West Linn–Wilsonville School District

Science Department – Course Statement

Course Title: Geology of the Pacific Northwest

Length of Course: Semester
Number of Credits: 1
Grade Level: 9, 10, 11, 12
Prerequisites: None
CIM Work Samples Offered in Course: Possible opportunities for speaking work samples

Date of Description/Revision: January 2006

Course Overview

In this course, we explore the geologic processes and events that result in the familiar landscapes of the Pacific Northwest: the fertile Willamette Valley; the majestic Columbia River Gorge; the mountains of the Cascades and the Coast Range; the ancient rocks of the Blue Mountains, the Wallowa Mountains, and the Klamath Mountains; the recent lavas of the High Desert; and the jagged topography of the Basin and Range. We also investigate the offshore features of the Juan de Fuca plate. Students will interpret past events from researching in the classroom and in the field to put together a history of how the Pacific Northwest was formed. In addition to many short outdoor excursions, we will have two full-day field trips (one to the Oregon coast, one to Mt. Hood). We will conclude with a look at the past, present, and future impact of people on the landscapes and geologic processes of the Northwest.

Essential Questions

Concepts providing focus for student learning

- How does science ask and answer questions?
- What are the forces that have shaped the familiar landscapes of the Pacific Northwest?
- How can we interpret past geologic events from observing current geologic features?
- What are the implications for us of an understanding of Pacific Northwest geology, including plate tectonics, hydrology, erosion, climate, and human activity?

Proficiency Statements

Upon completion of course, students will be able to:

- Explain the forces and processes that created the landscapes of the Pacific Northwest
- Apply scientific principles to analysis of geologic processes and features
- Recognize rock types and the processes that create them
- Understand human impacts on Pacific Northwest hydrology, climate, and erosion
- Demonstrate use of geologic maps

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General Course Topics/Units & Timeframes	
A. Lava, Water and Ice: formation of the local landscape (West Linn, the metro area, the Columbia Gorge, the scablands, the Willamette Valley) B. Subduction and Volcanism: Juan de Fuca, the ancient and modern Cascades, the High Desert C. Accretionary Processes: The Wallowas, the Blues, the Klamath, the Coast Range D. Human-Induced Change: climate, hydrology, erosion	
Resources	
• Text: *Northwest Exposures, A Geologic Story of the Northwest,* Mountain Press Publishing Co., 1995	