



**THROUGH LIVELY DEMONSTRATIONS & HANDS-ON ACTIVITIES, PLASTIVAN<sup>®</sup> IS DESIGNED TO EXCITE STUDENTS ABOUT REAL-WORLD APPLICATIONS OF PLASTICS.**

*PlastiVan<sup>®</sup> explains the history, chemistry, processing, and sustainability of plastics in addition to describing the opportunities in science and engineering within the plastics industry.*

*PlastiVan<sup>®</sup> educators are skilled in tailoring the presentation to meet the needs and grade-level expectations of each classroom.*

## MIDDLE SCHOOL TOPICS

- History of polymers/plastics
- How your life is impacted by plastics
- What engineers and scientists do
- Major industries that use plastics
- Basic raw materials for plastics
- Biopolymers and sustainable materials
- Amorphous and crystalline polymer structure
- Manipulating amorphous polymer chains
- Injection molding and thermoplastics
- Bottle preforms and blow molding
- Thermoset plastics and crosslinking
- Open- and closed-foamed polymers
- Material selection in product design
- Hydrophilic, hydrophobic, & oleophilic polymers
- Crosslinked polymers and non-Newtonian fluids
- Reduce, Reuse, Recycle
- Chemical vs. Mechanical Recycling
- Marine Debris – Causes and Solutions
- Single-use item vs. single-use material

Curriculum aligns with Next Generation Science Standards

## PROGRAM GOALS



DEMONSTRATE THE BENEFITS OF PLASTICS IN EVERYDAY LIFE



EXCITE STUDENTS ABOUT CAREER PATHWAYS IN THE PLASTICS INDUSTRY



ENCOURAGE STUDENTS TO RECYCLE AT HOME AND SCHOOL



CHANGE THE PERCEPTION OF PLASTICS ONE CLASSROOM AT A TIME