OREGON TRAIL MEASUREMENTS

MATH AND SOCIAL SCIENCE

Grade: 4

Acceleration Approach

Standard has been accelerated by moving grade levels 4 up to the standard used for grade level 6.

K	1	2	3	4	5	6	7	8	9	CIM	CRLS/ CAM yes
				→	→	→					

Organizing Overarching Concept (e.g. systems, patterns of change, models, scales):

Patterns of Change

Organizing Higher Order Skills (e.g. Bloom's, Paul's Model of Reasoning):

Bloom's Taxonomy

Differentiation Features– Students:

- Assessed earlier or prior to teaching
- Use multiple higher-level skills
- Develop a product

COMMON CURRICULUM GOAL

Math—Direct and Indirect Measurement
Apply appropriate techniques, tools, and formulas to determine measurements.

Social Science—Geography
Understand and use geographic skills and concepts to interpret contemporary and historical issues.

Analyze the causes of human migration (e.g., destiny, food and water supply, transportation and communication systems) and its effects (e.g., impact on physical and humans systems).

Social Science—Analysis
Identify and Analyze an issue.

CONTENT STANDARD

Social Science—Geography
Understand the distribution and movement of people, ideas, and products.

Social Science—Analysis
Identify and analyze characteristics, causes, and consequences of an event, issue, problem, or phenomenon.

GRADE LEVEL STANDARDS

Math—Direct and Indirect Measurement
4th Grade Create examples of rectangles that have the same area, but different perimeters and examples of rectangles that have the same perimeter, but different areas.

OREGON TRAIL MEASUREMENTS

MATH AND SOCIAL SCIENCE

Grade: 4

Archetypal Model
Student will apply appropriate techniques, tools, and formulas to determine measurements.

TASK DEMAND
Sample Task Activity

Grouping: Cluster of Like Ability
Create examples of rectangles that have the same area, but different perimeters and examples of rectangles that have the same perimeter, but different areas.

Acceleration
The students will compare/contrast the formulas for area of rectangles, related triangles, and parallelograms and analyze the effects on area and perimeter of combing two geometric figures.

Assignments:
I. Students will create triangles, parallelograms, rectangles that have:
   a. Same area, but different perimeters
   b. Same perimeter, but different areas

II. Combine 2 geometric figures in a + b and analyze the effect on area and perimeter. Explain.

Questions
- Is there a consistent change/relationship between area/perimeter?
- What patterns do you see when you keep either area/perimeter constant and change the other?
- What is the correlation between area and perimeter when looking at rectangles and triangles and rectangles and parallelograms?

Interdisciplinary Connection
- **Oregon Trail Study-Math**

  Students will research essential materials needed to bring on a journey in a covered wagon.
  Wagon bed is 12 ft by 3½ ft. They will find dimensions of all items that will take up floor space.
  Arrange on graph paper the placement of materials.
  Relate to 3-D (weight, volume, capacity, etc.)
  Surface area (science)

6th Grade Determine the area of a complex figure representative of a problem situation composed of a combination of two or more geometric figures (e.g., attach a triangle to a parallelogram).

6th Grade Analyze how changes in area of a figure affect the dimensions of the figure.

5th Grade Compare and contrast the formulas for area of rectangles, related triangles, and parallelograms.

Social Science—Geography
5th grade Identify patterns of migration and interaction in the United States.

Eligible Content: Understand how physical geography affects the routes, flow and destinations of migration.

Explain how migration affects the culture of emigrants and native populations.

Social Science—Analysis
5th grade Identify characteristics of an event, issue or problem, suggesting possible causes and results.

OREGON TRAIL MEASUREMENTS

MATH AND SOCIAL SCIENCE

Grade: 4

- **Oregon Trail Study-Social Sciences**
  Using advanced sources TAG Students will do a research project on how physical geography affected the routes, flow and destinations of migration or how the culture of emigrants and native populations affected by the Oregon Trail journey. Use the Graphic Organizers *Research Procedures* and *Social Studies –Wheel of Reasoning.*

Questions

- Considering the journey by covered wagon, how did the physical geography affected the routes, flow and destinations of migration?
- How was the culture of emigrants and native populations affected by the Oregon Trail journey?
  Note: Teacher uses the Graphic Organizer *Questions to Guide Intellectual Thinking* to generate higher level questions.

Implementation Time

- 2 or 3 sessions for math
- Small group and independent study time for research.

Resources

- American History Sources for Students: The Westward Movement **http://www.learning.caliberinc.com/west6.html**
- The Emigrants **http://calcite.rocky.edu/octa/emigrant.htm**
- Franco, Betsy, Fourscore and 7 ISBN: 0673577333 | Addison-Wesley Educational Publishers, Incorporated | 1999-01-01
- Go West America National Geographic **http://www.nationalgeographic.com/west/**
- Indians and Emigrants **http://calcite.rocky.edu/octa/indian.htm**
- *Math By All Means: Area and Perimeter, Grades 5-6, A Marilyn Burns Replacement Uni*t, Cheryl Rectanus, Math Solutions Publication, ISBN
- Oregon Blue Book **http://bluebook.state.or.us/**
- Sangamo Journal **http://calcite.rocky.edu/octa/sangamo.htm**
- TERC **http://www.terc.edu/TEMPLATE/topic/index.cfm?topicID=6**
- Wagon Trains **http://dreamartists.com/wagontr3.htm**

Scoring Guide

Math and Social Science Scoring Guides found in Standards and Assessments Section VII.

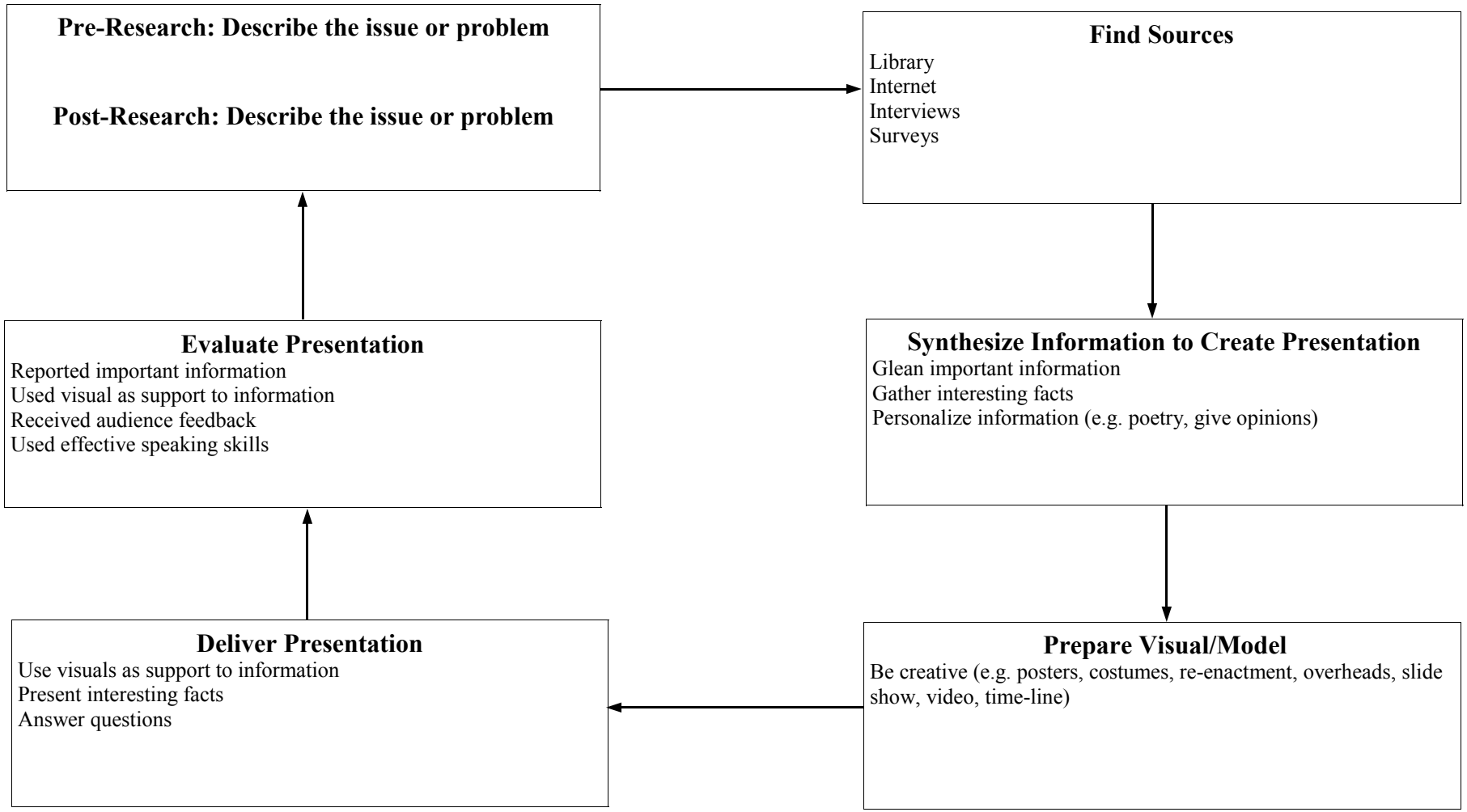
The editor used the internet for many resources listed in this document. The listed books and internet sites should be reviewed and evaluated by the teacher before using.

Social Science Analysis **Students will be able to:**	**6 Exemplary**	**5 Proficient**	**4 Strong**	**3 Developing**	**2 Emerging**	**1 Beginning**
Clarify the key aspects of an event, issue, or problem through inquiry and research.						
Gather, interpret, use and document information from multiple sources, distinguishing facts from opinions and recognizing points of view.						
Examine the various characteristics, causes, and effects, of an event, issue or problem.						

GRAPHIC ORGANIZER

RESEARCH PROCEDURES

Name _____ **Date** _____



GRAPHIC ORGANIZER

QUESTIONS TO GUIDE INTELLECTUAL THINKING PAGE 5

RICHARD PAUL AND LINDA ELDER'S LIST OF UNIVERSAL INTELLECTUAL STANDARDS STUDENTS SHOULD LEARN

http://www.gilbert.k12.az.us/index.html

Clarity

Could you elaborate further?

Could you illustrate what you mean?

Could you give me an example?

Accuracy

How could we check on that?

How could we find out if that is true?

How could we verify or test that?

Precision

Could you be more specific?

Could you give me more details?

Could you be more exact?

Relevance

How does that relate to the problem?

How does that bear on the question?

How does that help us with the issue?

Depth

What factors make this a difficult problem?

What are some of the complexities of this question?

What are some of the difficulties we need to deal with?

Breadth

Do we need to look at this from another perspective?

Do we need to consider another point of view?

Do we need to look at this in other ways?

Logic

Does all this make sense together?

Does your first paragraph fit in with your last?

Does what you say follow from the evidence?

Significance

Is this the most important problem to consider?

Is this the central idea to focus on?

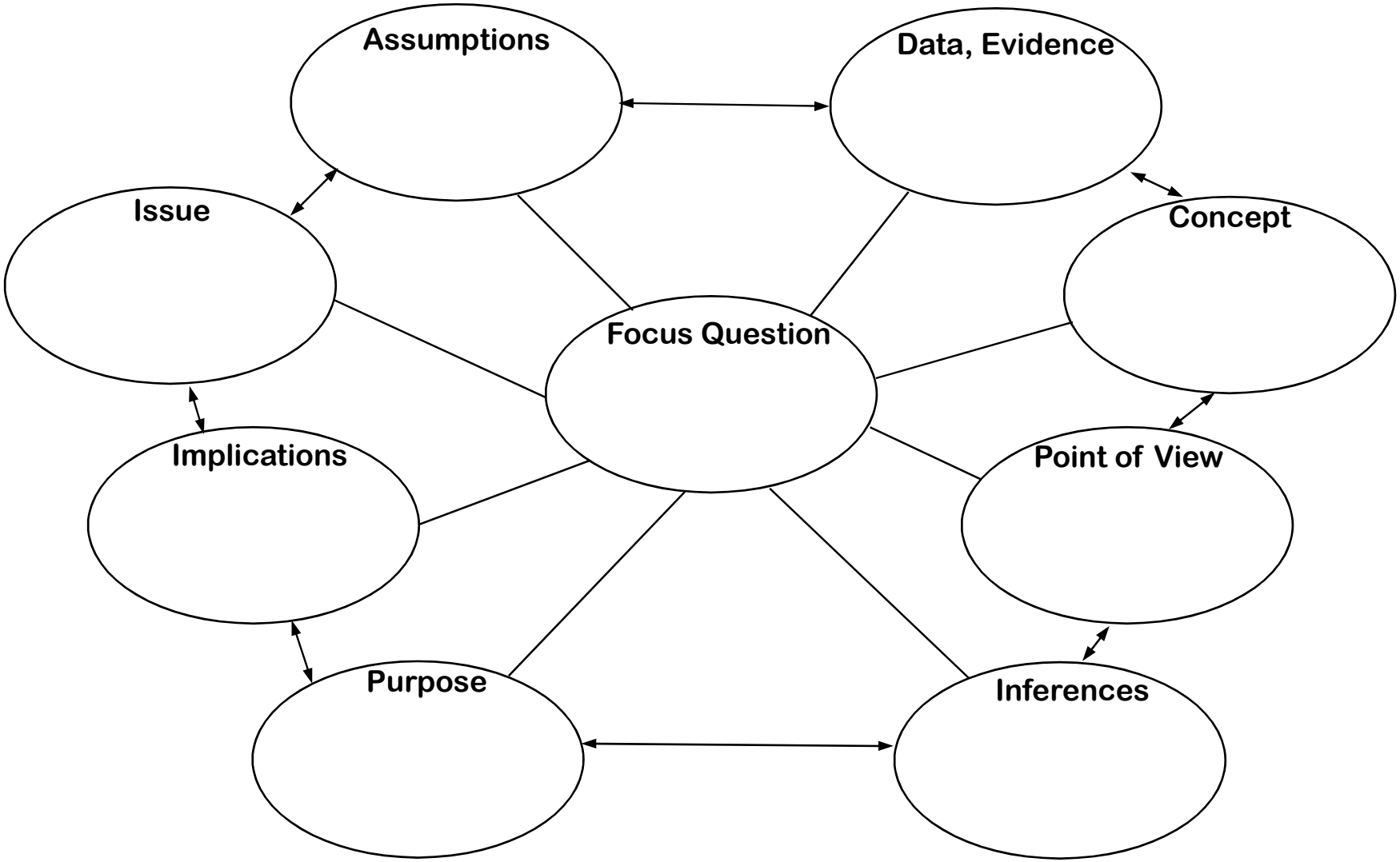
Which of these facts are the most important?

GRAPHIC ORGANIZER

SOCIAL STUDIES WEB—WHEEL OF REASONING PAGE 6

Name _____ Date _____

Government _____



Persuasion: A language arts unit for high-ability learners. (1998). Center for Gifted Education The College of William and Mary. Dubuque: Iowa. Kendall Hunt Publishing. Pg. 306. Reprinted with permission.

OREGON TRAIL MEASUREMENTS

MATH AND SOCIAL SCIENCE

Grade: 4

TAG NEEDS ADDRESSED

INTELLECTUALLY GIFTED

- ☒Advanced Critical Reasoning
- ❒Scholarly Interaction
- ☒Continuous Progress for Level and Rate*
- ☒Challenging Resources
- ❒Effecting Change
- ❒Decision Making; Ethical Use of Influence
- ❒Leadership Training/Career
- ❒Realistic Goal Setting
- ❒Regular Interaction with Intellectual Peers
- ❒Social-Emotional Issues; Support; Coping Strategies
- ❒Advanced Academic Planning
- ❒Opportunity for Competition/ Failures/Successes
- ❒Creative Problem Solving with Real Problems/Audiences
- ❒Pursuit of Advanced Level Research
- ❒Advanced Vocabulary Development

ADVANCED SOCIAL SCIENCE KNOWLEDGE/SKILLS

- ☒Advanced Critical Thinking in Social Science
- ❒Continuous Progress/Level and Rate* in Social Science
- ❒Challenging Social Science Resources
- ☒Creative Problem Solving Strategies in Social Science
- ❒Social Science Advanced Vocabulary Development
- ❒Leadership Training/Career
- ❒Decision Making; Ethical Use of Influence
- ❒Regular Interaction with Talented Social Science Peer
- ❒Realistic Goal Setting
- ❒Opportunity for Competition/Failures/Successes
- ❒Advanced Academic Planning in Social Studies

*Rate requires monitoring to ensure that the student was allowed to move ahead upon acquiring concepts.

CAREER RELATED LEARNING STANDARDS FOR CAM - Certificate of Advanced Mastery

- ❒ Personal Management
- ☒ Problem Solving
- ❒ Communication
- ❒ Teamwork
- ❒ Employment Foundations
- ❒ Career Development

TEACHER CHECKS THE BENCHMARK LEVEL STUDENT IS PURSUING

English/LA:

- ❒1
- ❒2
- ❒3
- ❒CIM
- ❒CAM

Student _____ **Grade** _____

Teacher _____ **School** _____

Date Initiated _____ **Date Completed** _____

Check TAG Identification category: ❒ **Intellectual** ❒ **Academic Math** ❒ **Academic LA**