Beach Explorations—A Curriculum for Grades 5-10
addresses the following Alaska State Teaching Standards

Chapter 1: Planning and Organizing Field Trips (none)

Chapter 2: Exploring Seashores with Children

#1 The Ocean
Language Arts:
D-1-A Personal experience and prior knowledge
D-1-D Analyzing information

Science:
A-4 Observable natural events
A-15 Local knowledge
B-1 Scientific processes

Geography:
A-1 Using maps
B-1 Geographic characteristics of place

#2 The Tides
Language Arts:
B-1 Meaning from written, oral and visual text
B-2 Investigations in written materials
D-1-A Personal experience and prior knowledge

Science:
A-4 Observable natural events
A-14 Living things and their environments

Geography:
A-6 Geographical problems and solutions
C-2 Natural regions

Skills for a Healthy Life:
B-2 Effective communication

#3 A Tides Mobile
Language Arts:
A-3 Demonstrate speaking skills
A-6 Using visual communication
B-2 Investigations in written, oral and visual experiences

Science:
A-4 Observable natural events
B-2 Tools of scientific investigation
C-1 Earth’s physical systems
D-6 Using reasoned decisions

Geography:
A-4 Using graphic tools
B-6 Making informed decisions about place
B-7 Regions
C-1 Physical systems of the earth
C-2 Natural regions
C-3 Regional environments

Arts:
A-1 Participate in the arts
A-3 Materials, tools, techniques and processes

#4 Observing the Tides
Language Arts:
B-2 Investigations in written, oral and visual experiences

Science:
A-4 Observable natural events
A-5 Forces of nature
A-7 Processes that shape the earth
B-1 Scientific processes

Geography:
A-5 Interpreting geographical patterns

Mathematics:
A-2 Measurement
A-6 Statistics and data analysis

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#5 Exposed, Protected, and Transitional Shores

**Language Arts:**
A-1 Effective Writing
B-2 Investigations in written, oral and visual experiences

**Science:**
A-4 Observable natural events
A-5 Forces of Nature
A-7 Processes that shape the earth
B-1 Scientific processes

**Geography:**
A-1 Using maps
A-2 Making maps
A-3 Maps as changing documents
B-6 Making informed decisions about place

#6 Identifying the Type of Seashore

**Language Arts:**
A-1 Effective Writing
A-6 Using visual communication
B-2 Investigations in written, oral and visual experiences

**Science:**
A-4 Observable natural events
A-5 Forces of Nature
A-7 Processes that shape the earth

**Geography:**
A-1 Using maps
A-4 Using graphic tools
B-1 Geographic characteristics of place

#7 Miniature Model Seashores

**Language Arts:**
A-1 Effective writing
C-2 Project organization
C-3 Group decision-making
C-5 Project collaboration

**Science:**
A-4 Observable natural events
A-5 Forces of Nature
A-7 Processes that shape the earth

**Geography:**
A-1 Using maps
A-4 Using graphic tools
B-1 Geographic characteristics of place

#8 All Living Things Have Needs

**Language Arts:**
A-1 Effective writing
A-4 Writing and speaking with purpose
A-6 Using visual communication

**Science:**
A-12 Biological diversity
A-14 Living things and their environments
B-1 Scientific processes
B-3 Scientific inquiry involves multiple paths of exploration

#9 Identifying the Type of Habitat

**Language Arts:**
A-4 Writing and speaking with purpose
A-6 Using visual communication

**Science:**
A-4 Observable natural events
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
B-2 Tools of scientific investigation
B-3 Scientific inquiry involves multiple paths

**Geography:** A-2 Making maps

**Mathematics:**
A-2 Measurement
B-2 Investigations
B-3 Using math in real-life situations
B-5 Checking results
D-4 Deductive reasoning
#10 How Big is a Habitat?
Language Arts:
A-3 Demonstrate speaking skills

Science:
A-4 Observable natural events
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
B-3 Scientific inquiry involves multiple paths

Geography:
A-1 Using maps
B-1 Geographical characteristics of place
B-7 Regions

#11 Limiting Factors
Language Arts:
A-3 Demonstrate speaking skills
A-6 Using visual communication

Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge

#12 Caretakers of the Seashore
Language Arts:
A-1 Effective Writing
A-3 Demonstrate speaking skills
A-6 Using visual communication
B-1 Meaning from written, oral and visual experiences
C-3 Group decision-making
D-1 Developing a logical position

Science:
A-4 Observable natural events
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
B-3 Scientific inquiry involves multiple paths
C-6 Scientific discovery

Geography:
A-6 Geographical problems and solutions
B-1 Geographic characteristics of place
B-7 Regions

#13 Marine Ecosystems
Language Arts:
A-3 Demonstrate speaking skills
A-6 Using visual communication
B-1 Meaning from written, oral and visual experiences
C-3 Group decision-making
D-1 Developing a logical position

Science:
A-4 Observable natural events
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
B-3 Scientific inquiry involves multiple paths
C-6 Scientific discovery

Geography:
A-1 Using maps
A-2 Making maps
A-3 Maps as changing documents
B-1 Geographical characteristics of place
B-7 Regions

#14 The “Seashore is a Community” Metaphor
Language Arts:
A-1 Effective writing
A-4 Writing and speaking with purpose
A-6 Using visual communication
B-1 Meaning from written, oral and visual experiences
C-3 Group decision-making
D-1 Developing a logical position
D-1-A Personal experience and prior knowledge
D-4 Explain and defend a position

Science:
A-4 Observable natural events
A-7 Processes that shape the earth
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge

Geography:
B-1 Geographic characteristics of place
C-2 Natural regions
Chapter Three: Plankton Soup: Microscopic Life of the Ocean

#1 Plant Plankton

Science:
A-12 Biological diversity
A-14 Living things and their environments
B-2 Tools of scientific investigation
B-3 Understand that scientific inquiry involves multiple paths
C-2 Knowledge through experimentation

#2 Animal Plankton

Science:
A-12 Biological diversity
A-14 Living things and their environments
C-6 Scientific discovery

#3 Plankton Through the Seasons

Language Arts:
A-1 Effective writing
A-2 Writing conventions

Science:
A-12 Biological diversity
A-14 Living things and their environments
B-3 Understand that scientific inquiry involves multiple paths

Math:
B-3 Using math in real-life situations
C-1 Using pictures, graphs, and charts

#4 Microscopic Plankton

Science:
A-12 Biological diversity
A-14 Living things and their environments
B-1 Scientific processes
B-2 Tools of scientific investigation
C-6 Scientific discovery

Art:
A-1 Participate in the arts
A-4 Demonstrate creativity

#5 The Life Cycle of a Crab

Language Arts:
A-1 Effective writing
A-2 Writing conventions

Science:
A-12 Biological diversity
A-14 Living things and their environments
B-3 Understand that scientific inquiry involves multiple paths

#6 Discovering Eggs at the Seashore

Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
B-3 Understand that scientific inquiry involves multiple paths

#7 Baby Marine Animals

Language Arts:
A-4 Writing and speaking with purpose

Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
B-1 Scientific processes
B-3 Understand that scientific inquiry involves multiple paths

Chapter Four: Food Relationships

#1 Sources of Nutrients

Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
B-3 Understand that scientific inquiry involves multiple paths
C-3 Cultural influences
C-5 Collaboration

#2 The Sunlight Food Factory

Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
#3 Getting Food
Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
C-6 Scientific discovery

Geography:
C-2 Natural regions

#5 Seashore Observations
Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
B-2 Tools of scientific investigation

#6 Survival Tricks
Language Arts:
D-1-A Personal experience and prior knowledge

Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
B-2 Tools of scientific investigation

#7 Food Chains
Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
B-2 Tools of scientific investigation
C-6 Scientific discovery

#8 Food Webs
Science:
A-12 Biological diversity
A-14 Living things and their environments

#9 Who Eats Whom? Game
Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
C-5 Collaboration

#10 Every Organism Has a Role
Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
C-3 Cultural influences
C-5 Collaboration
C-6 Scientific discovery

Chapter Five: Science Inquiries with Seashore Animals

#1 Observing Animals with Microscopes
Science:
A-12 Biological diversity
B-2 Tools of scientific investigation
C-6 Scientific discovery

#2 Becoming an Animal Expert
Language Arts:
A-1 Effective writing
A-4 Writing and speaking with purpose
C-2 Project organization

Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge
B-1 Scientific processes
C-5 Collaboration

Math:
A-2 Measurement
C-1 Using pictures, graphs, and charts

#3 Inquiries with Fish
#4 Inquiries with Shore Birds
Science:
A-12 Biological diversity
A-14 Living things and their environments
C-6 Scientific discovery
#5 Animals with a Muscular Foot
#6 Animals with Jointed Legs
#7 Animals with Spiny Skins
Science:
A-12 Biological diversity
A-14 Living things and their environments
B-2 Tools of scientific investigation
C-5 Collaboration

#8 Inquiries with Seaweeds
Science:
A-12 Biological diversity
A-14 Living things and their environments
B-3 Understand that scientific inquiry involves multiple paths

#9 Animals with Stinging Cells
Science:
A-12 Biological diversity
A-14 Living things and their environments
C-2 Knowledge through experimentation

#10 Student Projects for Saltwater Aquariums
Language Arts:
A-1 Effective writing
A-2 Writing conventions

Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge

Math: A-2 Measurement

#11 Library Research
Language Arts:
A-1 Effective writing
A-2 Writing conventions
D-1-A Personal experience and prior knowledge

Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge

Math: A-2 Measurement

Chapter Six: Rocky Shores
#1 Protected Rocky Shores
Science:
A-14 Living things and their environments

Geography:
C-2 Natural regions
C-3 Regional environments

#2 Spray Pool Study
Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Local knowledge

#3 Tidal Pools
Science:
A-12 Biological diversity
A-14 Living things and their environments

Math:
A-2 Measurement
C-1 Using pictures, graphs, and charts

#4 Mapping Tidal Pools
Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Using local knowledge
B-3 Understand that scientific inquiry involves multiple paths

Geography:
A-1 Using maps
A-2 Making maps
A-3 Maps as changing documents
C-3 Regional environments

Math:
A-2 Measurement
B-3 Using math in real-life situations
C-1 Using pictures, graphs, and charts

Arts:
A-1 Participate in the arts
A-4 Demonstrate creativity

#5 Tidal Pool Populations
Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Using local knowledge
B-3 Understand that scientific inquiry involves multiple paths

Geography:
A-1 Using maps
A-2 Making maps
A-5 Interpreting geographical patterns
#6 Zonation on a Rocky Shore
Science:
A-7 Processes that shape the earth
A-12 Biological diversity
A-14 Living things and their environments
A-15 Using local knowledge
B-2 Tools of scientific investigation

Geography:
B-1 Geographic characteristics of place

Arts: A-1 Participate in the arts

#7 Mapping Zonation on a Shore
Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Using local knowledge
B-3 Understand that scientific inquiry involves multiple paths

Math:
A-2 Measurement
C-1 Using pictures, graphs, and charts

#8 The Transect: A Mapping Technique for the Study of Zonation
Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Using local knowledge
C-6 Scientific discovery

Geography:
A-1 Using maps
A-2 Making maps
A-3 Maps as changing documents
C-2 Natural regions

Technology:
A-2 Communicating through technology

#9 Vertical Zonation (Grades 6 +)
Math:
A-2 Measurement
B-3 Using math in real-life situations
C-1 Using pictures, graphs, and charts

#10 A Rocky Shore is a High-Rise Building Metaphor
Language Arts:
B-1 Meaning from written, oral, and visual information
D-1-A Personal experience and prior knowledge

Science:
A-12 Biological diversity
A-14 Living things and their environments
B-3 Understand that scientific inquiry involves multiple paths

#11 Zonation Concept Map
Science:
A-14 Living things and their environments
B-2 Tools of scientific investigation
C-5 Collaboration

#12 Limiting Factors for the Rocky Shores
Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Using local knowledge
B-2 Tools of scientific investigation
C-5 Collaboration

#13 Adaptations of Rocky Shore Animals
Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Using local knowledge
B-2 Tools of scientific investigation
C-5 Collaboration

#14 The Surf Swept Rocky Shore
Science:
A-4 Observable natural events
A-7 Processes that shape the earth
A-12 Biological diversity
A-15 Using local knowledge

Arts:
A-1 Participate in the arts
#15 Adaptations of Surf Dwelling Rocky Shore Organisms

Science:
A-12 Biological diversity
A-14 Living things and their environments
C-6 Scientific discovery

Geography:
B-1 Geographic characteristics of place

Chapter Seven: The Cobblestone Beach

Language Arts:
C-2 Project organization
D-1-D Analyzing information

Science:
A-12 Biological diversity
A-14 Living things and their environments
B-3 Understand that scientific inquiry involves multiple paths
C-6 Scientific discovery

Geography:
A-1 Using maps
A-2 Making maps
C-3 Regional environments

Chapter Eight: Sandy Shores

#1 The Surf-Swept Sandy Beach

Science:
A-5 Forces of nature
A-7 Processes that shape the earth
A-12 Biological diversity
A-14 Living things and their environments
A-15 Using local knowledge
C-5 Collaboration

Geography:
B-1 Geographic characteristics of place
C-2 Natural regions
C-3 Regional environments

#2 Sand Study

Science:
A-4 Observable natural events
A-5 Forces of nature
A-7 Processes that shape the earth
A-15 Using local knowledge
B-1 Scientific processes
C-6 Scientific discovery

#3 Adaptations of Surf-Dwelling Sandy Beach Organisms

Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Using local knowledge
B-2 Tools of scientific investigation
C-5 Collaboration

Arts:
A-1 Participate in the arts

#4 The Protected Sandy Beach Organisms

Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Using local knowledge
B-2 Tools of scientific investigation
C-6 Scientific discovery

Chapter Nine: Saltwater Wetlands

#1 Estuaries

Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Using local knowledge
B-2 Tools of scientific investigation
C-6 Scientific discovery

Geography:
A-1 Using maps
C-3 Regional environments
#2 Salt Marshes
Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Using local knowledge
B-2 Tools of scientific investigation
C-6 Scientific discovery

Geography:
A-1 Using maps
C-3 Regional environments

Arts: A-1 Participate in the arts

#3 Wetland Metaphors
Language Arts:
B-1 Meaning from written, oral, and visual information
C-3 Group decision-making

Science:
A-12 Biological diversity
A-14 Living things and their environments
C-5 Collaboration
C-6 Scientific discovery

Arts:
A-1 Participate in the arts
A-4 Demonstrate creativity

#4 The Mud Flat
Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Using local knowledge
B-2 Tools of scientific investigation
C-6 Scientific discovery

#5 Imagine a Fish
Science:
A-12 Biological diversity
A-14 Living things and their environments
C-5 Collaboration
C-6 Scientific discovery

Arts:
A-1 Participate in the arts
A-4 Demonstrate creativity

#6 Invent a Lifelike Imaginary Animal
Language Arts:
A-1 Effective writing
B-1 Meaning from written, oral, and visual information
D-1-A Personal experience and prior knowledge

Science:
A-12 Biological diversity
A-14 Living things and their environments
A-15 Using local knowledge
B-3 Understand that scientific inquiry involves multiple paths

#7 The Study of Colonization
Science:
A-12 Biological diversity
A-14 Living things and their environments
B-3 Understand that scientific inquiry involves multiple paths
C-5 Collaboration
C-6 Scientific discovery

Geography: A-2 Making maps