The following Mi-STAR units will be available to pilot during the 2017-18 school year to teachers that will be trained by Mi-STAR Professional Learning Facilitators.

6th grade

Unit 6.1, 4-5 weeks, Primary PEs - ESS2-4, PS1-4, ETS1-1, Defining Problems Related to Our Local Water Cycle - In this 6th grade Mi-STAR unit, students will engage in the physical science, earth science and engineering disciplines by investigating a water-related scenario set in their local community. During the unit, students will come to understand that due to the effects of gravity and thermal energy water particles are continuously cycling from one earth reservoir to another through multiple pathways and changes in state. Students will determine that solutions to issues related to natural and man-made water systems should take into account the scientific phenomenon dictating the water cycle and how human activity affects the pathway water molecules take.

Unit 6.6, 5-6 weeks, Primary PEs - LS2-1 (DCI only), LS2-2, LS2-4, ETS 1-2 (DCI only), Interactions Within Ecosystems - The unit is centered around causes of individual and population growth within ecosystems. Students explore this content by modeling how changing the resource availability, the patterns of species interactions or the physical and biological components of an ecosystem may affect a population of organisms. Students use their knowledge of population dynamics to systematically evaluate competing invasive species management options.

7th grade

Unit 7.1, 5 to 6 weeks, Primary PEs - PS2-3, PS3-1, PS3-2, PS3-5, Transforming Energy into Useful Forms **-** Content from thisunit includes potential energy, kinetic energy, energy transfers, and an introduction to electromagnetic forces. By developing models and exploring relationships and interactions between these forces, students understand the underlying concepts that govern how these forces can be effectively used to meet human needs for energy. Students are asked to help develop a plan to harness available energy from wind and water to provide power to their new homestead in a remote area, and educate their parents about how these technologies can help them 'keep the lights on' at their new home.

Unit 7.3, 5-6 weeks, Primary PEs - PS 1-3, ESS 3-1, ESS 3-4 (DCI only), PS 3-3 (DCI only), Making the Most from Natural Resources - Content from this unit includes thermal energy and Earth resources. Students use product life cycle models to explore the relationships between the things we manufacture and use to meet society's needs and the natural resources used to make these things. Throughout the unit students are challenged to discover and use scientific evidence to select the best wall insulation material for a community building.

8th grade

Unit 8.6, 4 to 5 weeks, Primary PEs - ESS3-2, ESS2-3, PS4-3, Reducing Impacts of Natural Hazards - This unit integrates content regarding the history of the planet Earth, natural hazards, and wave signals. Students explore this content in the context of a unit challenge where they identify natural hazards, detail their causes and impacts, and define strategies to reduce society's risk to natural hazards through advancements in science and technology. Throughout the unit, students create natural hazard maps and design a hazard mitigation plan that informs a public service announcement to educate people on how to reduce risks to natural hazard events.

Unit 8.7, 4-5 weeks, Primary PEs - ESS3-4, ESS3-5, Implications of Global Climate Change - In this final unit of the Mi-STAR middle school curriculum, students are introduced to the concept that greenhouse gasses have been integral to establishing an Earth atmosphere that has allowed life forms to flourish over geologic time. They then explore how human activities have affected Earth's climate system, resulting in a warming trend over the past century. Students analyze how changes in climate can influence the vulnerabilities of ecosystems and human populations, and what behavioral and technological changes can be promoted to reduce humans' impact on climate change.