

Independent School District of Boise City

Technology – Exploring Construction

Course No. 1603

Course Description:

Open to: 8 One Semester Course

Prerequisite: None

Lab Fees: \$8.00

Content: Students will be introduced to the principles of the construction industry and how construction meets the needs of society. Opportunities to perform activities that relate specifically to the construction industry will include problem solving, computer drafting, and building construction. Lab activities may include critical load testing with paper, wood, straws and spaghetti. Construction activities may include towers, bridges, trusses, scale model structures, futuristic homes. Construction careers will be researched and presented.

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DESCRIPTION	TIME	APPENDIX
*Note: It is recommended that the topics and activities be presented in the order they are listed here. As written, this curriculum runs 17 weeks (leaving one week for finals).		
UNIT 1 – DRAWING AND DRAFTING	<i>5 DAYS</i>	
Drafting tools		
ACTIVITY: Drafting tools worksheet	20 min	A
ACTIVITY: Measuring worksheet	20 min	B
Pictorial drawings		
Multiview drawings		
Perspective drawing		
ACTIVITY: Pictorial drawing	1 day	C
ACTIVITY: Multiview drawing	1 day	C
ACTIVITY: Perspective drawings	2 days	D-F
UNIT 2 – TOOLS and SAFETY	1 day	
UNIT 3 – WOOD and WOOD PROJECTS	5 days	G
UNIT 4 – STRUCTURAL DESIGN	<i>1 DAY</i>	
Loads – dead loads, live loads, dynamic loads, wind loads	15 min	
Forces – compression, tension, shear, torsion	15 min	
Structural systems – substructure, structure, superstructure	5 min	
ACTIVITY: Structure worksheet	5 min	H
UNIT 5 – TYPES OF CONSTRUCTION	<i>61 DAYS</i>	
Infrastructure – roads, bridges, sidewalks, tunnels, dams		
ACTIVITY: Examples of Infrastructure Construction	5 min	I
Bridge uses, history, and types	10 min	
ACTIVITY: Bridge Basics worksheet	30 min	J

ACTIVITY: West Point Bridge design computer program	1 day	K
ACTIVITY: Manila folder bridge construction	5 days	L
ACTIVITY: Toothpick truss bridge	5 days	M
ACTIVITY: Balsa wood bridges	5 days	N
Residential – homes, garages, decks, fences		
ACTIVITY: Examples of Residential Construction	10 min	O
ACTIVITY: Popsicle stick fence construction	2 days	P
ACTIVITY: Popsicle stick deck construction	3 days	Q
ACTIVITY: <i>Homes of Our Own</i> computer program	5 days	R
ACTIVITY: Using C.A.D. to digitize your current home	5 days	S
ACTIVITY: Using C.A.D. to design a vacation home	2 days	T
ACTIVITY: Using C.A.D. to design your dream home	3 days	U
ACTIVITY: Building a scale model of your vacation home	5 days	V
Commercial – Buildings/skyscrapers, banks, restaurants, Parking garages, airports, stores, monuments		
ACTIVITY: Examples of Commercial Construction	5 min	W
ACTIVITY: Paper tower	40 min	X
ACTIVITY: Skyscrapers Basics	45 min	Y
ACTIVITY: Great Towers in the Sky video	45 min	Z
ACTIVITY: Simtower computer simulation	5 days	AA
ACTIVITY: Scale model of a famous structure or monument	5 days	BB
UNIT 7 – CREATIVITY AND ARTISTRY IN CONSTRUCTION	15 DAYS	
ACTIVITY: The top 10 most beautiful structures in the world	5 days	CC
ACTIVITY: Rube Goldberg Machine	10 days	DD
Supplies and Vendors		EE
End of Course Exam	90 min	FF