



Curriculum Descriptions

Fall Trimester
2009-2010

6th, 7th, and 8th Grade Literacy Practices Overview 2009-2010

Overview of Literacy Practices at REALMS

Reading and Writing strategies will be taught through workshops within the context of the Humanities expedition. We believe that literacy is best learned within the framework of a particular discipline. Instead of primarily depending on one approach to teach an important skill such as using quotation marks, teachers will artfully weave the skill into a variety of lesson types. They might teach it directly at one point – through a reader’s or writer’s workshop- as a lesson by itself. At other points, they find ways to teach it in context – perhaps by examining how quotation marks are used in the literary text they are reading. Teachers will find a variety of creative and purposeful ways for students to integrate the skill within the context of broader activities.

Writing

Students will develop and enhance their skills in the writing process including: pre-writing, drafting, peer feedback (critique), revision, editing, and publishing. Writing Traits (Ideas and Content, Organization, Voice, Word Choice, Sentence Fluency, and Conventions) will be practiced individually and in groups through various writing projects. As students move through their REALMS career, they will have experiences writing in a variety of writing modes.

Reading

Students will learn how to self-assess their reading strengths and areas of improvement through learning and practicing the 6 reading comprehension strategies (Questioning, Making Connections, Inferring, Determining Importance, Creating Sensory Images, and Synthesizing) with a variety of texts.

REALMS students read various genres in various ways. In class students can be seen reading free choice chapter books during SSR (Silent, Sustained, Reading) time, reading teacher-directed materials (both non-fiction and fiction), and participating in literature circles where students read a chapter book with a small group of their peers and practice discussing literary elements.

Vocabulary

Students will participate in a school-wide vocabulary building system, called *Word Market*, where they are learning vocabulary within the context of the reading they are exposed to in classes, as well as their personal book choices. In order to build a rich and diverse vocabulary students are expected to read for 30 minutes each evening at home.

6 and 7th Grade MATH, Fall 2009

ALGEBRA

Summary: Algebra

Algebraic thinking is interpreting the world by translating information into the language of mathematics in order to solve problems and make predictions. Students will develop their algebraic thinking through a series of experiences that help them view algebra as a natural extension of their previous mathematical experiences.

Students will:

- Recognize and extend patterns in numbers and shapes
- Describe patterns in multiple ways (words, pictures, tables, graphs, equations)
- Use findings to make predictions
- Generalize findings using variables and expressions
- Write and solve/evaluate algebraic equations and expressions
- Relate a pattern rule to a graphed line and the line to the rule
- Create tables of ordered pairs to describe patterns
- Graph ordered pairs on the coordinate plane

Students will compile a portfolio of evidence that they are meeting the following learning targets.

Learning Targets that Remain Consistent from Trimester to Trimester

I can...

- 1) Use precise mathematical vocabulary.
- 2) Explain my thinking. This may include solving problems in more than one way.
- 3) Work cooperatively. This means that during group/partner work, I share my ideas, listen to others' ideas, and compromise.
- 4) Complete and turn in my work on time.

Learning Targets Specific to the Algebra Strand

I can...

- 5) Understand patterns, relations, and functions.
- 6) Represent and analyze mathematical situations and structures using algebraic symbols.
- 7) Use mathematical models to represent and understand quantitative relationships.
- 8) Analyze change in various contexts.

Learning Targets are aligned with NCTM (National Council of Teachers of Mathematics) Principles and Standards for School Mathematics

Major Projects/Products

Individual, Group, and Family Problems-of-the-Week

Math Labs

Anchor Texts & Resources

Navigating through Algebra in Grades 6-8, NCTM

Lessons for Algebraic Thinking, Lawrence & Hennessy

Through Mathematical Eyes, Ritchhart, Wolf, Craven & Balick

Mathematics: Applications and Connections, Glencoe McGraw-Hill

MathScope; Seeing and Thinking Mathematically, Glencoe McGraw-Hill

6th and 7th GRADE Humanities, Fall Semester 2009

Japanese Internment

Guiding Questions

- Why did Internment Camps exist?
- What was the experience of Japanese Americans during the 1930's and 1940's?
- How do our confrontations with justice and injustice help to shape our identity?

Anchor Texts & Resources

Journey to Topaz by Yoshiko Uchida
When the Emperor was Divine
By Julie Otsuka
Farewell to Manzanar
Stubborn Twig

Summary of Expedition

6th and 7th grade students begin this expedition with a simulation that mimics the process of which Japanese Americans in the Western United States were rounded up and sent to detention camps during WWII. Students will understand how actions of the US government affect citizens of the US and other countries.

Students will do in-depth investigations on who the Japanese people are, how could the internment have happened and what it was like to be interned. Beginning with a brief history of Japan and Japanese culture, students will learn about the events leading up to Japanese involvement in WWII. The idea of immigration will help student understand who gets to become an American and why they came. The internment experience will take students on a journey from the early days of the war to the time when Japanese Americans were released from the camps and returned to civilian life.

The culminating activity will have students choose someone who was in an internment camp and to write a monologue about their life. Our plan is to take the monologues to another level with performances.

Classroom Learning Content

- Understand way people immigrate and who gets to become an American.
- Use graphs, charts and maps to understand patterns of movement over time.
- Represent and interpret data and chronological relationships from history using timelines and narratives
- Create thoughts and ideas about justice and rights.
- Compare and contrast historical interpretations

Key Skills

- Reading with understanding
- Organize and express opinions
- Writing to learn
- Writing to communicate (first person narrative)
- Considering multiple perspectives and recognizing bias
- Investigative skills
- Public speaking
- Dramatic interpretation

Major Projects/Products

- Immigration project – Family History
- Japanese Culture Day
- Monologues

Fieldwork Experiences - Public presentations of monologues, Tule Lake Internment Camp experience. (3 day, overnight trip)

6th and 7th Grade Science, Fall Trimester 2009

Forces, Energy, and Motion

Guiding Questions

1. What is science, how is it done, and how does it help us understand the world?
2. How do forces and energy cause motion?
3. How do we describe, predict and affect motion?
4. How can I use an understanding of motion in my life?

Anchor Texts & Resources

1. Science Text Book - Forces, Motion, and Energy
2. "The Wright Brothers" - Quentin Reynolds

Summary of Expedition

Students will use the scientific method of controlled experimentation and investigation to learn how energy and forces cause motion. We will start the trimester with an investigation into human flight – how it works, how to affect and measure it, and how the Wright Brothers were able to achieve it. Students will build planes, fly them, and conduct experiments dealing with the forces of flight. Following a short unit on measurement, students will embark on a series of experiments and projects to further investigate how energy is transformed from one form to another, how energy creates forces, and how forces do or do not create motion. Math plays an important role in our study of physical science – through our work, students will

Classroom Investigations and Content Learning Targets

Flight and Airplanes- I can explain how forces acting on an object cause motion of the object. I can draw and label the forces at work on an airplane. I can explain how varying the strength of the forces acting on an airplane affect its flight. I can describe the processes that the Wright Brothers used to accomplish powered flight.

Mousetrap Cars -I can explain how potential energy is transformed into kinetic energy. I can use the potential energy stored in a mousetrap to create the maximum amount of motion of a mousetrap-powered car. I can measure and describe the forces, motion, and energy involved in a mousetrap car.

Marble Roller Coasters- I can define and identify acceleration, speed, and velocity. I can precisely describe motion, using vocabulary and measurements.

Science- I can describe what science is and how is it done. I can explain the importance of science for helping us understand our world.

Skill Learning Targets

I can precisely measure distance in mm, cm, and meters. I can precisely measure time. I can use the scientific method to answer a question and test a hypothesis. I can write a question and hypothesis. I can follow a procedure. I can accurately and neatly record and analyze data.

Character Learning Targets

I can participate cooperatively as part of a team. I can be an attentive listener in the classroom and in the field. I can stay on task within a busy environment.

6th **TECHNOLOGY** Fall Trimester 2009

Summary:

Use technology to enhance literacy development and purposeful learning experiences across the curriculum. Build technology literacy by acquiring knowledge and communicating ideas using a variety of applications and publishing media.

Students will be able to:

- Identify personal strengths and multiple intelligences learning styles
- Improve typing speed and accuracy
- Become familiar with a variety of applications to communicate my thoughts, including:
Kidspiration, PowerPoint/Keynote, Word, Excel, iMovie, iPhoto, GarageBand
- Research primary sources accessing a variety of databases and search engines
- Support learning experiences in humanities, science, and math using technology
- Enhance literacy skills by creating, editing and publishing work using electronic media

Students will compile a portfolio of evidence that they are meeting the following learning targets.

Learning Targets that Remain Consistent from Trimester to Trimester

I can...

- 9) Improve my literacy development by accessing and evaluating information sources using a variety of technologies.
- 10) Create and publish ideas and opinions using a variety of technologies and formats, following safe internet communications protocols.
- 11) Improve my typing skills to enhance the speed and accuracy with which I communicate ideas.
- 12) Work cooperatively. This means that during group/partner work, I share my ideas, listen to others' ideas, and compromise in order to complete projects.
- 13) Complete and turn in my work on time.

Learning Targets and content areas are aligned with Oregon Dept. of Education standards which emphasize that technology literate students access and acquire knowledge, exchange ideas and opinions, solve problems and create, innovate and express themselves through the skillful use of a variety of technologies.

Major

Projects/Products

Community Ideals
Typing skills
Research data project
Special interest project

Resources

Mac Desktops & Dell Laptops
Applications, tutorials, websites, databases
Deschutes County Public Library and OSLIS database sources
Computer Projects for Middle Schools, Teacher Created Resources (2000).

8th Grade MATH Fall Trimester, 2009

Algebra

Summary: Algebra

Algebraic thinking is interpreting the world by translating information into the language of mathematics in order to solve problems and make predictions. Experiences using mathematical models, algebraic symbols and geometric forms will help students view algebra as a natural extension of their previous mathematical experiences in order to promote problem solving, enhance number sense and communications skills.

Students will be able to:

- Simplify equations and expressions using order of operations, write expressions using exponents
- Translate word problems and algebraic equations to solve “real” problems
- Apply the Pythagorean Theorem to find distances in a variety of 2-and 3-dimensional contexts
- Graph linear and quadratic functions and inequalities
- Solve equations with 2 variables
- Graph and solve systems of equations
- Solve inequalities

Students will compile a portfolio of evidence that they are meeting the following learning targets.

Learning Targets that Remain Consistent from Trimester to Trimester

I can...

- 14) Use precise mathematical vocabulary.
- 15) Explain my thinking. This may include solving problems in more than one way.
- 16) Work cooperatively. This means that during group/partner work, I share my ideas, listen to others’ ideas, and compromise.
- 17) Complete and turn in my work on time.

Learning Targets Specific to the Algebra Strand

I can...

- 18) Understand patterns, relations, and functions.
- 19) Represent and analyze mathematical situations and structures using algebraic symbols.
- 20) Use mathematical models to represent and understand quantitative relationships.
- 21) Analyze change in various contexts.

Learning Targets are aligned with NCTM (National Council of Teachers of Mathematics) Principles and Standards for School Mathematics.

Major

Projects/Products

Problems-of-the-Week,
Individual, Group, and
Family
Graphing Art

Anchor Texts & Resources

Math on Call, Great Source Education Group
Navigating through Algebra in Grades 6-8, NCTM
Lessons for Algebraic Thinking, Lawrence & Hennessy
Through Mathematical Eyes, Ritchhart, Wolf, Craven & Balick

8th Grade Humanities Fall Semester 2009

Tumalo Creek: Connection, Reflection, and Action

Expedition Summary

Collaborating with Science, students will immerse themselves in the study and stewardship of Tumalo Creek. Grounded in the ideas of Place-Based Education, students will develop an understanding of the issues surrounding our watersheds and build a relationship with our study site. Their learning and connection will be shared with the public through a variety of products and their continued service to the site.

Principles of Successful Place-Based Education (from - <http://www.promiseofplace.org>)

- Learning takes place on-site and in the local community and environment.
- Learning focuses on local themes, systems, and content.
- Learning is personally relevant to the learner.
- Learning experiences contribute to the community's vitality and environmental quality and support the community's role in fostering global environmental quality.
- Learning is supported by strong and varied partnerships with local organizations, agencies, businesses, and government.
- Learning is interdisciplinary.
- Learning experiences are tailored to the local audience.
- Learning is grounded in and supports the development of a love for one's place.
- Local learning serves as the foundation for understanding and participating appropriately in regional and global issues.
- Place-based education programs are integral to achieving other institutional goals.

Guiding Questions

- How do relationships with people/place affect your sense of place? (WHAT?)
 - How have the places you've been shaped your identity?
 - How does a place change because of your presence?
- Why are healthy streams and watersheds important? Why do you care? (SO WHAT?)
- What is our role in maintaining healthy streams and watersheds? (NOW WHAT?)

Anchor Text & Resources

The Man who Planted Trees
David James Duncan readings
The High Desert Journal
Healthy Waters (Magazine)
A Mosaic of Tumalo Creek
Field Guides
First Fish First People
Reaching Home
Kolleen Yake
Patrick Griffiths

Fieldwork/Experts

Tumalo Creek Study Site – Exploration, Observation, Reflection, and Identification
City of Bend Intake – Patrick Griffiths shares the history, science, and politics
Salmon Watch – program on the Metolius River with various experts
Tumalo Ridge Hike – Gaining a different perspective
In-Class visits by various experts

Authentic Audience and Community Service

StreamWebs – Students around the state and country
Watershed Summit – Central Oregon elementary to high school students who are WS experts
Healthy Waters Magazine – students around the state
Study Site Restoration -

In-depth Investigation: "Me and my Watershed"

<p style="text-align: center;">Summary</p> <p>Through exploration activities, observations, study of local watershed issues, restoration service work, reflective writing, and visual art, students will build a relationship with Tumalo Creek that inspires life long stewardship. These experiences are stepping stones for immersing in the writing modes of reflection, persuasion, and poetry. These pieces will enhance our StreamWeb website links; may be published in local educational periodicals; and will be presented at the Watershed Summit in the Spring.</p>	<p style="text-align: center;">Main concepts</p> <ul style="list-style-type: none"> • Sense of place • Human impact on the environment • Stewardship <p style="text-align: center;">Literacy</p> <ul style="list-style-type: none"> • Reflective Writing • Persuasive Writing • Poetry • Writing Traits: Voice, Word Choice, Organization • Reading Strategies: Creating Sensory Imagery, Determining Importance, Questioning <p style="text-align: center;">Art</p> <ul style="list-style-type: none"> • Pencil Shading techniques • Watercolor Techniques
<p>Learning Experiences:</p> <p><u>Creating Sensory Imagery</u> – <u>Sacred Cartography</u> – a look into how places we've been shape who we are, and how we affect these places <u>Exposure and Focus</u> – How do photography concepts teach about writing? <u>The Intake Experience</u> – The current politics of the watershed <u>Salmon Watch</u></p>	

In-depth Investigation: "Healthy Streams need Healthy Plants"

<p style="text-align: center;">Summary</p> <p>Using observations, plant key processes, and various documentation techniques – writing, drawing, measuring, mapping, and photography, students will collect data and create field guide documents to teach about the watershed plant life. Students will learn and use skills and techniques necessary for accurate documentation. Links in the StreamWeb site will take viewers to this useful teaching tool.</p>	<p style="text-align: center;">Main concepts</p> <ul style="list-style-type: none"> • Observation • Keying out plants • Scientific Documentation • Measurement • Habitat <p style="text-align: center;">Literacy</p> <ul style="list-style-type: none"> • Scientific Writing • Botany Vocabulary • Writing Traits: Ideas and Content, Organization, Word Choice • Reading Strategies: Determining Importance <p style="text-align: center;">Art</p> <ul style="list-style-type: none"> • Scientific Drawing • Scale • Mediums: pencil, pen, and watercolor
<p>Learning Experiences:</p> <ul style="list-style-type: none"> • <u>Plant Identification</u> – Scavenger hunt exploration, plant keying, field guide study • <u>The Intricacies of Shape</u> – exploration into scientific drawing techniques, and the mediums of pencil, pen and watercolors • <u>Plant Expert</u> – each student will become an expert on a specific plant and create the necessary documentation for our field guide entries 	

Products

StreamWebs – Interactive educational website where our students will have their scientific data, plant field guide entries, reflections, slideshow, and essays posted

- Essays – possible publication outside of web entries
- Field Guide entries – scientific drawings and descriptive entries
- Reflections – sound recordings as background to slideshow

Watershed Summit – presentation at the student expert summit in Sisters

8th GRADE Science Fall Semester 2009

"Fish and Streams" - Connecting Watershed Science to Fish Health

Guiding Questions

1. Why are healthy streams and watersheds important and how do you measure the health of a stream?
2. What is our role in maintaining healthy streams and watersheds?
3. What is the role of Salmon and Trout in the streams of Central Oregon?
4. How is science conducted? A. How can we measure and monitor a stream's health? B. How do you collect, organize, and analyze scientific data? C. How do you use

Anchor Text & Resources

Literature:

- David James Duncan readings
- John McPhee - "Conversations with the Archdruid"
- Barbra Kingsolver "Small Wonder"
- Kolleen Yake -Upper Deschutes Watershed Assessment
- Textbook - "Earth's Waters"

Summary of Expedition

This year we are focusing on the connection between healthy waters and the health of Salmonids (salmon and trout). Students will be involved in a collaborative project (USFS, Upper Deschutes Watershed Council, and ODFW.) in which they will be restoring riparian areas, tagging plants, collecting data, and monitoring plant survivorship along Tumalo Creek. The vegetation and water chemistry data they collect will be used by the Forest Service and the state of Oregon to assess the restoration effort on Tumalo Creek. Our data, writing, and photos will also be posted on the web. Students will gain skills in proper sampling techniques and data management (for streams and terrestrial systems), map reading, and following scientific protocols. Students will learn the parts of streams and how streams work, understand the concept of watersheds, and explore human's reliance on and role in managing watersheds. They will understand the necessary habitat requirements of salmon and trout, and will learn to measure and assess the quality of habitat in a stream. Our science work will be combined with fieldwork done in humanities and will be posted on the web and shared at the Student Watershed Summit in the spring.

Classroom Learning Content- Investigations

Salmon/Trout in Streams: Salmonid anatomy, life cycle and requirements; Importance of stream features, erosion, deposition, and stream gradient for stream health.

Water Quality: Basic chemistry involved in conducting water quality analysis and the interpretation of tests.

Reading Comprehension Strategies:

Determining Importance and Questioning

Fieldwork Learning Experiences

Salmon Watch program on Metolius River with various experts

Vegetation Tagging and monitoring in Tumalo Creek riparian area with USFS/UDWC personnel

In-Class Presentations by various fish and water experts

Raising trout in the classroom and conducting fish dissections with fish biologist