Orion Heat Shield Experiment

PROMISING PRACTICES

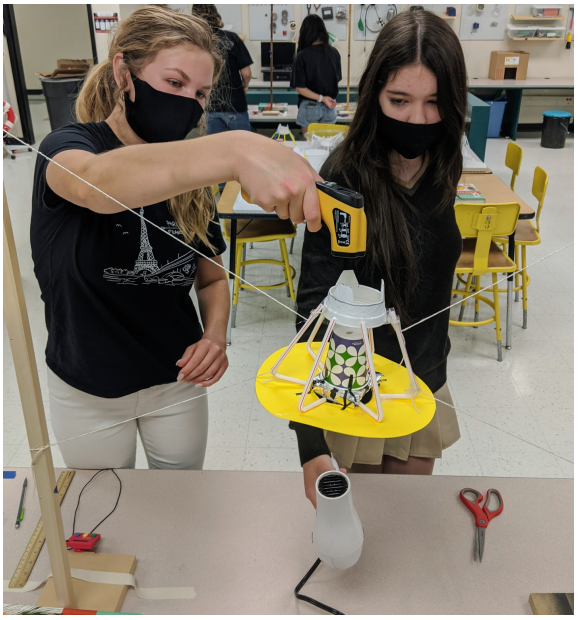
Office of the Maricopa County School Superintendent Steve Watson

WHAT IS IT?

After building a scale model of the crew capsule, Orion (which will be used in the upcoming Artemis missions) teams then designed and tested a heat shield, using an assortment of materials offered. Students added a Hershey's Kiss inside thier capsule, then simulated the heat and turbulence of reentry into Earth's atmosphere with a hairdryer. The goal was to keep the astronauts from melting, while being as budget-friendly as possible with materials. Items gathered from the STEM center were the emergency heat blankets and hairdryers.

IMPACT?

Students gained the opportunity to apply background knowledge to a real-world engineering problem, while having the flexibility to experiment and learn from failures and successes in a safe way. Hopefully students take away the concept of iteration, and that there is always room for improvement when working through the engineering design process.



TO LEARN MORE ABOUT THIS RESOURCE:

STEM Resource Center

Engineering Design Process

Guide to Selecting Items from the STEM Resource Center