Virginia CTE

Introduction to Technology & Engineering (8481)

Introducing Technology	A	Define technology. I.A
	B	Identify historical examples of technology. I.B
	C	Identify how technologies have emerged through the use of engineering. I.C
	D	Research careers and the technologies used in them. I.D
Investigating the Effects of Technology	A	Describe how society affects technology and technology affects society. II.A
	B	Analyze how an invention or innovation was influenced by its historical context and future need.(Optional) II.B
	C	Identify emerging technologies.(Optional) II.C
	D	Predict future technological changes. II.D
Examining Resources of Technology	A	Identify resources used in technology and engineering. III.A
	B	Identify the six simple machines that make mechanical technology work. (Optional) III.B
	C	Differentiate between types of materials.(Optional) III.C
	D	Select materials based on their properties when designing a technology. (Optional) III.D
	E	Demonstrate the safe use of a minimum of three tools and/or pieces of equipment as part of the design process. III.E
	F	Explain the ethical and moral use of technologies. III.F
	G	Demonstrate types of measuring. III.G
	H	Create sketches and drawings. III.H
De		Describe the Virginia Department of Education (VDOE) engineering design process. IV.A

Skip to main content

	B Demonstrate the use of an engineering design process. IV.B
Using the Engineering Design Process	**A** Define the goal of a challenge. V.A
	B Design a device using criteria and constraints. V.B
	C Evaluate viable solutions. V.C
	D Select a solution. V.D
	E Plan the model or prototype. V.E
	F Produce a model or prototype. V.F
	G Assess the design. V.G
	H Describe how the solution could be improved. V.H
	I Communicate the results. V.I
	J Use the engineering design process as part of a team. V.J
Examining Systems (Optional)	**A** Illustrate how processes change inputs to outputs in any system. VI.A
	B Identify the parts of a system within a device. VI.B
Identifying the Contexts of Technology and Engineering	**A** Identify contexts of technology and engineering. VII.A
	B Describe the energy and power context of technology and engineering. (Optional) VII.B
	C Describe the medical and health-related technologies contexts of technology and engineering.(Optional) VII.C
	D Describe the agricultural and biological technologies contexts of technology and engineering.(Optional) VII.D
	E Describe the information and communication contexts of technology and engineering.(Optional) VII.E
	F Describe the built environment contexts of technology and engineering. (Optional) VII.F
	G Describe the transportation and logistics contexts of technology and engineering. (Optional) VII.G
	H Describe the material conversion and processing contexts of technology and engineering.(Optional) VII.H

Skip to main content

I Describe the computation, automation, AI, and robotics contexts of technology and engineering.(Optional VII.I