

# Table of Contents

## Instructional Guide for the California Preschool Learning Foundations, Volume 3 (PLF, V3)

### Introduction to the Instructional Guide

- Introduction .....1

### Organizational Chart

- Organizational Chart for the *Instructional Guide for the California Preschool Learning Foundations, Volume 3*.....12



### Science Domain

- Map of the Foundations for the Science Domain .....169
- Introduction to the Instructional Guide for the Science Domain .....170



#### Learning Experience 1: Connecting to Our Own Experiences

*Students become familiar with the science foundations by identifying examples of the science domain content from childhood experiences, recent discoveries, and topics of interest.*

- Preview of Learning Experience 1 .....177
- Learning Experience 1 .....179
- Online Options .....182
- Handout 1: Exploring Our Personal Connections to Physical Sciences, Life Sciences, and Earth Sciences.....183



#### Learning Experience 2: Connecting to Children’s Experience with Scientific Inquiry Through Ramp Exploration

*Students explore the Scientific Inquiry strand by experiencing firsthand an activity that children often do in early care and education settings—playing with ramps. Students will identify and reflect on the different elements of scientific inquiry they use during their play.*

- Preview of Learning Experience 2 .....184
- Learning Experience 2 .....186
- Online Options .....188, 189



### **Learning Experience 3: Piecing Together the Science Domain Content Puzzle**

*Students become familiar with the content and structure of the science foundations by assembling puzzle pieces of the strands, substrands, and foundations of the domain.*

- Preview of Learning Experience 3 ..... 190
- Learning Experience 3 ..... 192
- Online Options ..... 195
- Handout 1: Science: Putting Together the Science Domain Puzzle ..... 197
- Handout 2: Science Foundations ..... 202



### **Learning Experience 4: Exploring the Content and Vocabulary of the Science Domain**

*Students become familiar with the concepts and key vocabulary of the science foundations by reviewing new or unfamiliar vocabulary and demonstrating examples of the foundations.*

- Preview of Learning Experience 4 ..... 207
- Learning Experience 4 ..... 209
- Online Options ..... 214



### **Learning Experience 5: Linking the Preschool Learning Foundations with the California Kindergarten Science Content Standards**

*Students become familiar with the California Department of Education’s Science Content Standards for California Public Schools, Kindergarten Through Grade Twelve (California Department of Education, 2000) and explore their relationship to the science foundations in the California Preschool Learning Foundations, Volume 3.*

- Preview of Learning Experience 5 ..... 215
- Learning Experience 5 ..... 217
- Online Options ..... 223, 224
- Handout 1: Linking the Science Content Standards for the California Public Schools, Kindergarten Through Grade Twelve, and the California Preschool Learning Foundations, Volume 3 ..... 226
- Handout 2: Linking the National Science Education Content Standards and the California Preschool Learning Foundations, Volume 3 ..... 230



### **Learning Experience 6: Exploring the Research Base for the Science Domain**

*Students become familiar with the rationale and research base for the preschool science foundations by reviewing the introductory and Bibliographic Notes sections of the science domain and preparing a poster.*

- Preview of Learning Experience 6 ..... 232
- Learning Experience 6 ..... 234
- Online Options ..... 235, 236



### **Learning Experience 7: Exploring the Influence of Family and Culture on the Science Foundations**

*Students identify and consider a variety of family and cultural beliefs, values, practices, and circumstances that relate to children’s learning in the science domain and examine the foundations and examples through those perspectives.*


- Preview of Learning Experience 7 ..... 239

- Learning Experience 7 .....241
- Online Options .....242, 243, 244

 **Learning Experience 8: Identifying Family and Cultural Connections to the Science Foundations**

*Students identify ways that children’s experiences and activities in their homes and communities support their acquisition of the competencies addressed in the science foundations.*

- Preview of Learning Experience 8 .....245
- Learning Experience 8.....247
- Online Options .....249, 250, 251

 **Learning Experience 9: Exploring Examples of the Science Domain in the Early Care and Education Setting**


*Students explore the examples of foundations in the science domain and then engage in classroom observations to look for additional examples of the foundations in action. This learning experience is designed to help students understand that the examples in the foundations are not criteria and that children will demonstrate the foundations in many settings and ways.*

- Preview of Learning Experience 9 .....252
- Learning Experience 9.....254
- Online Options .....257
- Handout 1: Science Foundations.....258
- Handout 2: Observational Guide: Exploring Examples of the Science Domain .....263

 **Learning Experience 10: Exploring the Use of Picture Books to Support the Science Foundations in Early Care and Education Settings**

*Students will become familiar with the content of the science foundations by identifying picture books that relate to the four strands.*

- Preview of Learning Experience 10 .....266
- Learning Experience 10.....268
- Online Options .....270

 **Learning Experience 11: Exploring the Relationship of the Science Domain to the Mathematics Domain and the Language and Literacy Domain**

*Students explore the relationships between the foundations of the science domain with those of the mathematics and language and literacy domains by identifying key vocabulary that supports children’s understanding of the concepts in each domain and how vocabulary from one domain also facilitates children’s learning in other domains.*

- Preview of Learning Experience 11 .....272
- Learning Experience 11 .....274
- Online Options .....277
- Handout 1: Science Foundations .....279
- Handout 2: Mathematics Foundations .....284
- Handout 3: Language and Literacy Foundations.....288
- Handout 4: Science: Key Vocabulary in Science and Mathematics .....292



## **Learning Experience 12: Exploring Relationships of the Science Domain to the Physical Development Domain and the Health Domain**

*Students explore the relationships between the foundations of the science domain and those of the physical development and health domains by creating a visual representation showing how the behaviors demonstrated by children for the foundations in one of the science strands might relate to behaviors in a strand of the physical development or health domain.*

- Preview of Learning Experience 12 .....293
- Learning Experience 12.....295
- Online Options .....298
- Handout 1: Science Foundations .....300
- Handout 2: Physical Development Foundations .....305
- Handout 3: Health Foundations .....308

## **Instructional Methodologies Index**

- Instructional Methodologies Definitions for the *Instructional Guide for the California Preschool Learning Foundations, Volume 3*.....325
- Instructional Methodologies Index for the *Instructional Guide for the California Preschool Learning Foundations, Volume 3*.....328

## **Student Learning Outcomes Indexes**

- Curriculum Alignment Project’s Lower Division Eight Courses and Student Learning Outcomes Indexed with the *Instructional Guide for the California Preschool Learning Foundations, Volume 3* .....333



History–Social Science Domain .....334



Science Domain.....342



Exploring the Overview of the Alignment Document .....350

## **Appendixes**

- Appendix A – CAP Student Learning Outcomes (SLOs) – Organized by Instructional Guide Learning Experiences.....353
- Appendix B – Summary of the *California Preschool Learning Foundations, Volume 3*.....397
- Appendix C – Related Links and Resources .....407

## **PowerPoint Presentations**

- PowerPoint presentations are available for each domain by learning experience.