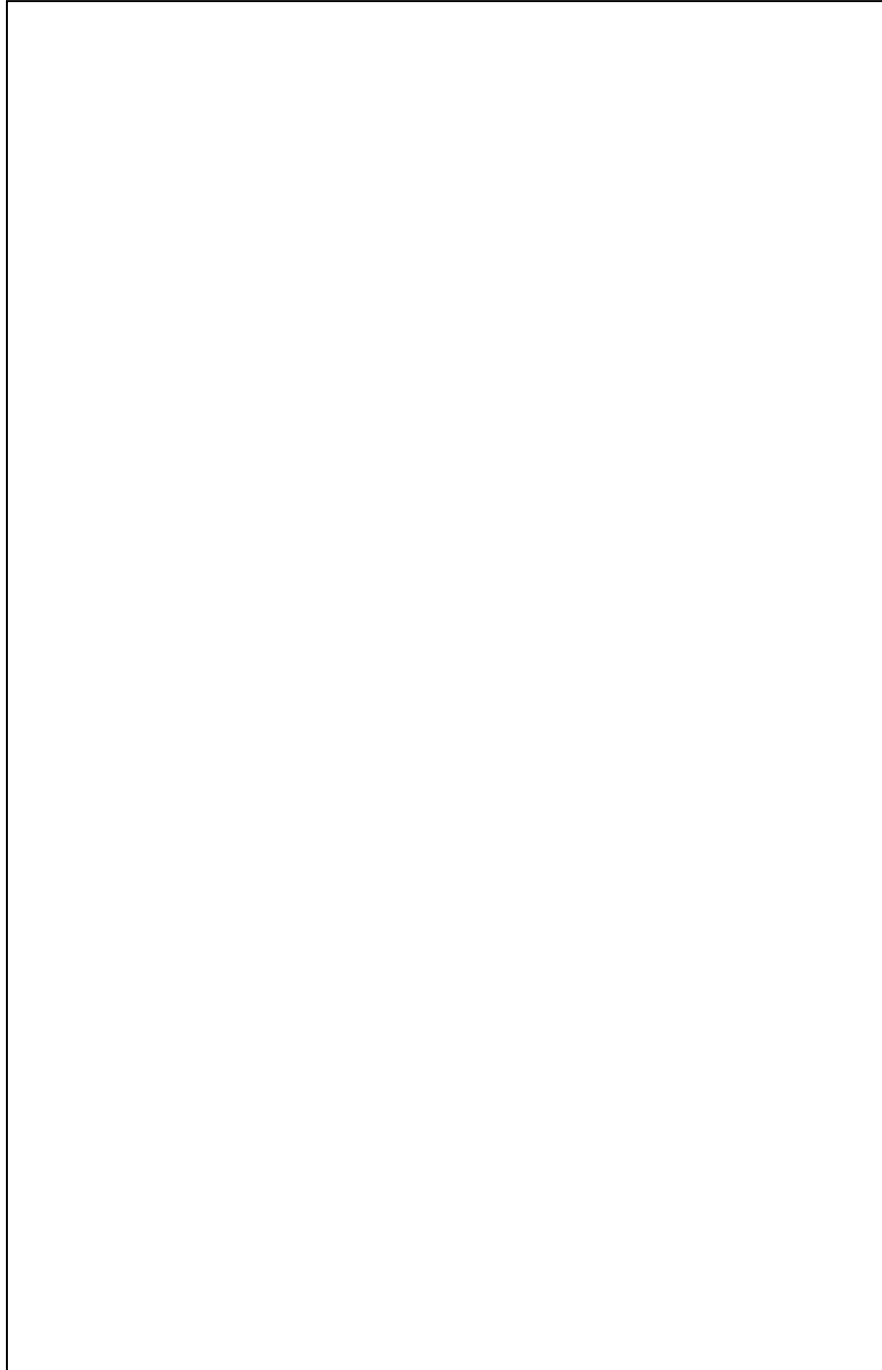
<b>Learning Target #3, Assessment Task</b>	
<b>Assessment Task Details</b>	<b>Teacher Background</b>
<b>Brief Description of the Assessment Task:</b> Kids are asked to pinpoint the best location for a house.	<b>Administration Tips:</b> Investigation 3 Part 3
<b>Learning Target :</b> Erosion can affect ecosystems	
<b>Success Criteria:</b> I can... predict how erosion may affect an ecosystem.	
Student Task Sheet Included: yes Student Work Samples Included: no	

Name \_\_\_\_\_

Date \_\_\_\_\_

Science – Landform Kit Investigation # 3

Sketch a stream table system. Label its subsystems (parts) and how they interact with the whole system.

A large, empty rectangular box with a thin black border, intended for a student to draw and label a stream table system. The box is positioned centrally on the page below the instruction text.





Name \_\_\_\_\_

Date \_\_\_\_\_

Science – Landform Kit Investigation # 3

1) Fill out the T-table below with input and outputs of the stream table.

Input		Output	
1)		1)	
			
2)		2)	
			

2) What differences did you observe in landforms when the slope changed?

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## LANDFORMS

### Additional Information

\*Puppy training pads (available at most pet stores and large department stores) are helpful for protecting tables and preventing unwanted spills onto the floor. They are more effective than newspaper. These can be used year after year until soiled.

\*Having students bring in maps of different places to share during this unit is helpful.

\*Before you begin, start surveying resources for videos about weathering, erosion, and deposition.

\*Formative Assessment LF\_earthmaterials3

Student responses:

1. Dirt is displaced soil. Dirt is the stuff under your fingernails and the mud on your jeans. Soil is on the ground.
2. Soil is a mixture of mineral and organic materials. It is made up of rocks, pebbles, sand, clay, and humus (decomposed plant and animal matter).
3. Salt is a naturally occurring mineral element in soil. Oil contaminates soil.
4. Animal waste, when decomposed, is a part of soil.

## LANDFORMS

Big Idea: A system can be analyzed by the study of its subsystems and larger more inclusive systems.

Target #2 Assessment: Input/Output Analysis

### Formative Assessment Student Work Cover Sheet

#### Student Work Description

**Sample 1:** Student is able to identify the input and output systems in a stream table and they are able to give an explanation about the effects of the slope of the table.

**Sample 2:** Student is able to identify the input and output systems in a stream table and they are able to give an explanation about the effects of the slope of the table.

**Sample 3:** Student is able to identify the input and output systems in a stream table and they are able to give an explanation about the effects of the slope of the table.

Name

Date

Happy V-Day!  
You're the best!  
✓

Science - Landform Kit

Investigation # 3

1) Fill out the T-table below with input and outputs of the stream table.

Input	Output
1) Slope	1) land spread out and more erosion happened
2) flood	2) more erosion happened and deep canyons were formed

2) What differences did you observe in landforms when the slope changed?

The difference was that land spread out to create a delta. Also more erosion happened. Another is water moved quickly.

Name \_\_\_\_\_

Date \_\_\_\_\_

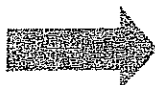
Science - Landform Kit

Investigation # 3

1) Fill out the T-table below with input and outputs of the stream table.

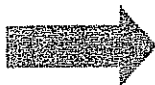
Input	Output
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1) Water



1) The water made the plateau wet and made the sand move to create canyons and deltas.

2) Flood



2) Flood made the water move faster to create deeper canyons and larger deltas.

2) What differences did you observe in landforms when the slope changed?

When we sloped the plateau I noticed that the water moved much faster which made the soil move a lot more and make the canyons much deeper then the original version.

Name \_\_\_\_\_

Date \_\_\_\_\_



Science – Landform Kit

Investigation # 3

1) Fill out the T-table below with input and outputs of the stream table.

Input	Output
1) Flood	1) makes alot more deposition happen
2) land slide	2) it makes a bigger beach

2) What differences did you observe in landforms when the slope changed?

There was alot more deposition and erosion. Also it made a bigger canyon and formed a lake.

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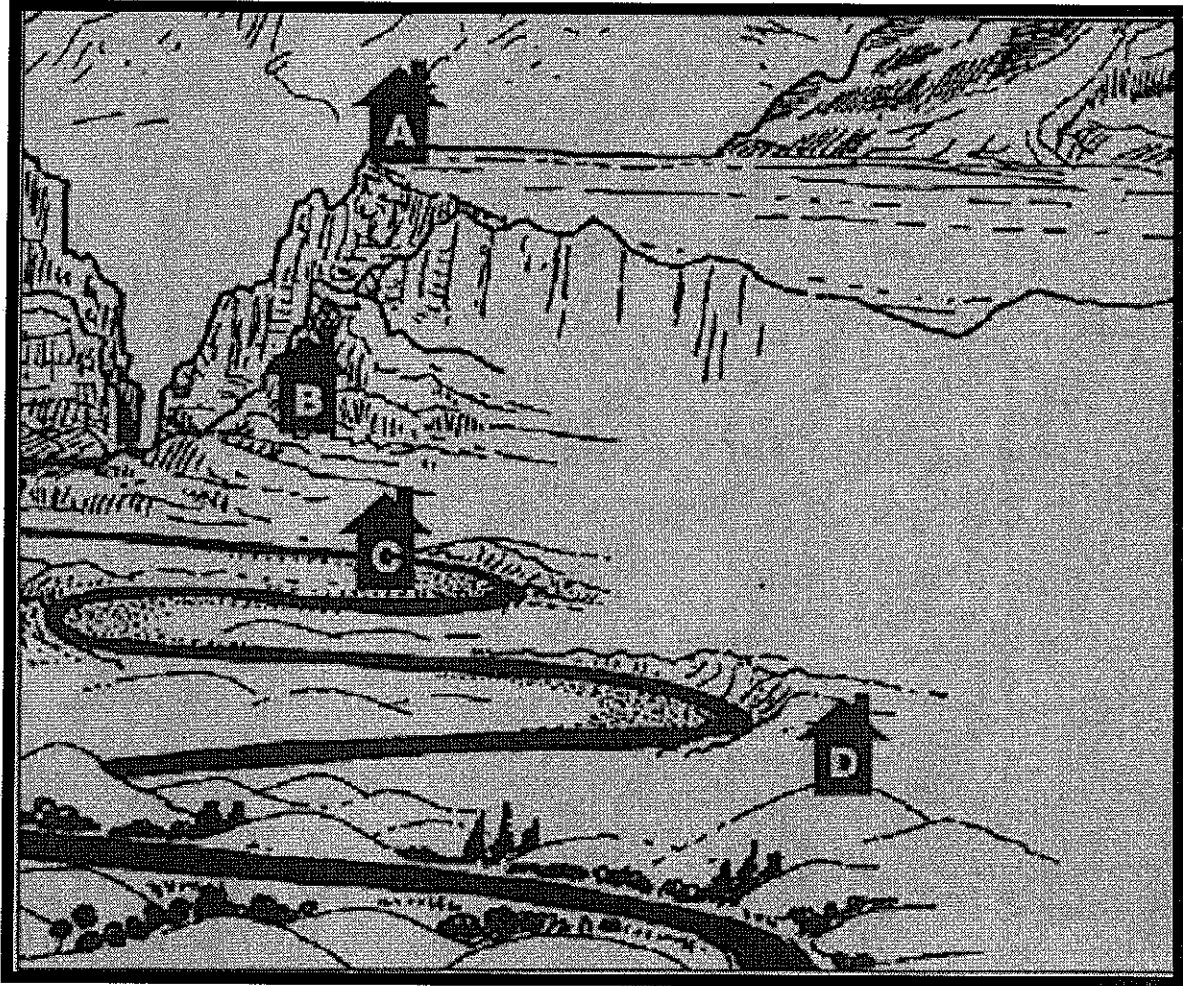
Name \_\_\_\_\_

Date \_\_\_\_\_

Science – Landform Kit

Investigation # 3

A geologist was shown four locations to build a house. She recommended site D.



Explain why the geologist recommended site D as the safest location for the house.

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## Land Forms

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