

# CURRICULUM

## CURRICULUM CONNECTIONS

This section is for educators who want more specific information regarding the grade 9 units Biological Diversity and Environmental Chemistry for each activity in the Extreme Alberta Challenge crate.

### Grade 9: Table of Knowledge Outcomes

Investigate and interpret diversity among species and within species, and describe how diversity contributes to species survival.

Identify impacts of human action on species survival and variation within species, and analyze related issues for personal and public decision making.

Activity	Unit	STS-Knowledge Outcomes
Race Leg 1: Cross-Country Skiing	Biological Diversity	<ul style="list-style-type: none"> <li>Observe variation in living things, and describe examples of variation among species and within species.</li> </ul>
Race Leg 2: Mountain Biking	Biological Diversity	<ul style="list-style-type: none"> <li>Observe variation in living things, and describe examples of variation among species and within species.</li> <li>Investigate and interpret dependencies among species that link the survival of one species to the survival of others.</li> </ul>
Race Leg 3: Hiking	Biological Diversity  Environmental Chemistry	<ul style="list-style-type: none"> <li>Observe variation in living things, and describe examples of variation among species and within species.</li> <li>Investigate and interpret dependencies among species that link the survival of one species to the survival of others.</li> </ul> <p>Identify processes for measuring the quantity of different substances in the environment and for monitoring air and water quality.</p> <ul style="list-style-type: none"> <li>Identify chemical factors in the environment that might affect the health and distribution of living things in that environment</li> <li>Identify acids, bases, and neutral substances based on measures of their pH.</li> </ul> <p>Describe effects of acids and bases on living things.</p>
Race Leg 4: Running	Biological Diversity	<ul style="list-style-type: none"> <li>Observe variation in living things, and describe examples of variation among species and within species.</li> </ul> <p>Describe, in general terms, the role of genetic materials in the continuity and variation of species characteristics; and investigate and interpret related technologies.</p>
Race Leg 5: Canoeing	Biological Diversity	<ul style="list-style-type: none"> <li>Investigate and interpret dependencies among species that link the survival of one species to the survival of others.</li> </ul>

Race Leg 6: ATV course	Biological Diversity	<ul style="list-style-type: none"> <li>• Identify the role of variation in species survival under changing environmental conditions</li> </ul> <p>Investigate the nature of reproductive processes and their role in transmitting species characteristics.</p> <ul style="list-style-type: none"> <li>• Distinguish between sexual and asexual reproduction, and identify and interpret examples</li> <li>• Investigate transmission of characteristics from parents to offspring, and identify examples of characteristics in offspring</li> </ul> <p>Describe, in general terms, the role of genetic materials in the continuity and variation of species characteristics.</p> <ul style="list-style-type: none"> <li>• Compare sexual and asexual reproduction, in terms of advantages and disadvantages.</li> </ul>
Race Leg 7: Fishing Derby	Biological Diversity	<p>Describe in general terms, the role of genetic materials in the continuity and variation of species characteristics.</p> <ul style="list-style-type: none"> <li>• Describe in general terms, the relationship of chromosomes, genes, and DNA; and interpret their role as repositories of genetic information.</li> </ul>