**Natural Selection & DNA**

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| **Big Idea** | **Access Point** | **Emerging** | **Developing** | **Proficient** | **Extending** |

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| Evolution by natural selection provides an explanation for the diversity and survival of living things | Recognizes that living things adapt to their environment | Defines adaptation, reproduction, and natural selection | Describes the connection between adaptation, reproduction, and natural selection | Analyzes patterns in data related to how evolution by natural selection provides an explanation for the diversity of living things, relates to local environment | Predicts future adaptations of local plants and animals based on changing climate and landscapes |
| Identifies characteristics of environments that create challenges for living things | Recognizes that living things survive or die based on their characteristics | Explains how certain characteristics help or hinder living things, explores Indigenous knowledges of adaptation and natural selection | Makes connections between adaptations in other species and human innovations, connects to multiple ways of knowing | Infers the future fate of specific living things, with regard to environmental issues |

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| DNA is the basis for the diversity of living things. | Recognizes that humans have diverse characteristics | Recognizes that DNA underlies our physical characteristics | Describes basic structures of DNA | Examines how variation in the genetic code contained in the sequence of base pairs of DNA impacts diversity | Evaluates the ethics of manipulating genes in a variety of situations or for varying purposes |
| Identifies adaptations living things make that help them survive | Defines natural selection as survival of the fittest | Explains differences and relationship between natural selection and mutation | Analyzes the interactions between natural selection, mutation, and artificial selection and their impacts on diversity | Justifies a POV related to artificial selection |
| Recognizes that people have diverse characteristics that are passed down from their parents | Recognizes that genes are passed down from parent to offspring | Explains the process for genetic transmission | Differentiates when and how many traits of an organism are inherited from its biological parents. | Proposes possible solutions to potential genetic impacts of disease, trauma, or other social construct |