

Utah Foundations of Technology – Sample Report Profile

Standard #1 - Know and appreciate the importance of technology and how it impacts our lives.

A. Define technology in terms of the human process that satisfies needs and extends human capability.

- Analyzes data to select the most appropriate technology for a given problem.
- Outlines how satellite technology is used to gather weather data.
- Interprets the term Construction Technology.
- Identifies the role of Construction Technology.
- Recognizes how technology has changed drafting.
- Recognizes the impact of technology upon drafting.
- Defines the meaning of the term technology.
- Investigates the impact of technology on medical treatments.
- Recognizes the impact of technology on health.
- States the impact of technology on health.
- Describes different careers in biomedical technology.
- Writes a report on Construction Technology.
- Makes a presentation to a group on Construction Technology.
- Writes a report on Biomedical Technology.
- Makes a presentation to a group on Biomedical Technology.
- Writes a report on Aerodynamics Technology.
- Makes a presentation to a group on Aerodynamics Technology.
- Defines the term 'technology'.
- Examines propulsion systems used with space technology.
- Draws similarities and differences between model rocketry and space technology.
- States scientific principles of importance to space technology.
- Identifies the forces that are important in space technology.
- Describes support processes related to space technology.
- Evaluates the impact of space technology on society.
- Writes a report on Space Technology.
- Makes a presentation to a group on Space Technology.
- Extracts information about communications technology using a Web Browser.
- Investigates radar technology.
- Explores the benefits that new technology has brought to communication systems.
- Writes a report on Digital Sound Technology.
- Makes a presentation to a group on Digital Sound Technology.
- Extracts science and technology facts from an encyclopedia CD-ROM.
- Recognizes an application of mechanical technology.
- Writes a report on Industrial Control Technology.
- Makes a presentation to a group on Industrial Control Technology.
- Recognizes the contribution that electronics technology has made to society.
- Interprets text from a book relating to the application of electronics technology.
- States the impact transistors have made to electronics technology.
- States the changes Electronics Technology has made to society.
- Writes a report on Electronics Technology.

Makes a presentation to a group on Electronics Technology.
Explores car suspension system technology.
Writes a report on Automotive Technology.
Makes a presentation to a group on Automotive Technology.

B. Describe the system model by identifying resources, describing what is processed and identifying outputs and the role of feedback in the system.

Identifies the need to preserve existing energy resources and to find new methods of providing
Identifies a non-renewable energy resource.
Identifies the problems associated with non-renewable energy resources.
Researches computer networks using software and book resources.
Constructs an electronic circuit with feedback to monitor and react to temperature levels.
States the operation of individual components in a temperature controlled system with feedback.
Identifies the components providing feedback to a system.
Identifies Input, Process, Output and Feedback devices from a diagram.
Constructs a fully operational electronic circuit with feedback to monitor and react to temperature
Describes the action of an electronic system to monitor temperature and provide feedback from a motor controlled fan.

C. Understand trade-offs in terms of the outputs of technological systems.

Identifies the technological aspects of the evolution of industrial control.
States the technological advances in Industrial Control.
Recognizes how technology has changed drafting.
Recognizes the impact of technology upon drafting.
States the possible impact of transportation systems of the future.
States the possible impact of a full scale propeller driven maglev system.
Investigates the impact of technology on medical treatments.
Recognizes the impact of technology on health.
States the impact of technology on health.
Explores the impact of advertising on smoking.
Explores the impact of advertising on drinking.
Evaluates the impact of space technology on society.
States the impact transistors have made to electronics technology.
States the changes Electronics Technology has made to society.
Identifies the possible dangers of using nuclear energy.
States the dangers of smoking.
Describes the effects and dangers of excessive alcohol consumption.
Identifies the dangers of taking drugs.
Designs and creates a poster to inform the public the dangers of smoking tobacco.

D. Discuss relationships of technology and science.

Analyzes data to select the most appropriate technology for a given problem.
Extracts science and technology facts from an encyclopedia CD-ROM.
Outlines how satellite technology is used to gather weather data.
Defines the term 'technology'.
Defines the term 'technology'.
Recognizes the impact of technology upon drafting.
Investigates the impact of technology on medical treatments.
Recognizes the impact of technology on health.

States the impact of technology on health.
Describes different careers in biomedical technology.
States scientific principles of importance to space technology.
Draws similarities and differences between model rocketry and space technology.
Describes propulsion systems of importance to space technology.
Identifies the forces that are important in space technology.
Evaluates the impact of space technology on society.
Describes support processes related to space technology.
Extracts information about communications technology using a Web Browser.
Investigates radar technology.
Explores the benefits that new technology has brought to communication systems.
Recognizes the contribution that electronics technology has made to society.
Interprets text from a book relating to the application of electronics technology.
States the changes Electronics Technology has made to society.

E. Describe efficient uses of resources (i.e., the 4 Rs - reduce, recycle, reuse, renew).

Builds and tests a model car powered by solar energy.
Identifies two transducers used in the solar powered car.
Determines the most efficient number of blades for a wind-powered generator.
Identifies the processes involved when using nuclear energy to generate electricity.
Identifies the possible dangers of using nuclear energy.
Identifies the need to preserve existing energy resources and to find new methods of providing
Identifies a non-renewable energy resource.
Identifies criteria which will reduce the efficiency of a solar panel.
Examines how energy is produced by a nuclear power plant.
States the function of a solar panel transducer.
Identifies the correct energy flow in a nuclear power plant.
States dangers of nuclear energy.
Identifies the problems associated with non-renewable energy resources.
Calculates insulation efficiency.
Relates vehicle design to efficiency.

F. Describe both the positive and negative impacts of technology on our society. For example, discuss how technology has changed the society, culture, economy, medicine, education, the environment, space exploration and recreation.

Indicates that the use of fossil fuels harms the environment.
Identifies characteristics of the environment.
Identifies the function of CAD within society.
Recognizes the impact of technology upon drafting.
States the general uses of energy in society.
States the possible impact of transportation systems of the future.
States the possible impact of a full scale propeller driven maglev system.
Investigates the impact of technology on medical treatments.
Recognizes the impact of technology on health.
States the impact of technology on health.
Explores the impact of advertising on smoking.
Explores the impact of advertising on drinking.
Investigates the impact of orthotics and prosthetics on society.
Evaluates the impact of space technology on society.

Recognizes how environmental obstructions can block microwave signals.
Recognizes the contribution that electronics technology has made to society.
States the impact transistors have made to electronics technology.
Uses a capacitor as a time delay to develop the steady hand game.
Uses an oscilloscope to monitor the steady hand game circuit.
Describes the action of an electronic steady hand game circuit.
Constructs a fully functional electronic steady hand game, with a time delay and a reset switch.
States the changes Electronics Technology has made to society.
Evaluates suggestions for improvements to a tabletop game.
Extracts part information from a diagram to make a tabletop game.
Extracts material information from a table to make a tabletop game.
Calculates the number of parts needed for a tabletop game.
Designs a tabletop game using thermoplastic parts.
Examines the operation of an AM/FM radio cassette player.
Reads a storyboard to identify requirements for a music player slide.
Creates a slide for a movie player and inserts sound objects.
Select and applies object animation effects to enhance the appearance of a multimedia
Identifies the problems with placing people in space.
Identifies the problems with protecting people in space.
States scientific principles of importance to space technology.
States factors that are necessary to achieve space flight.
Describes support processes related to space technology.

G. Discuss the influence of technology on history such as the evolution of tools as an extension of human capability.

Explores the history of industrial control.
Discovers major milestones in the history of animation.
Interprets text describing milestones in the history of animation.
Examines the early history of motor car development.
Identifies the technological aspects of the evolution of industrial control.
Uses multimedia software to identify aspects of the evolution of Industrial Control.
Identifies the development of the internal combustion engine.
States the development of the transistor.

H. Identify common characteristics of current technologies (e.g., digital electronics) and discuss how they have impacted and changed our lives as consumers.

Defines climate characteristics for a holiday resort.
Identifies characteristics of a digital speech wave pattern.
Identifies the characteristics of a high volume low pitch sound.
Identifies characteristics of a compact disc track.
Identifies basic characteristics in the manual control of a robot.
Identifies characteristics of work envelopes and work spaces.
Identifies basic characteristics in the programmed control of a robot.
Recognizes characteristics of a model robot work-cell.
Identifies some key characteristics of robots.
Identifies some work-cell characteristics.
Describes characteristics of manufacturing systems.
Identifies characteristics of conventional photographic lenses.
Identifies characteristics of digital photographic equipment.

I. Identify human-made and natural resources used in modern technology.

- Identifies the need to preserve existing energy resources and to find new methods of providing
- Identifies a non-renewable energy resource.
- Identifies criteria which will reduce the efficiency of a solar panel.
- Identifies the problems associated with non-renewable energy resources.
- Builds and tests a model car powered by solar energy.
- Identifies two transducers used in the solar powered car.
- Identifies the processes involved when using nuclear energy to generate electricity.
- Identifies the possible dangers of using nuclear energy.
- Examines how energy is produced by a nuclear power plant.
- States the function of a solar panel transducer.
- Identifies the correct energy flow in a nuclear power plant.