

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Outcomes for Science, Technology and Society (STS) and Knowledge	Specific Learner Expectations		
1. Investigate and describe relationships between humans and their environments, and identify related issues and scientific questions	• illustrate how life-supporting environments meet the needs of living things for nutrients, energy sources, moisture, suitable habitat, and exchange of gases	9 Ants on a Twig (aq) 20 Microtrek Scavenger Hunt (m) 28 Habitat Lap Sit (m) 38 Habitat Rummy (m) 57 Water Wings (m1) 62 Water Plant Art (e) 70 Designing a Habitat 82 Wild Words...A Journal-Making Activity (m) 92 Eco-Enrichers 105 Riparian Retreat (m) 127 Urban Nature Search (m) 145 Polar Bears In Winnipeg? (m) 150 Classroom Carrying Capacity (m) 156 How Many Bears Can Live in This Forest? 168 Wetland Metaphors (e) 172 Marsh Munchers 177 The Edge of Home (m) 180 Blue Ribbon Niche 206 Oh Deer! 283 The Glass Menagerie (e) 310 Aquatic Times (m) 335 What Did Your Lunch Cost Wildlife? (m) 376 Watershed	15 Bird Banquets (m) 33 Winter Survival 41 Snow Place Like Home 45 Snow Experiments (m) 53 Snug Under the Snow (m) 55 Fishy Deep Freeze 65 It's a Gasp 81 Snow Way to Hide (m) 89 Ready, Set, Snow! (m, var) 125 Cosy in the Cold (m) 151 An Ice Place To Be! (e2)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

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	<ul style="list-style-type: none"> • describe examples of interaction and interdependency within an ecosystem (<i>e.g., identify examples of dependency between species, and describe adaptations involved; identify changing relationships between humans and their environments, over time and in different cultures—as, for example, in aboriginal cultures</i>) 	20 Microtrek Scavenger Hunt 44 My Kingdom for a Shelter (e2) 55 Aqua Words (m) 62 Water Plant Art (e5) 72 Puddle Wonders (e2) 82 Wild Words...A Journal-Making Activity (m) 92 Eco-Enrichers 95 Seed Need 101 Make a Coat! 105 Riparian Retreat (e1) 109 Water Canaries 118 Kelp Help (m) 122 What Bear Goes Where? (m) 127 Urban Nature Search 131 Good Buddies 133 Forest in a Jar (m) 165 Micro Odyssey 168 Wetland Metaphors (m, e1) 172 Marsh Munchers 177 The Edge of Home 180 Blue Ribbon Niche 195 Fishy Who's Who 211 The Hunter (m) 216 Here Today, Gone Tomorrow (e) 222 Planting Animals 224 Smokey the Bear Said What? 227 Checks and Balances (m) 232 Net Gain, Net Effect	41 Snow Place Like Home (var1) 65 It's a Gasp (m) 69 The Great Escape (m, e) 73 Whine and Dine 83 Winter-Wise Insects 89 Ready, Set, Snow! (m, var) 93 A Furry Plant? (m) 99 Snow Floats (m) 103 Winter Wonders (e2) 107 Winter Buddies (m) 113 Dress Like a Polar Bear (m, e3) 129 What Gall! 137 Snowmobile Savvy (m, var2, aq) 147 Kindness That Kills! (e)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Outcomes for Science, Technology and Society (STS) and Knowledge	Specific Learner Expectations		
		237 Migration Headache (m, e4) 242 Aquatic Roots 252 Lobster in Your Lunch Box (m) 257 Changing Attitudes 262 Watered Down History 276 Water We Eating? 310 Aquatic Times (m) 332 Water's Going On?! (e1) 335 What Did Your Lunch Cost Wildlife? 337 Flip the Switch for Wildlife! 354 Dragonfly Pond (e) 376 Watershed (m10)	
	• identify examples of human impacts on ecosystems, and investigate and analyze the link between these impacts and the human wants and needs that give rise to them (e.g., <i>identify impacts of the use of plants and animals as sources of food, fibre and other materials; identify potential impacts of waste products on environments</i>)	15 Grasshopper Gravity! (e2) 28 Habitat Lap Sit 48 Litter We Know 50 How Wet Is Our Planet? (e2) 105 Riparian Retreat (e1) 145 Polar Bears In Winnipeg? (m) 161 Visual Vocabulary (m) 168 Wetland Metaphors (m) 177 The Edge of Home (m) 180 Blue Ribbon Niche 184 Hooks and Ladders (e5,6,7) 191 Where Does Water Go After School? 195 Fishy Who's Who (e5,6) 211 The Hunter 216 Here Today, Gone Tomorrow 220 Who Lives Here? (m)	23 Follow The Leader (e2) 65 It's a Gasp (e) 81 Snow Way to Hide (m, var) 113 Dress Like a Polar Bear (e3) 137 Snowmobile Savvy 141 Shocking Snow! (m) 145 The Acid Test (m) 147 Kindness That Kills! (m) 155 Mighty Migrators (e1)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *
J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Outcomes for Science, Technology and Society (STS) and Knowledge	Specific Learner Expectations		
		222 Planting Animals (m) 224 Smokey the Bear Said What? 227 Checks and Balances 230 No Water Off a Duck's Back 232 Net Gain, Net Effect 237 Migration Headache (m) 242 Aquatic Roots 245 Where Have All the Salmon Gone? 252 Lobster in Your Lunch Box (e1,4) 257 Changing Attitudes 262 Watered Down History 276 Water We Eating? 283 The Glass Menagerie 286 Too Close for Comfort 289 Shrinking Habitat (m) 293 Migration Barriers (e1) 295 To Compromise or Not to Compromise (e1) 299 Deadly Links (e1-4) 306 Planning for People and Wildlife 310 Aquatic Times (m) 312 To Dam or Not to Dam (e2,3) 319 Deadly Skies (e) 322 Deadly Waters (e) 328 Ethi-Thinking 330 Playing Lightly on the Earth (e) 332 Water's Going On?! (e1) 335 What Did Your Lunch Cost	

* See end notes for abbreviations
 Grade 7 AB Science Cross-Reference Guide.doc

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Outcomes for Science, Technology and Society (STS) and Knowledge	Specific Learner Expectations		
		Wildlife? 337 Flip the Switch for Wildlife! 340 Ethi-Reasoning (m) 348 Improving Wildlife Habitat in the Community 351 Enviro-Ethics 354 Dragonfly Pond (e) 363 Turtle Hurdles 368 Plastic Jellyfish 371 Something's Fishy Here! (e4) 376 Watershed (4) 381 Alice in Waterland	
	• analyze personal and public decisions that involve consideration of environmental impacts, and identify needs for scientific knowledge that can inform those decisions	105 Riparian Retreat (e2) 180 Blue Ribbon Niche (m) 211 The Hunter (e) 216 Here Today, Gone Tomorrow 224 Smokey the Bear Said What? (m) 227 Checks and Balances 230 No Water Off a Duck's Back 232 Net Gain, Net Effect (e) 237 Migration Headache (m) 252 Lobster in Your Lunch Box (e5) 276 Water We Eating? (m) 293 Migration Barriers (e1) 295 To Compromise or Not to Compromise (m, e1) 299 Deadly Links (e1-4) 303 Keeping Score (m) 322 Deadly Waters (e1)	137 Snowmobile Savvy 155 Mighty Migrators (e1)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Outcomes for Science, Technology and Society (STS) and Knowledge	Specific Learner Expectations		
		328 Ethi-Thinking (m) 330 Playing Lightly on the Earth (m) 332 Water's Going On?! (e1) 354 Dragonfly Pond (e)	
2. Trace and interpret the flow of energy and materials within an ecosystem	• analyze an ecosystem to identify biotic and abiotic components, and describe interactions among these components	15 Grasshopper Gravity! (e1) 20 Microtrek Scavenger Hunt (m) 38 Habitat Rummy (m) 55 Aqua Words (m) 57 Water Wings (m) 62 Water Plant Art 70 Designing a Habitat 92 Eco-Enrichers (m) 95 Seed Need 98 Environmental Barometer 105 Riparian Retreat (m, e1) 109 Water Canaries 118 Kelp Help (e1) 127 Urban Nature Search 131 Good Buddies (m) 145 Polar Bears In Winnipeg? (m) 165 Micro Odyssey 172 Marsh Munchers 177 The Edge of Home 180 Blue Ribbon Niche 188 Rainfall and the Forest (aq) 191 Where Does Water Go After School? 195 Fishy Who's Who (m) 216 Here Today, Gone Tomorrow (e1,aq)	5 Snow Tours (m) 33 Winter Survival (m) 41 Snow Place Like Home (m) 49 Snowsense (e) 55 Fishy Deep Freeze 65 It's a Gasp (m) 83 Winter-Wise Insects 89 Ready, Set, Snow! (m, e2) 93 A Furry Plant? (m5) 151 An Ice Place To Be! (e2)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Outcomes for Science, Technology and Society (STS) and Knowledge	Specific Learner Expectations		
		222 Planting Animals 224 Smokey the Bear Said What? (e2) 262 Watered Down History 283 The Glass Menagerie 303 Keeping Score 348 Improving Wildlife Habitat in the Community 354 Dragonfly Pond (m) 363 Turtle Hurdles 376 Watershed	
	<ul style="list-style-type: none"> • analyze ecosystems to identify producers, consumers and decomposers; and describe how energy is supplied to and flows through a food web, by: <ul style="list-style-type: none"> – describing and giving examples of energy and nutrient storage in plants and animals – describing how matter is recycled in an ecosystem through interactions among plants, animals, fungi, bacteria and other microorganisms – interpreting food webs, and predicting the effects of changes to any part of a web 	15 Grasshopper Gravity! (e1) 38 Habitat Rummy (var) 46 What's For Dinner? (m) 62 Water Plant Art (e2) 98 Environmental Barometer (m) 105 Riparian Retreat (m) 118 Kelp Help (e2) 127 Urban Nature Search 163 Owl Pellets 165 Micro Odyssey 172 Marsh Munchers 177 The Edge of Home (m) 180 Blue Ribbon Niche 206 Oh Deer! (m e1) 220 Who Lives Here? (m) 222 Planting Animals (m) 242 Aquatic Roots 283 The Glass Menagerie 299 Deadly Links (m)	55 Fishy Deep Freeze (m, e) 65 It's a Gasp 69 The Great Escape (m) 73 Whine and Dine (m) 81 Snow Way to Hide (m) 83 Winter-Wise Insects (m) 107 Winter Buddies (m, e1)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Outcomes for Science, Technology and Society (STS) and Knowledge	Specific Learner Expectations		
		335 What Did Your Lunch Cost Wildlife? 348 Improving Wildlife Habitat in the Community (m) 363 Turtle Hurdles (m)	
	• describe the process of cycling carbon and water through an ecosystem	172 Marsh Munchers (m) 191 Where Does Water Go After School? (m)	65 It's a Gasp (m)
	• identify mechanisms by which pollutants enter and move through the environment, and can become concentrated in some organisms (e.g., acid rain, mercury, PCBs, DDT)	15 Grasshopper Gravity! (e2) 50 How Wet Is Our Planet? (m, e2) 109 Water Canaries (e7) 191 Where Does Water Go After School? (e3) 230 No Water Off a Duck's Back 299 Deadly Links (m) 319 Deadly Skies (e) 381 Alice in Waterland (m)	141 Shocking Snow! (e)
3. Monitor a local environment, and assess the impacts of environmental factors on the growth, health and reproduction of organisms in that environment	• investigate a variety of habitats, and describe and interpret distribution patterns of living things found in those habitats (e.g., describe and compare two areas within the school grounds—a relatively undisturbed site and a site that has been affected by heavy use; describe and compare a wetland and a dryland area in a local parkland)	15 Grasshopper Gravity! (e1) 20 Microtrek Scavenger Hunt 62 Water Plant Art (m, e) 64 Are You Me? (e2) 70 Designing a Habitat (m) 82 Wild Words...A Journal-Making Activity (m) 98 Environmental Barometer 105 Riparian Retreat (e1) 109 Water Canaries 125 Graphanimal (m, var2) 127 Urban Nature Search (aq)	5 Snow Tours (m) 41 Snow Place Like Home (var2) 53 Snug Under the Snow (e) 83 Winter-Wise Insects 165 Micro Odyssey

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Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
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		172 Marsh Munchers (e1/2) 177 The Edge of Home 180 Blue Ribbon Niche (m) 188 Rainfall and the Forest (m) 216 Here Today, Gone Tomorrow (e1, aq) 224 Smokey the Bear Said What? 283 The Glass Menagerie (m10) 303 Keeping Score 348 Improving Wildlife Habitat in the Community (m) 376 Watershed (e8)	
	• investigate and interpret evidence of interaction and change (e.g., population fluctuations, changes in weather, availability of food or introduction of new species into an ecosystem)	109 Water Canaries (e) 168 Wetland Metaphors (m) 206 Oh Deer! (m) 216 Here Today, Gone Tomorrow 220 Who Lives Here? 222 Planting Animals 224 Smokey the Bear Said What? (e2) 227 Checks and Balances (m) 232 Net Gain, Net Effect (e8,9) 242 Aquatic Roots 245 Where Have All the Salmon Gone? 262 Watered Down History 283 The Glass Menagerie (m, e3) 293 Migration Barriers (m, e1) 363 Turtle Hurdles (m) 376 Watershed	5 Snow Tours (m) 15 Bird Banquets (e5,6) 49 Snowsense (e1) 53 Snug Under the Snow (m, e) 55 Fishy Deep Freeze 65 It's a Gasp 93 A Furry Plant? (m5) 147 Kindness That Kills! (m) 151 An Ice Place To Be! (m, e2) 155 Mighty Migrators (e1)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

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	<ul style="list-style-type: none"> • identify signs of ecological succession in local ecosystems <i>(e.g., emergence of fireweed in recently cut forest areas, replacement of poplar by spruce in maturing forests, reestablishment of native plants on unused farmland)</i> 	133 Forest in a Jar 135 Pond Succession 180 Blue Ribbon Niche (m) 224 Smokey the Bear Said What? (e2) 262 Watered Down History (m) 283 The Glass Menagerie (m)	
4. Describe the relationships among knowledge, decisions and actions in maintaining life-supporting environments	<ul style="list-style-type: none"> • identify intended and unintended consequences of human activities within local and global environments <i>(e.g., changes resulting from habitat loss, pest control or from introduction of new species; changes leading to species extinction)</i> 	15 Grasshopper Gravity! (e2) 48 Litter We Know (m) 180 Blue Ribbon Niche 184 Hooks and Ladders (m, e) 191 Where Does Water Go After School? (m) 195 Fishy Who's Who (e5,6) 216 Here Today, Gone Tomorrow 220 Who Lives Here? 222 Planting Animals 224 Smokey the Bear Said What? (m) 227 Checks and Balances (m) 230 No Water Off a Duck's Back 232 Net Gain, Net Effect (e8,9) 237 Migration Headache 242 Aquatic Roots 245 Where Have All the Salmon Gone? 262 Watered Down History (m) 276 Water We Eating? (e) 283 The Glass Menagerie (m) 286 Too Close for Comfort	65 It's a Gasp (e) 137 Snowmobile Savvy 141 Shocking Snow! (e) 145 The Acid Test (m) 147 Kindness That Kills! 155 Mighty Migrators (e1)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *
J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
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		289 Shrinking Habitat (aq) 293 Migration Barriers (e1) 295 To Compromise or Not to Compromise (e1) 299 Deadly Links (e1-4) 303 Keeping Score 306 Planning for People and Wildlife (m) 310 Aquatic Times (m) 312 To Dam or Not to Dam (e2,3) 319 Deadly Skies (e) 322 Deadly Waters (m,e) 328 Ethi-Thinking 330 Playing Lightly on the Earth (e) 332 Water's Going On?! (e1) 335 What Did Your Lunch Cost Wildlife? 337 Flip the Switch for Wildlife! (m) 340 Ethi-Reasoning 345 Can Do! 348 Improving Wildlife Habitat in the Community (m) 351 Enviro-Ethics 354 Dragonfly Pond (e) 363 Turtle Hurdles 368 Plastic Jellyfish 371 Something's Fishy Here! 376 Watershed 381 Alice in Waterland	
	• describe and interpret examples of	245 Where Have All the Salmon	

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

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Outcomes for Science, Technology and Society (STS) and Knowledge	Specific Learner Expectations		
	scientific investigations that serve to inform environmental decision making	Gone? (m) 283 The Glass Menagerie (m) 299 Deadly Links (m) 316 Facts and Falsehoods (m)	
	<ul style="list-style-type: none"> illustrate, through examples, the limits of scientific and technological knowledge in making decisions about life-supporting environments <i>(e.g., identify limits in scientific knowledge of the impact of changing land use on individual species; describe examples in which aboriginal knowledge—based on long-term observation—provides an alternative source of understanding)</i> 	184 Hook and Ladders (e5, 6) 216 Here Today, Gone Tomorrow (e2) 227 Checks and Balances (m) 232 Net Gain, Net Effect (e8) 257 Changing Attitudes (e5) 295 To Compromise or Not to Compromise (e1,4) 337 Flip the Switch for Wildlife! (m) 354 Dragonfly Pond (m)	
	<ul style="list-style-type: none"> analyze a local environmental issue or problem based on evidence from a variety of sources, and identify possible actions and consequences <i>(e.g., analyze a local issue on the control of the beaver population in a nearby wetland, and identify possible consequences)</i> 	15 Grasshopper Gravity! (m, e2) 109 Water Canaries (m, e) 184 Hooks and Ladders (m, e) 191 Where Does Water Go After School? (e3) 211 The Hunter (e) 216 Here Today, Gone Tomorrow (e) 220 Who Lives Here? 222 Planting Animals (m) 230 No Water Off a Duck's Back 237 Migration Headache (e) 242 Aquatic Roots 257 Changing Attitudes (e2) 276 Water We Eating? (m)	137 Snowmobile Savvy (m) 141 Shocking Snow! (m) 147 Kindness That Kills! (e) 155 Mighty Migrators (m, e1)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
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		293 Migration Barriers (e1) 295 To Compromise or Not to Compromise (e1,4) 299 Deadly Links (e1-4) 312 To Dam or Not to Dam (e2,3) 319 Deadly Skies (e) 322 Deadly Waters (m,e) 337 Flip the Switch for Wildlife! (e2) 340 Ethi-Reasoning (m) 345 Can Do! (m) 348 Improving Wildlife Habitat in the Community (m) 351 Enviro-Ethics 354 Dragonfly Pond (e) 371 Something's Fishy Here! (e)	

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Skill Outcomes	Specific Learner Expectations		
Initiating and Planning Ask questions about the relationships between and among observable variables, and plan investigations to address those	• identify science-related issues <i>(e.g., identify a specific issue regarding human impacts on environments)</i>	180 Blue Ribbon Niche (m9) 191 Where Does Water Go After School? (e3) 195 Fishy Who's Who (e6) 216 Here Today, Gone Tomorrow (e6)	137 Snowmobile Savvy (var2, aq) 155 Mighty Migrators (e1)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Skill Outcomes	Specific Learner Expectations		
questions		232 Net Gain, Net Effect (m, e5) 257 Changing Attitudes (m, e2) 272 The Power of Song (m, e1) 293 Migration Barriers (e1) 295 To Compromise or Not to Compromise (m, e1) 303 Keeping Score 312 To Dam or Not to Dam (e2,3) 330 Playing Lightly on the Earth (m, e) 335 What Did Your Lunch Cost Wildlife? 337 Flip the Switch for Wildlife! (e2) 340 Ethi-Reasoning (m) 345 Can Do! (m) 348 Improving Wildlife Habitat in the Community (m) 354 Dragonfly Pond (m) 368 Plastic Jellyfish (e4,5)	
	• identify questions to investigate arising from practical problems and issues (e.g., <i>identify questions, such as: "What effects would an urban or industrial development have on a nearby forest or farming community?"</i>)	232 Net Gain, Net Effect (m, 5) 257 Changing Attitudes (m) 293 Migration Barriers (e1) 310 Aquatic Times (m) 312 To Dam or Not to Dam (e2,3) 354 Dragonfly Pond (m, e1)	147 Kindness That Kills! (e) 155 Mighty Migrators (e1)
	• state a prediction and a hypothesis based on background information or an observed pattern of events (e.g.,	72 Puddle Wonders! 188 Rainfall and the Forest (m, aq3) 237 Migration Headache (m9)	

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
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	<i>predict changes in the population of an organism if factor X were increased, or if a species were introduced or removed from the ecosystem; propose factors that will affect the population of a given animal species)</i>	283 The Glass Menagerie (m) 319 Deadly Skies 337 Flip the Switch for Wildlife! (m)	
	• select appropriate methods and tools for collecting data and information (e.g., <i>select or develop a method for estimating a plant population within a given study plot; design a survey as a first step in investigating an environmental issue</i>)	20 Microtrek Scavenger Hunt 109 Water Canaries 165 Micro Odyssey (m) 368 Plastic Jellyfish (e4)	45 Snow Experiments (m) 151 An Ice Place To Be! (m, e2)
Performing and Recording Conduct investigations into the relationships between and among observations, and gather and record qualitative and quantitative data	• research information relevant to a given problem or issue	13 Interview a Spider 15 Grasshopper Gravity! (e1) 70 Designing a Habitat 77 Whale of a Tail (e2) 180 Blue Ribbon Niche (m9, e2) 184 Hooks and Ladders (e5,6,7) 195 Fishy Who's Who (e5,6) 211 The Hunter (e) 216 Here Today, Gone Tomorrow (e1,2,6, aq2) 220 Who Lives Here? 232 Net Gain, Net Effect (m, e5) 242 Aquatic Roots 257 Changing Attitudes (m, e) 262 Watered Down History (m)	41 Snow Place Like Home (m, var2) 49 Snowsense (e3) 65 It's a Gasp (e) 137 Snowmobile Savvy (var2, aq) 141 Shocking Snow! (m) 147 Kindness That Kills! (e) 151 An Ice Place To Be! (e2) 155 Mighty Migrators (m, e1)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Skill Outcomes	Specific Learner Expectations		
		295 To Compromise or Not to Compromise (e1) 306 Planning for People and Wildlife 310 Aquatic Times 312 To Dam or Not to Dam (e2,3) 316 Facts and Falsehoods (e2) 319 Deadly Skies (e6,7) 322 Deadly Waters (m, e) 345 Can Do! (m) 354 Dragonfly Pond (e3-7) 368 Plastic Jellyfish (e5)	
	• select and integrate information from various print and electronic sources or from several parts of the same source (<i>e.g., compile information on a global environmental issue from books, magazines, pamphlets and Internet sites, as well as from conversations with experts</i>)	13 Interview a Spider 70 Designing a Habitat 115 Mythical Mystical Monsters (m) 118 Kelp Help (m) 165 Micro Odyssey (m) 180 Blue Ribbon Niche (m9, e2) 184 Hooks and Ladders (e5,6,7) 188 Rainfall and the Forest 195 Fishy Who's Who 211 The Hunter (e) 216 Here Today, Gone Tomorrow (e2,3) 232 Net Gain, Net Effect 242 Aquatic Roots 257 Changing Attitudes 262 Watered Down History (m) 268 Cartoons and Bumper Stickers (m, e1, aq) 272 The Power of Song (m, aq) 299 Deadly Links (e4)	89 Ready, Set, Snow! (m, var1) 93 A Furry Plant? (aq) 107 Winter Buddies (m, e1) 137 Snowmobile Savvy (aq) 151 An Ice Place To Be! (e2)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Skill Outcomes	Specific Learner Expectations		
		310 Aquatic Times (m) 316 Facts and Falsehoods (m) 335 What Did Your Lunch Cost Wildlife? 348 Improving Wildlife Habitat in the Community (m) 354 Dragonfly Pond (e3-7) 360 Living Research: Aquatic Heroes and Heroines (m) 368 Plastic Jellyfish (e1,5,6)	
	• use tools and apparatus effectively and accurately for collecting data (e.g., measure factors, such as temperature, moisture, light, shelter and potential sources of food, that might affect the survival and distribution of different organisms within a local environment)	20 Microtrek Scavenger Hunt (e4) 92 Eco-Enrichers 109 Water Canaries 165 Micro Odyssey 283 The Glass Menagerie 319 Deadly Skies 376 Watershed	41 Snow Place Like Home 45 Snow Experiments 49 Snowsense 53 Snug Under the Snow 141 Shocking Snow! (m)
	• estimate measurements (e.g., estimate the population of a given plant in a one square metre quadrat, and use this figure to estimate the population within an area of 100 square metres)	20 Microtrek Scavenger Hunt (e3) 72 Puddle Wonders! 77 Whale of a Tail 92 Eco-Enrichers 98 Environmental Barometer (m) 105 Riparian Retreat (m, e1) 127 Urban Nature Search 177 The Edge of Home (m) 180 Blue Ribbon Niche (11) 191 Were Does Water Go After School? (m) 332 Water's Going On?! (e1)	

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

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Skill Outcomes	Specific Learner Expectations		
		376 Watershed (m)	
Analyzing and Interpreting Analyze qualitative and quantitative data, and develop and assess possible explanations	<ul style="list-style-type: none"> • identify strengths and weaknesses of different methods of collecting and displaying data (e.g., <i>compare two different approaches to measuring the amount of moisture in an environment; analyze information presented by proponents on two sides of an environmental issue</i>) 	245 Where Have All the Salmon Gone? (e1) 316 Facts and Falsehoods	
	<ul style="list-style-type: none"> • compile and display data, by hand or computer, in a variety of formats, including diagrams, flow charts, tables, bar graphs and line graphs (e.g., <i>illustrate a food web, based on observations made within a given environment</i>) 	9 Ants on a Twig 13 Interview a Spider 55 Aqua Words 72 Puddle Wonders 92 Eco-Enrichers 98 Environmental Barometer 109 Water Canaries 125 Graphanimal (m, var2) 127 Urban Nature Search 133 Forest in a Jar 135 Pond Succession 165 Micro Odyssey 188 Rainfall and the Forest 195 Fishy Who's Who 224 Smokey the Bear Said What? 245 Where Have All the Salmon Gone? 303 Keeping Score 306 Planning for People and Wildlife 348 Improving Wildlife Habitat in the Community (m)	15 Bird Banquets (e5) 41 Snow Place Like Home 45 Snow Experiments 53 Snug Under the Snow (m) 103 Winter Wonders (e1) 125 Cosy in the Cold (var)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Skill Outcomes	Specific Learner Expectations		
		360 Living Research: Aquatic Heroes and Heroines (7,e) 376 Watershed	
	• classify organisms found in a study plot	20 Microtrek Scavenger Hunt (e2,3) 62 Water Plant Art 98 Environmental Barometer (m) 180 Blue Ribbon Niche (m) 283 The Glass Menagerie (m)	27 Twiggy Tales 97 Snow Lovers or Haters?
Communication and Teamwork Work collaboratively on problems; and use appropriate language and formats to communicate ideas, procedures and results	• communicate questions, ideas, intentions, plans and results, using lists, notes in point form, sentences, data tables, graphs, drawings, oral language and other means (<i>e.g., present findings from an analysis of a local issue, such as the control of the beaver population in a nearby wetland</i>)	13 Interview a Spider 20 Microtrek Scavenger Hunt (e5) 50 How Wet Is Our Planet? (e1) 55 Aqua Words 57 Water Wings 62 Water Plant Art 64 Are You Me? (m) 72 Puddle Wonders! 82 Wild Words ...A Journal-Making Activity 85 Animal Poetry (m) 109 Water Canaries 115 Mythical Mystical Monsters (m) 118 Kelp Help 161 Visual Vocabulary (m, aq) 165 Micro Odyssey (m4) 195 Fishy Who's Who (e) 211 The Hunter (e) 216 Here Today, Gone Tomorrow (e6, aq) 230 No Water Off a Duck's Back (m5)	5 Snow Tours (m) 41 Snow Place Like Home (m) 45 Snow Experiments (e) 49 Snowsense (e3) 53 Snug Under the Snow 89 Ready, Set, Snow! (var, e) 107 Winter Buddies (m, e1) 137 Snowmobile Savvy 141 Shocking Snow! (m) 147 Kindness That Kills! (eval) 151 An Ice Place To Be! 155 Mighty Migrators (e1)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *
J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Skill Outcomes	Specific Learner Expectations		
		245 Where Have All the Salmon Gone? (e2) 257 Changing Attitudes 272 The Power of Song (m, e1) 283 The Glass Menagerie 293 Migration Barriers (e1) 295 To Compromise or Not to Compromise (e1) 306 Planning for People and Wildlife 310 Aquatic Times (m) 319 Deadly Skies (e) 322 Deadly Waters (m,e) 332 Water's Going On?! (e1) 337 Flip the Switch for Wildlife! 340 Ethi-Reasoning 348 Improving Wildlife Habitat in the Community 354 Dragonfly Pond (e) 368 Plastic Jellyfish (e) 371 Something's Fishy Here! (e) 376 Watershed 381 Alice in Waterland	
	<ul style="list-style-type: none"> • evaluate individual and group processes used in planning, problem solving, decision making and completing a task 	191 Where Does Water Go After School? (m2)	
	<ul style="list-style-type: none"> • defend a given position on an issue, based on their findings (e.g., <i>make a case for or against on an issue, such as: "Should a natural gas</i> 	45 Polar Bears In Winnipeg? (m) 211 The Hunter (e4) 216 Here Today, Gone Tomorrow (e6, aq2)	137 Snowmobile Savvy 155 Mighty Migrators

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Skill Outcomes	Specific Learner Expectations		
	<i>plant be located near a farming community?"</i>	295 To Compromise or Not to Compromise (e1) 306 Planning for People and Wildlife (m, aq) 310 Aquatic Times (m) 312 To Dam or Not to Dam 340 Ethi-Reasoning 354 Dragonfly Pond (m, e)	

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Attitude Outcomes	Specific Learner Expectations		
Interest in Science	Show interest in science-related questions and issues, and pursue personal interests and career possibilities within science-related fields (<i>e.g., take an interest in media reports on environmental issues, and seek out further information; express an interest in conducting scientific investigations of their own design; develop an interest in careers related to environmental sciences</i>)	18 Wildlife is Everywhere! (aq) 20 Microtrek Scavenger Hunt (aq) 82 Wild Words ...A Journal-Making Activity (m) 85 Animal Poetry (m) 98 Environmental Barometer 105 Riparian Retreat (e1) 109 Water Canaries 127 Urban Nature Search 177 The Edge of Home (e3) 180 Blue Ribbon Niche 184 Hooks and Ladders (e) 204 Wildwork	41 Snow Place Like Home (m) 45 Snow Experiments (m) 83 Winter-Wise Insects (m) 93 A Furry Plant? (m5) 137 Snowmobile Savvy 147 Kindness That Kills! (e) 99 Snow Floats (var) 123 The Benefit of Big (m) 125 Cosy in the Cold (m, var) 137 Snowmobile Savvy (var) 155 Mighty Migrators (e1)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *
J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Attitude Outcomes	Specific Learner Expectations		
		216 Here Today, Gone Tomorrow (e1,2,6) 230 No Water Off a Duck's Back 252 Lobster in Your Lunch Box (e5, aq) 257 Changing Attitudes 303 Keeping Score 310 Aquatic Times 312 To Dam or Not to Dam (e2,3) 322 Deadly Waters (m,e) 332 Water's Going On?! (e1) 345 Can Do! 348 Improving Wildlife Habitat in the Community 354 Dragonfly Pond (e) 360 Living Research: Aquatic Heroes and Heroines (m)	
Mutual Respect	Appreciate that scientific understanding evolves from the interaction of ideas involving people with different views and backgrounds <i>(e.g., show awareness of and respect for aboriginal perspectives on the link between humans and the environment)</i>	115 Mythical Mystical Monsters (e2) 184 Hooks and Ladders (e5-8) 195 Fishy Who's Who (m, e5) 204 Wildwork 257 Changing Attitudes 293 Migration Barriers (m, e1) 295 To Compromise or Not to Compromise (e1,4) 306 Planning for People and Wildlife 310 Aquatic Times (m) 316 Facts and Falsehoods (m)	89 Ready, Set, Snow! (var 3,4) 137 Snowmobile Savvy 155 Mighty Migrators (m)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *

J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Attitude Outcomes	Specific Learner Expectations		
Scientific Inquiry	Seek and apply evidence when evaluating alternative approaches to investigations, problems and issues <i>(e.g., take the time to accurately gather evidence and use instruments carefully; consider observations, ideas and perspectives from a number of sources during investigations and before drawing conclusions and making decisions)</i>	109 Water Canaries 191 Where Does Water Go After School? (m2) 195 Fishy Who's Who 293 Migration Barriers (m, e1) 316 Facts and Falsehoods (m) 295 To Compromise or Not to Compromise (e1,4) 345 Can Do! (m, aq) 348 Improving Wildlife Habitat in the Community (e) 354 Dragonfly Pond (e) 360 Living Research: Aquatic Heroes and Heroines	137 Snowmobile Savvy (aq) 155 Mighty Migrators (e1)
Collaboration	Work collaboratively in carrying out investigations and in generating and evaluating ideas <i>(e.g., consider alternative ideas, perspectives and approaches suggested by members of the group; share the responsibility for carrying out decisions)</i>	13 Interview a Spider 109 Water Canaries 168 Wetland Metaphors 180 Blue Ribbon Niche (m) 283 The Glass Menagerie 293 Migration Barriers (m) 306 Planning for People and Wildlife 348 Improving Wildlife Habitat in the Community (m) 354 Dragonfly Pond (e)	45 Snow Experiments (m) 155 Mighty Migrators (m)
Stewardship	Demonstrate sensitivity and responsibility in pursuing a balance between the needs of humans and a sustainable environment <i>(e.g., assume personal responsibility for their impact on the environment;</i>	15 Grasshopper Gravity! (e6) 48 Litter We Know 82 Wild Words ...A Journal-Making Activity 105 Riparian Retreat (e) 109 Water Canaries (e4)	41 Snow Place Like Home 83 Winter-Wise Insects 137 Snowmobile Savvy 141 Shocking Snow! (e) 147 Kindness That Kills! (m) 155 Mighty Migrators (e1)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *
J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Attitude Outcomes	Specific Learner Expectations		
	<i>predict consequences of proposed personal actions on the environment; consider both immediate and long-term consequences of group actions; identify, objectively, potential conflicts between responding to human wants and needs and protecting the environment)</i>	177 The Edge of Home (e3) 180 Blue Ribbon Niche (m9, e2) 184 Hooks and Ladders (e5,6,7) 216 Here Today, Gone Tomorrow (e1,2) 222 Planting Animals (m) 227 Checks and Balances 230 No Water Off a Duck's Back 232 Net Gain, Net Effect (m, e5,7,8,9) 242 Aquatic Roots 252 Lobster in Your Lunch Box (e4, aq) 257 Changing Attitudes (m, e1,2) 262 Watered Down History (e1) 268 Cartoons and Bumper Stickers (m, e1, aq) 270 Does Wildlife Sell Cigarettes? (m, e3) 283 The Glass Menagerie (m) 289 Shrinking Habitat (aq) 293 Migration Barriers (m) 295 To Compromise or Not to Compromise (e1) 299 Deadly Links (e1-4) 303 Keeping Score 306 Planning for People and Wildlife 312 To Dam or Not to Dam (e2,3) 319 Deadly Skies (e) 322 Deadly Waters (m,e) 328 Ethi-Thinking (m)	

* See end notes for abbreviations
 Grade 7 AB Science Cross-Reference Guide.doc

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *
J. van Kessel M.Sc., B.Ed.

Unit A: Interactions and Ecosystems (Social and Environmental Emphasis)		Project Wild*	Below Zero*
Attitude Outcomes	Specific Learner Expectations		
		330 Playing Lightly on the Earth (e) 332 Water's Going On?! 335 What Did Your Lunch Cost Wildlife? 337 Flip the Switch for Wildlife! 340 Ethi-Reasoning (e) 345 Can Do! (m) 348 Improving Wildlife Habitat in the Community (e) 351 Enviro-Ethics 354 Dragonfly Pond (e) 363 Turtle Hurdles 368 Plastic Jellyfish 371 Something's Fishy Here! (e4) 376 Watershed (eval4) 381 Alice in Waterland	
Safety	Show concern for safety in planning, carrying out and reviewing activities <i>(e.g., select safe methods and tools for collecting evidence and solving problems; assume personal responsibility for their involvement in a breach of safety or in waste disposal procedures)</i>	20 Microtrek Scavenger Hunt 48 Litter We Know (m) 109 Water Canaries 180 Blue Ribbon Niche 283 The Glass Menagerie (m) 345 Can Do! 376 Watershed	45 Snow Experiments 49 Snowsense 145 The Acid Test 151 An Ice Place To Be! (e2)

Cross-Reference Guide: Grade 7 Alberta Science with Project WILD and Below Zero *
J. van Kessel M.Sc., B.Ed.

* **End Notes** (for all tables)

bold - very strong correlation of activity with
outcome/expectation

m - minor modification required for SLE

- relevant step in activity procedure

e - include extension activity

aq - aquatic extension

eval - evaluation section of activity

var - variation section of activity