

COURSE: 7TH GRADE TECHNOLOGY

Grade Level: 7

MAIN/ GENERAL TOPIC	SUB-TOPIC:	ESSENTIAL QUESTIONS:	WHAT THE STUDENTS WILL KNOW:	WHAT THE STUDENT WILL BE ABLE TO DO:	Assessments:	WHEN STUDENT DOES IT:
Design and Engineering	Basic design elements Engineering principles Set up and using the West Point Bridge Program	How does technology impact society in design and engineering	Basic styles of bridge design Basic engineering principles Design techniques within a computer assisted program	Examine and apply basic design techniques Engineer simple bridge structures both on paper and electronically	Tests The development of different bridge designs	(SEMESTER 1)
Basic Drawing Environment	Drawing and template set-ups Auto-CAD display Draw and modify commands	What is the basis of drawing in Auto-CAD	The basic drawing environment The basic Auto-CAD commands and applications	Create a basic drawing template Create basic Auto-CAD drawings	Develop a template Create a scaled grid for a bridge design	(SEMESTER 1)
Create a bridge design	Set-up and using layers Bridge side design Bridge roadbed design	How is a design created with in a scaled grid	How to keep designs simple but strong How layers are used Designing with-in given parameters	Create and move between layers Use basic Auto-CAD commands to create designs	Design techniques applied to bridge project	(SEMESTER 1)
Plotting	Move from model to paper space Scale drawings	How is a scaled hard copy created	Plotting to scale Inserting data into paper space	Move from model to paper space Scale drawings Set-up and use plotting format	Create hard copy patterns	(SEMESTER 1)
Build scaled from pattern	Using a pattern Using cutting tools Assembly Gluing Safety rules and techniques	Why and how is a scaled model constructed	How to use a pattern How to work safely How to layout and cut angles How to assemble parts to a finished product	Layout a pattern Cut, glue, and assemble scaled models	Build a scale model bridge	(SEMESTER 2)
Model testing	Set up testing machine Calculate efficiency Run test	How does model testing fit into product development	How to set-up testing equipment Using testing equipment How to use test results in product development	Set-up bridge tester Run tests on there bridge Use results of the test to calculate the efficiency rate of there bridge	Efficiency rate compared to over all class results	(SEMESTER 2)

Research report on inventors	Selection of inventor Background of inventor Description of invention Impact on society today	How does past inventors and their inventions effect us today	Basic structure of a research paper How to use different research tools The importance of inventors on society	Basic research using sources from the internet, books, and periodicals Writing a research paper in format	Review of finished report	(SEMESTER 2)
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