

Standards and Glossary

Standards:

Historical Exploration of Bison Genetics

- CCSS.ELA-LITERACY.RH.9-10.1 - Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
- CCSS.ELA-LITERACY.RH.9-10.2 - Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
- CCSS.ELA-LITERACY.RH.11-12.1 - Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
- CCSS.ELA-LITERACY.RH.11-12.2- Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.
- AP US History - Key Concept 6.2 — The migrations that accompanied industrialization transformed both urban and rural areas of the United States and caused dramatic social and cultural change. Teacher Selected Example II. Note: all AP History exams rely on Document Based Questions.

Using Bison to Understand Mean Kinship

NGSS HS Interdependent Relationships in Ecosystems

- HS-LS4-6 Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.
- DCI LS2.C: Ecosystem Dynamics, Functioning, and Resilience
- LS4.D: Biodiversity and Humans
- ETS1.B: Developing Possible Solutions

Prairie Trophic Level Pyramid

NGSS HS Matter and Energy in Organisms and Ecosystems

- DCI LS2.B – Cycles of Matter and Energy Transfer in Ecosystems

Glossary:

Allele	Alternative forms of the same gene
Anthropogenic	Resulting from human activity; human influenced
Dam	Father
Ecosystem	The living and non-living things that inhabit a particular area and interact with each other.
Founder	In a pedigree chart a founder does not have parents specified and are assumed to be unrelated.
Genetic Bottleneck	Historic population crash whereby all subsequent individuals of a species arise from a small population; the population number decreases dramatically as if the population were moving through the neck of a bottle, and then recovers and “expands” outside the opening in the bottle.
Genetic Diversity	The number of different alleles present in a species or population. Maximizing genetic diversity ensures that species or populations have the ability to adapt successfully to environmental change
Keystone Species	An organism that plays an important and unique role in ecosystems, such that the loss of this species would have a negative impact on all other species in the ecosystem. Loss of a keystone species can lead to a trophic cascade.
Mean Kinship Value	The average kinship, or degree of relatedness, between an individual and all living individuals in a group or population.
Meta-population	Treating individuals in geographically separate populations of the same species as a single larger population, by gathering genetic information from all individuals and using it to make management decisions such as breeding recommendations that will increase the genetic diversity of the meta-population
Pedigree Chart	A graphical representation of the ancestral relationships and the passing of genetic traits between individuals in a family group or population.

Primary Source Materials	Historical documents that provide first-hand information about a period in time; these documents were typically created during the period being studied.
Sire	Father
Trophic Cascade	Indirect interactions whereby increase or decrease of one species in an ecosystem can lead to subsequent increases or decreases in other species, through trophic interactions and energy transfer relationships.

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