

Deep Sea Hydrothermal Vent Explorations – Grades 7-12

INTRODUCTION

Deep Sea Hydrothermal Vent Explorations lessons are the product of a collaboration between scientists and educators. Ardi Kveven, a high school teacher at Snohomish High School located north of Seattle met Veronique Robigou, a research scientist at the University of Washington, and the two immediately recognized a shared passion for teaching others about the marine environment. Together they created and taught lessons based on Veronique’s research experiences diving on the Endeavor Ridge hydrothermal vent field.

Karen Mattick, an educator, curriculum developer and colleague of Ardi’s, undertook the task of and expanding those lessons into a coherent deep sea program of study. The new hydrothermal vent lessons were supplemented with lessons from the FOR SEA curriculum series developed by the Institute of Marine Science under a National Science Foundation grant.



About This Guide...

Designed for high school and middle school classrooms, *Deep Sea Hydrothermal Vent Explorations* is divided into two units. Unit 1: Plate Tectonics investigates the theory and mechanisms behind plate tectonics. Unit 2: Hydrothermal Vents explores vent formation and vent biology and includes a dive simulation.

Each unit contains several lessons. Each lesson has student activities preceded by a “Teacher Background” section which contains: key concepts, background information, materials needed, teaching hints including items for which advanced planning is required, extension ideas, and answer keys. Important vocabulary terms are listed and defined in the “Key Word” section of each “Teacher Background.” The words are also defined in the text, either directly or by context. Most activities require few materials not readily available in your classroom or in variety and grocery stores.

It is strongly recommended that the activities be performed along with the reading and discussion of the text. The activities are designed to enhance reading skills, as well as investigation skills. Some activities provide practice in math skills. The activities can be modified to suit your particular needs, but will work “as is.” Skim the contents of the units to discover the organizational scheme. Please read the text and activities before you use them. The materials have all been prepared with ease of duplication in mind. Please feel free to duplicate any and all materials you need to effectively utilize this unit with your class.

Acknowledgments...

Adequate acknowledgment cannot be made to all who helped by their writings, conversations, or loans of materials. Nonetheless, some particular efforts need recognition. Again, special thanks goes to Karen Mattick, master teacher and FOR SEA teacher trainer from Poulsbo, Washington who coordinated the contents and flow of this guide. In addition to work on developing lessons, Veronique Robigou provided line drawings and photographs. John Delaney, Robin Holcomb, and M. Smith from the University of Washington graciously provided photographs of ALVIN dives on the Endeavor Ridge, as did ALVIN pilot Patrick Hickey. Sylvie Blais provided the electronic expertise that made the project possible. The beauty of the illustrations and “eye-appeal” of the format are the contribution of Diane Gusset. For any errors or deficiencies that remain, none of these colleagues has any share of the responsibility, which rests entirely upon the Principal Investigator.

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