9th-12th Grades: Engineering, Technology, and Applications of Science

Use modeling, investigation, and data to design, evaluate, and refine solutions to complex problems that can be solved through engineering; consider real-world criteria such as social, cultural, and environmental impacts in addition to constraints such as safety and reliability. WA.HS.ETS1

1. **Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants. [Climate] [ESE]** HS-ETS-1-1
2. **Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. [Climate] [ESE]** HS-ETS-1-2
3. **Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts. [Climate] [ESE]** HS-ETS-1-3
4. **Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem. [Climate] [ESE]** HS-ETS-1-4