Unit 6: Arthropoda

Big Idea:
All arthropods share common characteristics and representative organisms illustrate important adaptations to specific environments.

Essential Questions:
What are the major characteristics of arthropods?
What are classes of arthropods?
What are local examples of arthropods?
What are commercially important arthropods in Alaska?
How do arthropod digestion, respiration and reproduction compare to humans?

Vocabulary: Arthropod, crustaceans, exoskeleton, antennae, barnacle, copepod, amphipod, isopod, decapods, compound eyes, green glands, nauplius, molt, metamorphosis

NGSS Priority Standards

HS-LS1-2 Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

HS-LS1-3 Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

HS-LS2-8 Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce.

HS-LS4-1 Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.

HS-LS4-3 Apply concepts of statistics and probability to support explanations that organisms with an advantageous heritable trait tend to increase in proportion to organisms lacking this trait.

HS-LS4-4 Construct an explanation based on evidence for how natural selection leads to adaptation of populations.

HS-LS4-5 Evaluate the evidence supporting claims that changes in environmental conditions may result in:(1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.

Common Core Math and ELA
Common Core State Standards Connections:
ELA/Literacy -
RST-11.12.1 Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

RST-11.12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

WHST.9-12.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

WHST.9-12.9 Draw evidence from informational texts to support analysis, reflection, and research.

SL.11-12.4 Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.

Mathematics -
MP.2 Reason abstractly and quantitatively.

MP.4 Model with mathematics.