

# Y3 Q4 Unit 13 Cabinet Installation and Intro to Construction Equipment

Content Area: **Integrated Technical Arts**  
Course(s): **Building and Construction: Building Technology**  
Time Period: **April**  
Length: **11 Weeks**  
Status: **Published**

## Unit Overview:

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In this unit of study, students will explore the use of hand tools and become acclimated to their applications in and around the home.

- Personal and lab safety will be emphasized as various tools are introduced into lab sessions.
- Students will engage in career research relative to this unit of study.
- Environmentally friendly themes are discussed in this unit.

## Aproxamate Time Frame

- **Week 1: Cabinet Installation Safety**
- **Week 2: Types of Cabinets**
- **Week 3-4: Cabinet Components and Hardware**
- **Week 5-8: Installing Cabinets**
- **Week 9: Introduction to Construction Equipment**
- **Week 10-11: Safe Operation and use of Construction Equipment**

- Environmentally friendly themes are discussed in this unit.
- In this unit of study, students will explore the use of hand tools and become acclimated to their applications in and around the home. Personal and lab safety will be emphasized as various tools are introduced into lab sessions. Students will engage in career research relative to this unit of study. Environmentally friendly themes are discussed in this unit.
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## Enduring Understandings:

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Through the delivery of the unit outlined above, students will understand:

- the contractual relationships between all parties involved in the building process.
- scheduling practices which ensure the successful completion of a construction project.
- the importance of maintaining jobsite safety.
- how to safely use and maintain appropriate tools, machinery, equipment and resources to accomplish construction project goals.
- troubleshooting procedures when solving a maintenance problem in buildings.
- the importance of preventative maintenance activities to service existing buildings.

## **Essential Questions:**

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What are the safety concerns to be considered when working in a lab setting in school or on the job?

What protection can be used in a laboratory environment? What should be part of an effective safety program?  
What characteristics are essential to a functional team?

What are the benefits of working in a team environment as opposed to individually?

Why is planning an important aspect to project work?

How does planning influence efficiency?

Why is planning vital to material usage and construction?

How is the design of a product influenced by planning?

## **Standards/Indicators/Student Learning Objectives (SLOs):**

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- 9.3.12.AC-CST.1 Describe contractual relationships between all parties involved in the building process.
- 9.3.12.AC-CST.2 Describe the approval procedures required for successful completion of a construction project.
- 9.3.12.AC-CST.3 Implement testing and inspection procedures to ensure successful completion of a construction project.
- 9.3.12.AC-CST.4 Apply scheduling practices to ensure the successful completion of a construction project.
- 9.3.12.AC-CST.5 Apply practices and procedures required to maintain jobsite safety.
- 9.3.12.AC-CST.6 Manage relationships with internal and external parties to successfully complete construction projects.
- 9.3.12.AC-CST.7 Compare and contrast the building systems and components required for a construction project.
- 9.3.12.AC-CST.8 Demonstrate the construction crafts required for each phase of a construction project.
- 9.3.12.AC-CST.9 Safely use and maintain appropriate tools, machinery, equipment and resources to accomplish construction project goals.
- PATHWAY: CONSTRUCTION (AC-CST)

## **Lesson Titles:**

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- Cabinet Installation Safety
- Tool and Equipment Safety
- Types of Cabinets
- Cabinet Islands
- Woods and Materials used in Making Cabinets
- Cabinet Doors
- Cabinet Drawers
- Hinges
- Door Catches
- Knobs and Pulls
- Cabinet Shelf Hardware
- Installing Cabinets
- Construction Equipment Safety Precautions
- Aerial Lifts
- Skid Steer Loader
- Generators
- Air Compressors
- Compaction Equipment
- Forklifts
- Backhoe

## **Career Readiness, Life Literacies, & Key Skills:**

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|                  |                                                                                                                                                                                                                        |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TECH.9.4.12.CI.1 | Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g., 1.1.12prof.CR3a).                                                                                                                |
| TECH.9.4.12.CI.2 | Identify career pathways that highlight personal talents, skills, and abilities (e.g., 1.4.12prof.CR2b, 2.2.12.LF.8).                                                                                                  |
| TECH.9.4.12.CI.3 | Investigate new challenges and opportunities for personal growth, advancement, and transition (e.g., 2.1.12.PGD.1).                                                                                                    |
| TECH.9.4.12.CT   | <p>Critical Thinking and Problem-solving</p> <p>Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.</p> |

## **Equity Considerations**

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## **Climate Change**

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Topic: Sustainable construction equipment

Materials Used: <https://www.conexpoconagg.com/news/sustainable-technology-on-construction-equipment>

Addresses the Following Component of the Mandate:

- Economic
- Political
- Social

## **LGBT and Disabilities Mandate**

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Topic: Tools for accessibility for people with disabilities

Materials Used: <https://hcbsprovider.com/assistive-devices-and-tools-for-people-with-disabilities/>

Addresses the Following Component of the Mandate:

- Economic
- Political
- Social

## **Holocaust Mandate**

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Topic: Women in the workplace

Materials Used: <https://www.constructyourfuture.com/blog/breaking-the-bias-women-in-construction>

Addresses the Following Component of the Mandate:

- Bias
- Bigotry
- Bullying
- Holocaust Studies

- Prejudice

## **Asian American Pacific Islander Mandate**

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Topic: AAPI in Construction

Materials Used: <https://buildcalifornia.com/news/asian-american-voices-in-construction/>

Addresses the Following Component of the Mandate:

- Economic
- Political
- Social

## **Amistad**

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### **Inter-Disciplinary Connections:**

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|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAEP.9.2.12.C   | Career Preparation                                                                                                                                                                  |
| CAEP.9.2.12.C.1 | Review career goals and determine steps necessary for attainment.                                                                                                                   |
| CAEP.9.2.12.C.2 | Modify Personalized Student Learning Plans to support declared career goals.                                                                                                        |
| CAEP.9.2.12.C.3 | Identify transferable career skills and design alternate career plans.                                                                                                              |
| CAEP.9.2.12.C.4 | Analyze how economic conditions and societal changes influence employment trends and future education.                                                                              |
| CAEP.9.2.12.C.5 | Research career opportunities in the United States and abroad that require knowledge of world languages and diverse cultures.                                                       |
| CAEP.9.2.12.C.6 | Investigate entrepreneurship opportunities as options for career planning and identify the knowledge, skills, abilities, and resources required for owning and managing a business. |
| CAEP.9.2.12.C.9 | Analyze the correlation between personal and financial behavior and employability.                                                                                                  |

### **Instructional Strategies, Learning Activities, and Levels of Blooms/DOK:**

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Direct Instruction

Structured Overview

Lecture

Explicit Teaching  
Drill & Practice  
Compare & Contrast  
Didactic Questions  
Demonstrations  
Guided & Shared - reading, listening, viewing, thinking

#### Interactive Instruction

Debates  
Role Playing  
Panels  
Brainstorming  
Peer Partner Learning  
Discussion

#### Laboratory Groups

think pair share  
Cooperative Learning Groups  
Jigsaw  
Problem solving  
Structured Controversy

#### Tutorial Groups

Interviewing  
Conferencing  
Indirect Instruction  
Problem Solving  
Case Studies  
Reading for Meaning  
Inquiry  
Reflective Discussion  
Writing to Inform  
Concept Formation  
Concept Mapping  
Concept Attainment  
Cloze Procedure

#### Independent Study

Essays  
Computer Assisted Instruction  
Journals

Learning Logs  
 Reports  
 Learning Activity Packages  
 Correspondence Lessons  
 Learning Contracts  
 Homework  
 Research Projects  
 Assigned Questions  
 Learning Centers

## Experiential Learning

Field Trips  
 Narratives  
 Conducting Experiments  
 Simulations  
 Games  
 Storytelling  
 Focused Imaging  
 Field Observations  
 Role-playing  
 Model Building  
 Surveys

## Instructional Skills

Explaining  
 Demonstrating  
 Questioning  
 Questioning Technique  
 Wait Time  
 Levels of Questions

## Hess' Cognitive Rigor Matrix & Curricular Examples: Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions?Math/Science

| <ul style="list-style-type: none"> <li>Revised Bloom's Taxonomy</li> </ul>                           | Webb's DOK Level 1                                                                                                                                                                                             | Webb's DOK Level 2 |
|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
|                                                                                                      | Recall & Reproduction                                                                                                                                                                                          | Skills & Concepts  |
| <b>Remember</b><br><br>Retrieve knowledge from long-term memory, recognize, recall, locate, identify | <ul style="list-style-type: none"> <li>Recall, observe,? &amp; recognize facts,? principles, properties</li> <li>Recall/ identify conversions among representations or numbers (e.g., customary and</li> </ul> |                    |

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|                                                                                                                                                                                                                                                                                                 | metric measures)                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                   |
| <b>Understand</b><br><br>Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion (such as from examples given), predict, compare/contrast, match like ideas, explain, construct models | <ul style="list-style-type: none"> <li>○ Evaluate an expression</li> <li>○ Locate points on a grid or number on number line</li> <li>○ Solve a one-step problem</li> <li>○ Represent math relationships in words, pictures, or symbols</li> <li>○ Read, write, compare decimals in scientific notation</li> </ul>                                                                   | <ul style="list-style-type: none"> <li>○ Specify and relationships (e. examples/examp</li> <li>○ Make and re observations</li> <li>○ Explain steps</li> <li>○ Summarize r concepts</li> <li>○ Make basic i logical predictio data/observation</li> <li>○ Use models / represent or exp mathematical cc</li> <li>○ Make and expla</li> </ul>       |
| <b>Apply</b><br><br>Carry out or use a procedure in a given situation; carry out (apply to a familiar task), or use (apply) to an? unfamiliar task                                                                                                                                              | <ul style="list-style-type: none"> <li>○ Follow simple procedures (recipe-type directions)</li> <li>○ Calculate, measure, apply a rule (e.g., rounding)</li> <li>○ Apply algorithm or formula(e.g., area, perimeter)</li> <li>○ Solve linear equations</li> <li>○ Make conversions among representations or numbers, or within and between customary and metric measures</li> </ul> | <ul style="list-style-type: none"> <li>○ Select a procedu to criteria and p</li> <li>○ Solve routine pr applying multip decision points</li> <li>○ Retrieve inform table, graph, or it solve a proble multiple steps</li> <li>○ Translate betwe graphs, words, &amp; notations (e.g., from a table)</li> <li>○ Construct mode criteria</li> </ul> |
| <b>Analyze</b><br><br>Break into constituent parts, determine how parts relate, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct                                                                                           | <ul style="list-style-type: none"> <li>○ Retrieve information from a table or graph to answer a question</li> <li>○ Identify whether specific information is contained in graphic representations (e.g.,table, graph, T-chart, diagram)</li> <li>○ Identify a pattern/trend</li> </ul>                                                                                              | <ul style="list-style-type: none"> <li>○ Categorize, clas materials, data, on characteristic</li> <li>○ Organize or ord</li> <li>○ Compare/ contra data</li> <li>○ Select appropria and organize &amp;</li> <li>○ Interpret data fro graph</li> <li>○ Extend a pattern</li> </ul>                                                                 |
| <b>Evaluate</b><br><br>Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                   |

# Create

Reorganize elements into new patterns/structures, generate, hypothesize, design, plan, construct, produce

- Brainstorm ideas, concepts, or perspectives related to a topic

- Generate conjectures, hypotheses based on observations or knowledge and

## Modifications

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### ELL Modifications:

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- Choice of test format (multiple-choice, essay, true-false)
- Continue practicing vocabulary
- Provide study guides prior to tests
- Read directions to the student
- Read test passages aloud (for comprehension assessment)
- Vary test formats

### IEP & 504 Modifications:

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- Allow for redos/retakes .
- Assign fewer problems at one time (e.g., assign only odds or evens) .
- Differentiated center-based small group instruction .
- Extra time on assessments .
- Highlight key directions .
- If a manipulative is used during instruction, allow its use on a test .
- Opportunities for cooperative partner work .
- Provide reteach pages if necessary .
- Provide several ways to solve a problem if possible .

- Provide visual aids and anchor charts .
- Test in alternative site .
- Tiered lessons and assignments .
- Use of a graphic organizer .
- Use of concrete materials and objects (manipulatives) .
- Use of word processor .

### **G&T Modifications:**

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- Alternate assignments/enrichment assignments
- Enrichment projects
- Extension activities
- Higher-level cooperative learning activities
- Pairing direct instruction with coaching to promote self-directed learning
- Provide higher-order questioning and discussion opportunities
- Provide texts at a higher reading level
- Tiered assignments
- Tiered centers

### **At Risk Modifications**

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- Additional time for assignments
- Adjusted assignment timelines
- Agenda book and checklists
- Answers to be dictated
- Assistance in maintaining uncluttered space
- Books on tape
- Concrete examples
- Extra visual and verbal cues and prompts
- Follow a routine/schedule
- Graphic organizers
- Have students restate information
- No penalty for spelling errors or sloppy handwriting
- Peer or scribe note-taking
- Personalized examples
- Preferential seating
- Provision of notes or outlines
- Reduction of distractions
- Review of directions

- Review sessions
- Space for movement or breaks
- Support auditory presentations with visuals
- Teach time management skills
- Use of a study carrel
- Use of mnemonics
- Varied reinforcement procedures
- Work in progress check

### **Formative Assessment:**

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Unit formative assessments are drawn from, but not limited to:

- Conferences between the instructor and student at various points in the semester.
- Homework exercises as review for exams and class discussions.
- In-class activities where students informally present their results.
- Observations during in-class activities; of students' non-verbal feedback during lecture.
- Question and answer sessions, formal—planned and informal—spontaneous.
- Reflections journals that are reviewed periodically during the semester.
- Student feedback collected by periodically answering specific question about the instruction and their self-evaluation of performance and progress.

### **Alternative Assessment**

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Performance tasks

Project-based assignments

Problem-based assignments

Presentations

Reflective pieces

Concept maps

Case-based scenarios

Portfolios

## **Benchmark Assessment**

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Skills-based assessment

Reading response

Writing prompt

Lab practical

## **Summative Assessment:**

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Summative assessments are related specifically to material covered in the current unit of study.

- Final examination (a truly summative assessment).
- Instructor self-evaluation.
- NCCER Module Exams
- Performance profile exam
- Performances, Speeches, Critiques.
- Projects (project phases submitted at various completion points could be formatively assessed).
- Quiz, Test, MP Assessment.
- Student evaluation of the course (teaching effectiveness).

## **Resources & Materials:**

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NCCER Contren Learning Series

- Construction Technology 4th Edition
- Core Curriculum 5th Edition
- Instructional videos from various sources
- Power Tools as Needed

## **Technology:**

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- Chromebooks, Google Drive Storage & Related Google Apps
- MS Office Software as Needed
- SmartBoard Presentations and Peripheral Technology
- Smartphones

TECH.8.1.12.A.CS2

Select and use applications effectively and productively.

TECH.8.1.12.B

Creativity and Innovation: Students demonstrate creative thinking, construct knowledge

and develop innovative products and process using technology.

TECH.8.1.12.C

Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

TECH.8.1.12.C.CS2

Communicate information and ideas to multiple audiences using a variety of media and formats.

TECH.8.1.12.E.CS4

Process data and report results.

TECH.8.1.12.F.CS1

Identify and define authentic problems and significant questions for investigation.

TECH.8.1.12.F.CS2

Plan and manage activities to develop a solution or complete a project.