

Name: _____

Block: _____

Date: _____

Introduction to Technology Module Report

Introduction: This module is essential for building students’ technological literacy, which includes understanding the nature of technology and the impact it has on students’ lives. Students learn how to appropriately use technological devices and processes, the steps involved in the design process, problem-solving strategies, the Technology Systems Model and Technological Developments. Technological literacy is a necessary foundation to ensure effective and meaningful learning throughout the technology-specific modules. With this foundation, students can better understand the significance of each technology discipline and to develop solid technical skills.

Module Details: This module is essential for building students’ technological literacy, which includes understanding the nature of technology and the impact it has on students’ lives. Students learn how to appropriately use technological devices and processes, the steps involved in the design process, problem-solving strategies, the Technology Systems Model and Technological Developments. Technological literacy is a necessary foundation to ensure effective and meaningful learning throughout the technology-specific modules. With this foundation, students can better understand the significance of each technology discipline and to develop solid technical skills.

Module Hints:

- Take notes on module lessons, and use them on module lessons quizzes and post tests.
- Retake anything that you get a bad grade on!!!

Module Grades:

1. Pretest: Students will receive a 100 for taking the pretest.
2. Workbook grades are taken from the average of lesson quizzes.
3. Post Test use notes to take post tests. Post test maybe retaken.
4. Module Report: needs to be completed before module will be graded

GRADE DESCRIPTION	%
Pretest Score:	
Work Book Assignments	
The Power of Technology:	
The Universals of Technology:	
Understanding the Processes:	
Technological Knowledge:	
Technological Contexts:	
Work Book Score:	
Post Test Score:	

Lesson 1: The Power of Technology

Students gain an understanding of the nature of technology and explore the importance for people to obtain the ability to use, manage and understand technology.

Activity Title: What is Technology?

Student Task: Learn that Technology is using knowledge to develop products and systems that satisfy needs, solve problems, and increase our capabilities.

Activity Title: Technological Change

Student Task: Identify the different time periods that have been identified based on the use of materials to apply technology

Activity Title: The Benefits of Technology

Student Task: Learn about the benefits of technology

Activity Title: The Importance of being Technologically Literate

Student Task: Learn that technologically literate people understand how processes work, and how products are made.

Activity Title: Exercise

Student Task: Complete the exercises

Activity Title: Activity

Student Task: Develop a timeline of important technological developments made in the communication Technological system.

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Lesson Hotspots: Take notes on these items.

Needs	
Technology	
Computer	
Paleolithic	
Mesolithic	
Neolithic	
Tools	
Control of Fire	
Pottery	
Wheel	
Metal	
Bronze	
Invented	
Steam Power	
Craft based technology	
Science based technology	
Manufacturing Society	
Mass Production	
Technological Change	
Advances in technology	
Grow their own food	
New Materials	
Communication systems	

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Leisure Activities	
Technological Literate	
Informed Decisions	

Lesson 2: The Universals of Technology

Students begin to explore the universals of technology -- processes, knowledge and context -- and learn that one cannot exist without the other.

Problem Solving Activity: Student will work as a scientist to design a plant or animal

Activity Title: Identifying the Universals of Technology

Student Task: Learn that technology has a process, knowledge, and context base that is definable and universal.

Activity Title: Processes, Knowledge, and Contexts of Technology

Student Task: Learn what the process, knowledge, and context are for the universals of technology.

Activity Title: Solving Technological Problems

Student Task: Identify the seven steps in problems solving. View a short video of solving problems using the design process.

Activity Title: Activity

Student Task: Using the design process complete the problem solving activity.

Lesson Hotspots: Take notes on these items.

The processes	
Knowledge	
Context	
Describe the problem	
Design brief	
Gather information	
Alternative solutions	
Best solution	
Implement the solution	
Evaluate the solution	
Beneficial	

Lesson 3: Understanding the Processes

Students learn the processes for the universals of technology:

- ✓ designing and developing technological systems
- ✓ Determining and controlling the behavior of technological systems.
- ✓ utilizing technological systems
- ✓ Assessing the impact and consequences of technological systems.

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Activity Title: Designing Technological Systems

Student Task: Learn the processes and resources involved in designing technological systems.

Activity Title: Activity

Student Task: Think of at least one system that produces several outputs. Identify the outputs as desirable, undesirable, expected, or unexpected.

Activity Title: Activity

Student Task: Using the design process complete the problem solving activity.

Problem Solving Activity: *The student will think of at least one system that produces several outputs and identify the outputs as desirable, undesirable, expected, or unexpected.*

Lesson Hotspots: Take notes on these items.

System	
Inputs	
Process	
Output	
Feedback	
System	
People	
Information	
Materials	
Machines	
Energy	
Money	
Time	

Lesson 4: Technological Knowledge

Students explore the technological knowledge for the universals of technology -- nature and evolution of technology, linkages, and technological concepts and principles – and discover how technological processes are developed, applied and used.

Activity Title: Impacts of Technological Knowledge

Student Task: Learn that the impact of technology change was very small over the first several thousand years, and its effect on society was minimal until the time of the Machine age.

Activity Title: Design Solutions

Student Task: Learn that designing is a process used to plan and produce a desired result.

Activity Title: Social and Environmental Concerns

Student Task: Learn that the impact of technology has affected social organization, values, and lifestyles.

Activity Title: Activity

Student Task: Using the design process complete the problem solving activity.

Problem Solving Activity: *The student will gather anthropometric data and use it to design a bike helmet*

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Lesson Hotspots: Take notes on these items.

Needs	
Machine Age	
Theories	
Cross-field Applications	
Functionality	
Quality	
Safety	
Ergonomics	
Aesthetics	
Shape	
Line	
Texture	
Color	
Proportions	
Balance	
Unity	
Rhythm	

Lesson 5: Technological Contexts

Students examine the three categories of the technological contexts for the universals of technology: informational systems, physical systems and biological systems.

Activity Title: Informational Systems

Student Task: Learn that informational systems deal with processing, storing, and using data

Activity Title: Physical Systems

Student Task: Learn that physical systems are systems that are tangible and made of physical resources. View a video on how the seven resources of technology are used in the Manufacturing system to make a product.

Activity Title: Exercise

Student Task: Complete the Exercise

Activity Title: Activity

Student Task: Think of ways that an existing product can be improved.

Activity Title: Biological Systems

Student Task: Learn that Biological Systems use living organisms to make products and to improve humans, plants, or animals.

Problem Solving Activity: *The student will think of ways that an existing product can be improved.*

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Lesson Hotspots: Take notes on these items.

Systems	
Information age	
People and machines	
Machines	
Communication system	
Computer network	
Manufacturing	
Construction	
Resources of technology	
Production system	
Natural structures	
Human-made structures	
Loads	
Forces	
Vehicles	
Subsystems	
Biotechnology	
Biotechnical systems	
Genetic engineering	
Bioprocess	
Antibody production	
Technology	