Construction Technology III – Grades 9-12

Unit: 1	**Woodworking Safety**
Big Ideas:	Students actively and skillfully interpret, analyze, evaluate, synthesize, and apply information
Unit Essential Questions:	What are the safety procedures for working in a wood lab? What are the proper ways to handle hand tools? Why is machine safety so important?

Concept & Pacing	New Emphasis (Pa Core Standard)	Key Vocabulary	Mini-Lessons/Activities	Instructional Materials	Assessments
PPE General Safety Rules Hand tools Corded/cordless Equipment Planing Machines Circular Saws Band Saw, Scroll Saw, & Saber Saw Drill Press Router & Shaper Sanding Machines Tool Care Modern Woodworking Text Book Chapter 3, 13-19, & 33. (4-5 Weeks)	3.4.10.E7. 3.4.10.E2. 3.4.10.D3. 3.7.4.B. 3.7.7.B. 3.7.10. A. 3.7.12.A.	PPE Safety Glasses Hand Tools Wrench Clamps Hammer Clean Sharp & Dull Blade Bit Jointer Planer Push pad Push Stick Table Saw Radial Arm Saw Miter Saw Band Saw Scroll Saw Drill Press Sander Router Shaper Guards Miter gauge Fence Chuck Key V block Abrasives	Large group direct instruction Class discussions Guided reading Related woodworking videos Equipment demonstrations Group work- Problem solving activities	General Wood Lab resources Modern Woodworking Text Book Woodworking videos Woodworking machines Handouts Internet	Quizzes and tests: M/C, T/F, Matching, short answer. Participation daily grade Homework Safety Video Worksheets

Unit: 2	**Woodworking Joints**

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Big Ideas:	Students actively and skillfully interpret, analyze, evaluate, synthesize, and apply information
Unit Essential Questions:	What are wood joints? What wood joints can be applied to your project? What are the pros and cons of each joint?

Concept & Pacing	New Emphasis (Pa Core Standard)	Key Vocabulary	Mini-Lessons/Activities	Instructional Materials	Assessments
Types of joints Butt joint Dado & Rabbet joint Biscuit joint Dowel joint Mortise & Tenon joint Box & Finger joint Miter joint Dovetail joint Kreg joint and jig Fasteners Modern Woodworking Text Book Chapter 7. (3-4 Weeks)	3.4.10.E7. 3.4.10.E2. 3.4.10.D3. 3.7.4.B. 3.7.7.B. 3.7.10. A. 3.7.12.A.	Butt joint Dado joint Rabbet joint Mortiser Mortise Tenon Biscuit joint Dowel jig Dado saw Dovetail jig Dovetail joint	Large group direct instruction Class discussions Guided reading Related woodworking videos Equipment demonstrations Group work- Problem solving activities	General Wood Lab resources Modern Woodworking Text Book Woodworking videos Woodworking machines Handouts Internet	Quizzes and tests: M/C, T/F, Matching, short answer. Participation daily grade Homework Safety Video Worksheets

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Unit: 3	**Drawer and Door Construction**				
Big Ideas:	Students actively and skillfully interpret, analyze, evaluate, synthesize, and apply information				
Unit Essential Questions:	How are drawers constructed in furniture? How are carcass and cabinets assembled in production?				
Concept & Pacing	**New Emphasis (Pa Core Standard)**	**Key Vocabulary**	**Mini-Lessons/Activities**	**Instructional Materials**	**Assessments**
Assembling panels Installing shelves Drawers Drawer guides Doors Raised Panels Modern Woodworking Text Book Chapter 21-22. (3-4 Weeks)	3.4.10.E7. 3.4.10.E2. 3.4.10.D3. 3.7.4.B. 3.7.7.B. 3.7.10. A. 3.7.12.A.	Box Chest Case Carcass Frame Legs Panels Shelves Hardware Hinges Knobs Drawers Guides Rails Overlays	Large group direct instruction Class discussions Guided reading Related woodworking videos Equipment demonstrations Group work- Problem solving activities	General Wood Lab resources Modern Woodworking Text Book Woodworking videos Woodworking machines Handouts Internet	Quizzes and tests: M/C, T/F, Matching, short answer. Participation daily grade Homework Safety Video Worksheets

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Unit: 4	**Manufacturing and Mass Production**				
Big Ideas:	Students actively and skillfully interpret, analyze, evaluate, synthesize, and apply information				
Unit Essential Questions:	What are the advantages and disadvantages to the different types of manufacturing processes? How are materials recorded, inspected, and stored in mass production?				
Concept & Pacing	**New Emphasis (Pa Core Standard)**	**Key Vocabulary**	**Mini-Lessons/Activities**	**Instructional Materials**	**Assessments**
Patterns Jigs vs. fixtures Go /NoGo gauges Market research Flow chart Inspection points Records and evaluations Modern Woodworking Text Book Chapter 32, 34, & 36. (4-6 Weeks)	3.4.10.E7. 3.4.10.E2. 3.4.10.D3. 3.7.4.B. 3.7.7.B. 3.7.10. A. 3.7.12.A.	Patterns Templates Jigs Fixtures Clamps Assembly Inspection Gauges Research Engineer Flow charts Procedure Production line Records Industry	Large group direct instruction Class discussions Guided reading Related woodworking videos Equipment demonstrations Group work- Problem solving activities Manufacturing production run Job assignments	General Wood Lab resources Modern Woodworking Text Book Woodworking videos Woodworking machines Handouts Internet	Quizzes and tests: M/C, T/F, Matching, short answer. Participation daily grade Homework Safety Video Worksheets Production run Flow charts

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Unit: 5	**Preparing to Finish**
Big Ideas:	Students actively and skillfully interpret, analyze, evaluate, synthesize, and apply information
Unit Essential Questions:	What types of fasteners are used for assembling projects? How should projects be sanded and prepared for a finish coat? What are the differences in finishes and how should they apply to your project?

Concept & Pacing	New Emphasis (Pa Core Standard)	Key Vocabulary	Mini-Lessons/Activities	Instructional Materials	Assessments
Assembling with adhesives Types of wood fasteners Sanding and preparing wood Finishes and finishing. Modern Woodworking Text Book Chapter 9-12. (3-4 Weeks)	3.4.10.E7. 3.4.10.E2. 3.4.10.D3. 3.7.4.B. 3.7.7.B. 3.7.10. A. 3.7.12.A.	Adhesives Cements Glue Epoxy Resin Filler Dry fitting Clamps Glue joints Hammers Nails Brads Wood screws Screw drivers Phillips Flat head Pilot Counter sink Counter bore Plugs Buttons Braces Staples Air powered Bolts Nuts Washers Abrasives Grit Sanding Scrapers Repairs Indoor finish Outdoor finish Food grade finish Stain Polish Wax Primer Paint Latex	Large group direct instruction Class discussions Guided reading Related woodworking videos Equipment demonstrations Group work- Problem solving activities	General Wood Lab resources Modern Woodworking Text Book Woodworking videos Woodworking machines Handouts Internet	Quizzes and tests: M/C, T/F, Matching, short answer. Participation daily grade Homework Safety Video Worksheets

		Oil Brushes Dents Solvents Acetone Mineral spirits Lacquer Polyurethane			