**Table 1: Culturally Relevant/Responsive Pedagogical Strategies for use with the 5E Lesson Plan**

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| 5E Stage | Culturally Relevant/Responsive Pedagogical Strategies |
| Engage | Teacher poses questions that access prior knowledge and allow *all* students to connect with previous relevant learning experiences.  Teacher utilizes relatable minority scientists to peak students’ curiosity about upcoming science lesson.  Students are provided thinking time before answering prior knowledge questions.  Accessing prior knowledge could be accomplished via writing exercises.  KWL charts used to access prior knowledge.  Teachers utilize equitable practices to call on students (randomly drawing popsicle sticks with names on them, etc.).  Teacher utilizes equitable practices related to gender, race, etc. |
| Explore/Elaborate | Learning environment is student-centered and collaborative.  Constructivist approaches to learning are utilized including inquiry-based investigation.  Learning experiences (investigations) are authentic and relevant to *all* students.  Teacher is available to help students make real-life connections between the content and their culture.  Collaborative and cooperative learning approaches are implemented.  Simulations are utilized.  Students are engaged in decision making.  Students pose problems.  Students utilize engineering design.  Students have input, choice, and voice.  All students are actively engaged.  Students may produce a product.  A variety of relevant resources are available that are inclusive to various cultures, beliefs., genders, etc. |
| Explain | Teacher creates class community in which *all* students’ contributions are heard and valued.  Teacher consults inclusive resources beyond the text so that all students can relate to the content and participate fully in the lesson.  Teacher cites related research conducted by members of underrepresented groups when applicable.  Teacher incorporates *all* students’ lived experiences, cultures, communities into the learning environment.  Curriculum/exploration promotes/provokes critical questions related to the status quo. Alternative points of view are presented as worthy of consideration.  Critical questioning and discussion are encouraged. |
| Evaluate | Teacher holds high learning expectations for *all* students.  Teacher connects assessment with students’ experiences, culture, frames of reference, and values.  Self- and peer- evaluation is utilized.  Criteria for evaluation are clearly communicated to students and rubrics are provided and fully explained.  Multiple types of assessments are provided (narrative, practical, grade contracts, etc.) and students have choice.  Assessment privacy is protected and respected. |