

# STEM Technologies I

## Scope of Technology SCOPE

- 1 Describe the development of technology as a human activity that is the result of creatively meeting individual or collective needs. SCOPE1**
- 2 Explain the close link between technology and creativity and how it results in innovation. SCOPE2**
- 3 Describe technological systems, including input, processes, output, and feedback. SCOPE3**
- 4 Explain how technological systems can be connected to one another. SCOPE4**
- 5 Identify the difference between open loop and closed loop systems. SCOPE5**

## Technology and Society SOCIETY

- 6 Identify positive and negative ways the use of technology affects humans SOCIETY6**
- 7 Investigate the management of waste produced by technological systems as a societal issue. SOCIETY7**
- 8 Describe how technologies can be used to repair damage caused by natural disasters and to break down waste from various products and systems SOCIETY8**
- 9 Describe the development of a technology from the demands, values, and interests of employers SOCIETY9**
- 10 Identify inventions and innovations that have evolved through slow and methodical processes of testing and refinement. SOCIETY10**

## Design Process DES

- 11 Utilize the design process to produce products and systems. DES11**
- 12 Identify the steps of an engineering design process. DES12**
- 13 Identify criteria and constraints in a design. DES13**
- 14 Describe how the design process is used to develop solutions for a problem. DES14**
- 15 Describe the importance of documentation and how it is used to communicate ideas. DES15**
- 16 Model designs to transform ideas into practical solutions. DES16**

- 
- 17** Obtain, evaluate, and share information to support the assertion that there is no perfect design. **DES17**
- 
- 18** Practice brainstorming as a group problem-solving design process in which each person in the group presents ideas in an open forum. **DES18**
- 
- 19** Identify two-dimensional and three-dimensional representations of the design solution **DES19**
- 

**Digital Literacy** **LIT**

- 20** Describe the permanence of digital data and the importance of managing one's digital identity and reputation. **LIT20**
- 
- 21** Engage in positive, safe, legal, and ethical behaviors when using technology, including during social interactions online and when using networked devices. **LIT21**
- 
- 22** Identify research strategies to locate information and other resources for their intellectual and/or creative pursuits. **LIT22**
- 
- 23** Identify information from digital resources, using a variety of tools and methods to create a collection of artifacts that demonstrates meaningful connections or conclusions. **LIT23**
- 
- 24** Identify real-world issues, develop ideas, and pursue solutions to address the issues. **LIT24**