

# CHANGE IN THE UINTA MOUNTAINS

## Standards Alignment

## RESEARCHQUEST

### #1: WHAT'S KILLING THE LODGEPOLE PINE TREES?

#### Utah SEEd Standard

- **6.4.1** - Analyze data to provide evidence for the effects of resource availability on organisms and populations in an ecosystem. Ask questions to predict how changes in resource availability affects organisms in those ecosystems. Examples could include water, food, and living space in Utah environments.

#### NGSS Standard

- **LS2-1** - Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

#### ELA Standards

- **Writing Standard 3:** Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.
- **Language Standard 5:** Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

### #2: WHO WINS AND WHO LOSES IN A RAPIDLY CHANGING FOREST?

#### Utah SEEd Standard

- **6.4.2** - Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems. Emphasize consistent interactions in different environments, such as competition, predation, and mutualism.

#### NGSS Standard

- **LS2-2** - Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

#### ELA Standards

- **Speaking & Listening Standard 1:** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.
- **Language Standard 6:** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

### #3: HOW IS ENERGY TRANSFER AND MATTER CYCLING AFFECTED IN A CHANGING ECOSYSTEM?

#### Utah SEEd Standard

- **6.4.3** - Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem. Emphasize food webs and the role of producers, consumers, and decomposers in various ecosystems. Examples could include Utah ecosystems such as mountains, Great Salt Lake, wetlands, and deserts.

#### NGSS Standard

- **LS2-3** - Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

#### ELA Standards

- **Speaking & Listening Standard 5:** Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.
- **Reading: Informational Text 4:** Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.

### #4: What is the future of a forest under attack?

#### Utah SEEd Standard

- **6.4.4** - Construct an argument supported by evidence that the stability of populations is affected by changes to an ecosystem. Emphasize how changes to living and nonliving (biotic and abiotic) components in an ecosystem affect populations in that ecosystem. Examples could include Utah ecosystems such as mountains, Great Salt Lake, wetlands, and deserts.

#### NGSS Standard

- **LS2-4** - Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

#### ELA Standards

- **Writing Standard 2:** Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
- **Reading: Informational Texts Standard 7:** Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.