Residential Construction Evaluation Tool

2020 Curricular Materials Review

Idaho CTE Trades and Industry (T&I) Residential Construction Program Standards[[1]](#footnote-1)

**Publisher information**

* Publisher Name:
* Title:
* Grade Level:
* ISBN #:
* Author:
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# Instructions:

Complete the Publisher Standards Alignment Report below. Please provide written justification as to how the material meets the standard along with location references. If a justification requires additional space, please submit response on an additional document.

# Publisher STANDARDS ALIGNMENT Report:

## Standard CNST.1.0: Fundamental Machining Skills

### Performance Standard CNST.1.1 Building Codes

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.1.1.1 Identify terms associated with building codes. |  |
| CTE CNST.1.1.2 Interpret sections of the building codes. |  |
| CTE CNST.1.1.3 Discuss the importance of complying with building code requirements. |  |

### Performance Standard CNST.1.2 OSHA Standards

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.1.2.1 Define the purpose of OSHA. |  |
| CTE CNST.1.2.2 Describe the inspection process by OSHA. |  |
| CTE CNST.1.2.3 Describe the record keeping requirements for OSHA compliance. |  |
| CTE CNST.1.2.4 List safety and health hazards that OSHA may inspect for in a shop or on a job site. |  |
| CTE CNST.1.2.5 List OSHA safe working procedures that apply to building trades work assignments. |  |
| CTE CNST.1.2.6 Complete the OSHA 10 Training. |  |

## Standard CNST.2.0: Building Materials and Energy Conservation Strategies

### Performance Standard CNST.2.1 Lumber

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.2.1.1 Define terms associated with lumber. |  |
| CTE CNST.2.1.2 Select characteristics to consider in using lumber. |  |
| CTE CNST.2.1.3 Identify common defects in lumber. |  |
| CTE CNST.2.1.4 Select from a list standard lumber grades. |  |
| CTE CNST.2.1.5 Write actual sizes for given nominal sizes of lumber. |  |

### Performance Standard CNST.2.2 Plywood

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.2.2.1 Identify letters designating veneers used in plywood. |  |
| CTE CNST.2.2.2 Distinguish between standard interior and exterior plywood grades. |  |

### Performance Standard CNST.2.3 Millwork

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.2.3.1 Select from a list solid softwoods and hardwoods used in millwork. |  |
| CTE CNST.2.3.2 Select from a list types of woods used for trim and moldings. |  |
| CTE CNST.2.3.3 Identify types of trim and moldings. |  |

### Performance Standard CNST.2.4 Energy-Saving Construction

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.2.4.1 Discuss the importance of conserving energy to the owners/occupants of a building and to the nation and the world. |  |
| CTE CNST.2.4.2 Describe techniques used in solar construction. |  |
| CTE CNST.2.4.3 Explain advantages and disadvantages of solar construction. |  |
| CTE CNST.2.4.4 Discuss advanced framing techniques. |  |
| CTE CNST.2.4.5 Explain the importance of R-factor in building construction. |  |
| CTE CNST.2.4.6 List benefits of using insulation in a structure. |  |
| CTE CNST.2.4.7 Explain the functions of various types of insulation. |  |
| CTE CNST.2.4.8 Name general classifications of insulation materials. |  |
| CTE CNST.2.4.9 List areas where insulation should be used in construction. |  |
| CTE CNST.2.4.10 List factors that determine the amount of insulation needed. |  |
| CTE CNST.2.4.11 Interpret sections of state and local codes pertaining to energy efficiency. |  |

## Standard CNST.3.0: Math and Measurement Skills

### Performance Standard CNST. 3.1 Basic Math

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.3.1.1 Label the place values of a whole number. |  |
| CTE CNST.3.1.2 Identify symbols used in math problems. |  |

### Performance Standard CNST. 3.2 Mathematical Operations Using Whole Numbers

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.3.2.1 Label the place values of a whole number. |  |
| CTE CNST.3.2.2 Add, subtract, multiply, and divide whole numbers. |  |

### Performance Standard CNST. 3.3 Fractions, Decimals, and Percentages

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.3.3.1 Distinguish among types of fractions. |  |
| CTE CNST.3.3.2 Reduce fractions to lowest terms. |  |
| CTE CNST.3.3.3 Convert mixed numbers to improper fractions. |  |
| CTE CNST.3.3.4 Convert improper fractions to mixed numbers. |  |
| CTE CNST.3.3.5 Add, subtract, multiply, and divide fractions. |  |
| CTE CNST.3.3.6 Label the place values of a decimal number. |  |
| CTE CNST.3.3.7 Add, subtract, multiply, and divide decimal numbers. |  |
| CTE CNST.3.3.8 Convert decimal fractions to common fractions. |  |
| CTE CNST.3.3.9 Convert common fractions to decimal numbers and percentages. |  |
| CTE CNST.3.3.10 Identify decimal and fractional equivalents. |  |
| CTE CNST.3.3.11 Convert percentages to fractions and decimal numbers. |  |
| CTE CNST.3.3.12 Solve percentage problems. |  |
| CTE CNST.3.3.13 Solve basic ratio and proportion problems. |  |

### Performance Standard CNST. 3.4 Basic Geometry

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.3.4.1 Identify terms used in geometry. |  |
| CTE CNST.3.4.2 Identify geometric figures. |  |
| CTE CNST.3.4.3 Convert units of measure. |  |
| CTE CNST.3.4.4 Calculate the area of geometric figures. |  |
| CTE CNST.3.4.5 Calculate the volume of solid figures. |  |
| CTE CNST.3.4.6 Estimate cubic yards. |  |

### Performance Standard CNST. 3.5 Measuring Operations

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.3.5.1 Identify terms associated with measuring. |  |
| CTE CNST.3.5.2 Identify basic measuring tools used by carpenters. |  |
| CTE CNST.3.5.3 Convert fractional inches to hundredths of a foot. |  |
| CTE CNST.3.5.4 Identify graduations on an engineer's rule. |  |
| CTE CNST.3.5.5 Read an engineer's rule to the nearest hundredth of a foot. |  |
| CTE CNST.3.5.6 Describe measuring methods used to square lines. |  |
| CTE CNST.3.5.7 Read measurements on architect's and engineer's rules. |  |
| CTE CNST.3.5.8 Read measurements on tapes. |  |
| CTE CNST.3.5.9 Demonstrate the ability to use basic measuring tools and the 3-4-5 method to lay out the perimeter of a building. |  |

## Standard CNST.4.0: Blueprint Reading and Drawing Skills

### Performance Standard CNST.4.1 Blueprint Reading Skills

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.4.1.1 Identify types of drawings usually included in a set of plans. |  |
| CTE CNST.4.1.2 List information found on types of drawings in a set of plans. |  |
| CTE CNST.4.1.3 Identify lines in the alphabet of lines. |  |
| CTE CNST.4.1.4 Identify selected symbols commonly used on plans. |  |
| CTE CNST.4.1.5 Identify selected abbreviations commonly used on plans. |  |
| CTE CNST.4.1.6 Match architects’ conventions to their correct representations. |  |
| CTE CNST.4.1.7 Explain the purpose of written specifications. |  |
| CTE CNST.4.1.8 Use an architect’s scale. |  |
| CTE CNST.4.1.9 Use an engineer’s scale. |  |
| CTE CNST.4.1.10 Use a metric scale. |  |
| CTE CNST.4.1.11 Interpret a finish schedule. |  |
| CTE CNST.4.1.1 Identify types of drawings usually included in a set of plans. |  |

## Standard CNST.5.0: Use and Maintenance of Hand and Power Tools

### Performance Standard CNST.5.1 Common Carpentry Hand Tools

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.5.1.1 Explain the care and safe use of hand tools. |  |
| CTE CNST.5.1.2 Identify and match carpentry hand tools to their correct uses. |  |
| CTE CNST.5.1.3 Demonstrate proper care and safe use of carpentry hand tools. |  |

### Performance Standard CNST.5.2 Power Tools

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.5.2.1 Identify terms associated with power tools. |  |
| CTE CNST.5.2.2 Explain the general safety rules pertaining to power tools. |  |
| CTE CNST.5.2.3 Explain how to maintain power tools properly. |  |
| CTE CNST.5.2.4 Explain the safe operation for portable and stationary power tools. |  |
| CTE CNST.5.2.5 Explain rules for the safe use of pneumatic fasteners. |  |
| CTE CNST.5.2.6 Identify the parts of a power-actuated tool. |  |
| CTE CNST.5.2.7 Select from a list appropriate uses of power-actuated tools. |  |
| CTE CNST.5.2.8 Match saw blades to their correct uses. |  |
| CTE CNST.5.2.9 Complete a safety test for specific tools. |  |
| CTE CNST.5.2.10 Perform rip and miter cut-off operations. |  |
| CTE CNST.5.2.11 Drill and bore holes. |  |

## Standard CNST.6.0: Site Preparation, Concrete Forms, and Forming

### Performance Standard CNST.6.1 Leveling Instruments

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.6.1.1 Identify terms associated with leveling instruments. |  |
| CTE CNST.6.1.2 List uses of a builder’s level. |  |
| CTE CNST.6.1.3 Identify types of levels. |  |
| CTE CNST.6.1.4 Identify parts of a builder’s level. |  |
| CTE CNST.6.1.5 Explain the use of a transit. |  |
| CTE CNST.6.1.6 Explain and/or demonstrate the proper care of leveling instruments. |  |
| CTE CNST.6.1.7 Identify parts of a leveling rod. |  |
| CTE CNST.6.1.8 Set up and adjust leveling instruments. |  |
| CTE CNST.6.1.9 Use leveling instruments to check elevations, measure angles, and read angles. |  |
| CTE CNST.6.1.10 Establish elevation reference points from benchmark. |  |
| CTE CNST.6.1.11 Locate and square corners. |  |
| CTE CNST.6.1.12 Set grade stakes. |  |
| CTE CNST.6.1.13 Correctly mark a story pole. |  |
| CTE CNST.6.1.14 Install batter boards. |  |
| CTE CNST.6.1.15 Establish grade using leveling instruments. |  |

### Performance Standard CNST.6.2 Concrete Footings and Foundations

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.6.2.1 Identify terms associated with concrete foundations. |  |
| CTE CNST.6.2.2 Describe the composition of concrete and factors affecting its strength, durability, and workability. |  |
| CTE CNST.6.2.3 Understand the types of admixtures used in concrete and their functions. |  |
| CTE CNST.6.2.4 List the advantages and disadvantages of using vibrators in concrete. |  |
| CTE CNST.6.2.5 Label parts of a concrete foundation. |  |
| CTE CNST.6.2.6 Identify types of concrete footings and foundations. |  |
| CTE CNST.6.2.7 Explain the uses of concrete footings and foundations. |  |
| CTE CNST.6.2.8 Discuss the design of footings and foundations. |  |
| CTE CNST.6.2.9 Arrange in order steps involved when constructing concrete foundations. |  |
| CTE CNST.6.2.10 Interpret sections of the state and local codes that pertain to concrete construction. |  |
| CTE CNST.6.2.11 Calculate the cubic yards of concrete needed to pour a structure. |  |

### Performance Standard CNST.6.3 Reinforcing Material

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.6.3.1 Name types of reinforcing material used in concrete. |  |
| CTE CNST.6.3.2 Match common rebar numbers to their correct diameter sizes. |  |
| CTE CNST.6.3.3 Select from a list common sizes of welded wire fabric. |  |

### Performance Standard CNST.6.4 Concrete Forms, Associated Hardware, and Materials

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.6.4.1 Match to their correct definitions terms associated with forming. |  |
| CTE CNST.6.4.2 Explain the purpose of forms. |  |
| CTE CNST.6.4.3 Name various type of forms. |  |

## Standard CNST.7.0: Framing

### Performance Standard CNST.7.1 Floors and Sills

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.7.1.1 Identify terms associated with frame floors and sills. |  |
| CTE CNST.7.1.2 Identify floor and sill framing and support members. |  |
| CTE CNST.7.1.3 Name methods used to fasten sills and sill insulation to the foundation. |  |
| CTE CNST.7.1.4 Select from a list types of beams/girders. |  |
| CTE CNST.7.1.5 Describe the types of floor joists. |  |
| CTE CNST.7.1.6 Identify the types of bridging. |  |
| CTE CNST.7.1.7 Describe the types of subflooring/decking materials. |  |
| CTE CNST.7.1.8 List purposes of subflooring. |  |
| CTE CNST.7.1.9 Identify fasteners used in floor framing and their correct uses. |  |
| CTE CNST.7.1.10 Use a span table to determine sizes of beams, girders and joists. |  |
| CTE CNST.7.1.11 Discuss common methods used to attach subfloor/decking to structures. |  |
| CTE CNST.7.1.12 Estimate the amount of material needed to frame a floor assembly. |  |
| CTE CNST.7.1.13 Interpret state and local building code sections pertaining to floors, sills, walls, and ceilings. |  |

### Performance Standard CNST.7.2 Floors and Sill Installation

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.7.2.1 Demonstrate the ability to lay out a floor system. |  |
| CTE CNST.7.2.2 Demonstrate the ability to install bridging. |  |
| CTE CNST.7.2.3 Demonstrate the ability to install joists for a cantilever floor. |  |
| CTE CNST.7.2.4 Demonstrate the ability to install subfloor/decking materials. |  |
| CTE CNST.7.2.5 Demonstrate the ability to install a single floor system using tongue and groove material. |  |

### Performance Standard CNST.7.3 Wall and Partition Members

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.7.3.1 Identify and describe the function of the wall-framing members. |  |
| CTE CNST.7.3.2 Identify methods used to construct outside corners of wall frames. |  |
| CTE CNST.7.3.3 Identify common methods used to construct partition T’s. |  |
| CTE CNST.7.3.4 Discuss types of headers. |  |
| CTE CNST.7.3.5 Calculate rough opening (R.O.) dimensions for doors. |  |
| CTE CNST.7.3.6 Calculate the length of trimmers for window and door openings. |  |
| CTE CNST.7.3.7 Calculate the length of headers for rough openings. |  |
| CTE CNST.7.3.8 Select from a list construction details that should be added during wall framing. |  |
| CTE CNST.7.3.9 List methods used to brace walls. |  |
| CTE CNST.7.3.10 Select from a list of nails most often used in framing. |  |
| CTE CNST.7.3.11 Discuss ADA compliance considerations in framing. |  |
| CTE CNST.7.3.12 Calculate the amount of materials required for wall and partition framing. |  |

### Performance Standard CNST.7.4 Frame a Single-Story Structure

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.7.4.1 Demonstrate the ability to lay out a wall and partition locations on a floor. |  |
| CTE CNST.7.4.2 Cut studs, trimmers, cripples, and headers to length. |  |
| CTE CNST.7.4.3 Assemble corners, T’s, and headers. |  |
| CTE CNST.7.4.4 Construct wall sections for a single-story structure. |  |
| CTE CNST.7.4.5 Erect and brace wall sections for a single-story structure. |  |
| CTE CNST.7.4.6 Layout and install ceiling joists. |  |

### Performance Standard CNST.7.5 Metal Framing Systems

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.7.5.1 Name components of metal stud systems. |  |
| CTE CNST.7.5.2 Identify fasteners used for metal stud construction. |  |
| CTE CNST.7.5.3 Identify tools and equipment used in metal stud construction. |  |
| CTE CNST.7.5.4 List area where metal stud systems are used. |  |
| CTE CNST.7.5.5 List advantages and disadvantages of metal stud systems. |  |

### Performance Standard CNST.7.6 Types of Finish Flooring

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.7.6.1 Identify finish-flooring materials. |  |
| CTE CNST.7.6.2 Identify different types of underlayment. |  |

### Performance Standard CNST.7.7 Finish Flooring Installation

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.7.7.1 Estimate the number of 4'x 8' sheets of underlayment needed to floor a room. |  |
| CTE CNST.7.7.2 Estimate the needed quantity of finish flooring materials. |  |
| CTE CNST.7.7.3 Demonstrate the ability to install underlayment. |  |
| CTE CNST.7.7.4 Demonstrate the ability to install various types of flooring. |  |

## Standard CNST.8.0: Roof Construction Techniques

### Performance Standard CNST.8.1 Roof Framing Members

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.8.1.1 Identify terms associated with roof framing. |  |
| CTE CNST.8.1.2 Identify the different types of roof styles. |  |
| CTE CNST.8.1.3 Identify roof-framing members. |  |
| CTE CNST.8.1.4 Label roof-framing units. |  |
| CTE CNST.8.1.5 Identify parts of a rafter. |  |
| CTE CNST.8.1.6 Calculate the length of a common rafter. |  |
| CTE CNST.8.1.7 Calculate the number of roof vents needed. |  |

### Performance Standard CNST.8.2 Construct a Roof

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.8.2.1 Estimate material needed to frame a roof. |  |
| CTE CNST.8.2.2 Lay out rafter locations on top plate and ridge board. |  |
| CTE CNST.8.2.3 Lay out, cut, and erect rafters for gable roofs. |  |
| CTE CNST.8.2.4 Apply roof sheathing. |  |
| CTE CNST.8.2.5 Erect trusses by hand and or light crane. |  |

### Performance Standard CNST.8.3 Cornices and Gable Ends

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.8.3.1 Identify cornices and gable ends. |  |
| CTE CNST.8.3.2 Label types of cornice designs. |  |
| CTE CNST.8.3.3 Identify parts of a box cornice. |  |
| CTE CNST.8.3.4 Identify parts of a boxed rake section. |  |
| CTE CNST.8.3.5 Identify types of cornice moldings. |  |
| CTE CNST.8.3.6 Label types of tail-rafter cuts. |  |
| CTE CNST.8.3.7 Select from a list materials used for soffits. |  |
| CTE CNST.8.3.8 Select from a list hardware and fasteners used on or with cornices. |  |
| CTE CNST.8.3.9 Estimate material needed for cornices and gable ends. |  |
| CTE CNST.8.3.10 Demonstrate the ability to build a horizontal box cornice. |  |
| CTE CNST.8.3.11 Demonstrate the ability to apply siding to a gable end. |  |

### Performance Standard CNST.8.4 Roofing Materials

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.8.4.1 Identify roofing materials. |  |
| CTE CNST.8.4.2 Discuss safety rules pertaining to roofing. |  |
| CTE CNST.8.4.3 Identify minimum slope requirements to their specific roofing applications. |  |
| CTE CNST.8.4.4 Interpret sections of state and local codes that pertain to roofs and roofing. |  |
| CTE CNST.8.4.5 Discuss procedures for applying roofing materials. |  |

### Performance Standard CNST.8.5 Roofing and Flashing Installation

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.8.5.1 Demonstrate the ability to apply underlayment. |  |
| CTE CNST.8.5.2 Demonstrate the ability to apply flashing. |  |
| CTE CNST.8.5.3 Select from a list types of materials used for flashing. |  |
| CTE CNST.8.5.4 Select from a list procedures for applying starter course of shingles. |  |
| CTE CNST.8.5.5 Describe procedures for applying shingles with cutouts that break joint in half. |  |
| CTE CNST.8.5.6 Arrange, in order, steps for installing flashing at open-valley locations. |  |
| CTE CNST.8.5.7 Estimate roofing materials needed for a roof. |  |
| CTE CNST.8.5.8 Demonstrate the ability to apply various roofing material. |  |

## Standard CNST.9.0: Interior Staircase Construction

### Performance Standard CNST.9.1 Staircases

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.9.1.1 Identify terms associated with staircases. |  |
| CTE CNST.9.1.2 Identify parts of a staircase. |  |
| CTE CNST.9.1.3 Identify basic types of stairs. |  |
| CTE CNST.9.1.4 List factors that must be considered when building a staircase. |  |
| CTE CNST.9.1.5 Explain rules for unit rise and unit run of stair stringers. |  |
| CTE CNST.9.1.6 Label methods used to secure stringers. |  |
| CTE CNST.9.1.7 Discuss requirements of state and local codes that pertain to stairs. |  |

### Performance Standard CNST.9.2 Staircase Construction

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.9.2.1 Calculate number and size of risers and treads for a stair of given dimensions. |  |
| CTE CNST.9.2.2 Estimate materials for stairs. |  |
| CTE CNST.9.2.3 Construct a staircase. |  |

### Performance Standard CNST.9.3 Handrails and Railings

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.9.3.1 Identify terms associated with handrails and railings. |  |
| CTE CNST.9.3.2 List factors that must be considered when selecting handrails and railings. |  |
| CTE CNST.9.3.3 Discuss requirements of state and local codes that pertain to handrails and railings. |  |
| CTE CNST.9.3.4 Estimate materials needed for a handrail or railing. |  |
| CTE CNST.9.3.5 Determine the correct fasteners to use with handrails and railings. |  |

## Standard CNST.10.0: Sheathing, Siding, and Exterior Building Materials

### Performance Standard CNST.10.1 Wall Sheathing and Siding

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.10.1.1 Identify terms associated with exterior walls and trim. |  |
| CTE CNST.10.1.2 Name types of wall sheathing. |  |
| CTE CNST.10.1.3 Identify styles of siding. |  |
| CTE CNST.10.1.4 Identify joint details for plywood siding. |  |
| CTE CNST.10.1.5 Identify types of exterior moldings and trims. |  |
| CTE CNST.10.1.6 List recommendations for waterproofing exterior walls. |  |
| CTE CNST.10.1.7 List advantages and disadvantages of various types of siding. |  |

### Performance Standard CNST.10.2 Wall Sheathing and Siding Installation

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.10.2.1 Estimate amounts of siding. |  |
| CTE CNST.10.2.2 Estimate sheathing and siding for a house with a hip roof. |  |
| CTE CNST.10.2.3 Install sheathing. |  |
| CTE CNST.10.2.4 Install siding. |  |

## Standard CNST.11.0: Windows, Exterior and Interior Doors, and Associated Trim

### Performance Standard CNST.11.1 Windows

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.11.1.1 Identify terms associated with windows and accessories. |  |
| CTE CNST.11.1.2 Name types/styles of windows. |  |
| CTE CNST.11.1.3 Select from a list types of materials used to construct windows. |  |
| CTE CNST.11.1.4 Identify parts of a window installation. |  |
| CTE CNST.11.1.5 Select from a list types of materials used for windowpanes. |  |
| CTE CNST.11.1.6 Discuss U-factor. |  |
| CTE CNST.11.1.7 Discuss information a carpenter should know when installing windows. |  |

### Performance Standard CNST.11.2 Window Unit Installation

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.11.2.1 List the steps for a good window installation. |  |
| CTE CNST.11.2.2 Demonstrate the ability to install various window units. |  |

### Performance Standard CNST.11.3 Prehung Exterior Door Installation

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.11.3.1 Identify terms associated with exterior doors. |  |
| CTE CNST.11.3.2 Identify types of entry doors. |  |
| CTE CNST.11.3.3 List advantages and disadvantages of patio doors. |  |
| CTE CNST.11.3.4 Identify parts of an exterior door installation. |  |
| CTE CNST.11.3.5 List materials used in door construction. |  |
| CTE CNST.11.3.6 Name materials used for exterior doorsills. |  |
| CTE CNST.11.3.7 Select from a list standard sizes of exterior doors. |  |
| CTE CNST.11.3.8 Explain the numbering system for doors. |  |
| CTE CNST.11.3.9 Determine finish clearances and dimensions for hanging doors. |  |
| CTE CNST.11.3.10 Identify door swing (hand). |  |
| CTE CNST.11.3.11 Identify hardware used with exterior doors. |  |
| CTE CNST.11.3.12 List types of thresholds used with entrance doors. |  |
| CTE CNST.11.3.13 Demonstrate the ability to install a metal threshold on a concrete floor. |  |
| CTE CNST.11.3.14 Demonstrate the ability to install an exterior prehung door unit. |  |
| CTE CNST.11.3.15 Demonstrate the ability to install entry doorframe, casing, door, and lock. |  |
| CTE CNST.11.3.16 Demonstrate the ability to install weather-stripping. |  |
| CTE CNST.11.3.17 Demonstrate the ability to install doorframe and inside jambs for an overhead garage door. |  |

### Performance Standard CNST.11.4 Interior Door Installation

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.11.4.1 Identify the terms associated with interior doors and trim. |  |
| CTE CNST.11.4.2 Identify the general types of interior door construction. |  |
| CTE CNST.11.4.3 Identify types of interior doors. |  |
| CTE CNST.11.4.4 Identify parts of an interior door unit. |  |
| CTE CNST.11.4.5 Select from a list standard sizes of interior doors and jambs. |  |
| CTE CNST.11.4.6 Identify hand of a door. |  |
| CTE CNST.11.4.7 Select finish clearances and dimensions for hanging doors. |  |
| CTE CNST.11.4.8 Identify hardware used with interior doors. |  |
| CTE CNST.11.4.9 Identify types of interior trim. |  |
| CTE CNST.11.4.10 Estimate material needed to trim a door. |  |

### Performance Standard CNST.11.5 Door Units, Locks, and Trim

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.11.5.1 Demonstrate the ability to install an interior doorframe, hang door, lock, and trim. |  |
| CTE CNST.11.5.2 Demonstrate the ability to install a pre-hung door unit. |  |
| CTE CNST.11.5.3 Demonstrate the ability to install a bifold/bypass door unit. |  |
| CTE CNST.11.5.4 Demonstrate the ability to install a pocket door unit. |  |

### Performance Standard CNST.11.6 Insulation and Vapor Barriers

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.11.6.1 Identify terms associated with insulation. |  |
| CTE CNST.11.6.2 Explain the functions of insulation. |  |
| CTE CNST.11.6.3 Discuss R-values. |  |
| CTE CNST.11.6.4 List types of insulation commonly used in residential construction. |  |
| CTE CNST.11.6.5 Discuss the classifications of insulation materials. |  |
| CTE CNST.11.6.6 List areas where insulation should be used in residential construction. |  |
| CTE CNST.11.6.7 List factors that determine the amount of insulation needed for walls, ceilings, and floors. |  |
| CTE CNST.11.6.8 Name types of materials used for vapor barriers. |  |

### Performance Standard CNST.11.7 Insulation and Vapor Barrier Installation

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.11.7.1 Estimate the packages of insulation needed to insulate a structure. |  |
| CTE CNST.11.7.2 Demonstrate the ability to install vapor barrier and insulation. |  |

### Performance Standard CNST.11.8 Drywall

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.11.8.1 Identify terms associated with drywall. |  |
| CTE CNST.11.8.2 Name types of drywall. |  |
| CTE CNST.11.8.3 Select from a list standard sizes of drywall. |  |
| CTE CNST.11.8.4 Identify standard edge shapes of drywall. |  |
| CTE CNST.11.8.5 Explain the benefits of using drywall. |  |
| CTE CNST.11.8.6 Describe types of base or construction where drywall is used. |  |
| CTE CNST.11.8.7 Identify hardware and fasteners used with drywall. |  |
| CTE CNST.11.8.8 Select from a list types of finishes that may be applied to drywall. |  |

### Performance Standard CNST.11.9 Drywall Installation

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.11.9.1 Estimate materials needed to drywall a structure. |  |
| CTE CNST.11.9.2 Install drywall. |  |
| CTE CNST.11.9.3 Finish drywall joints and depressions. |  |

## Standard CNST.12.0: Cabinets and Special Built-Ins

### Performance Standard CNST.12.1 Parts of a Cabinet

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.12.1.1 Identify terms associated with cabinet installation and special built-ins. |  |
| CTE CNST.12.1.2 Name types of cabinets. |  |
| CTE CNST.12.1.3 Identify parts of a cabinet. |  |
| CTE CNST.12.1.4 Name the standard sizes of base and top cabinets. |  |
| CTE CNST.12.1.5 Discuss types of material used on countertops. |  |

### Performance Standard CNST.12.2 Cabinet and Shelves Installation

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.12.2.1 Install a factory-built cabinet. |  |
| CTE CNST.12.2.2 Install shelves in a closet. |  |

## Standard CNST.13.0: Job Coordination

### Performance Standard CNST.13.1 Coordinate with Other Trades

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.13.1.1 Select from a list of activities that may affect the work of subcontractors. |  |
| CTE CNST.13.1.2 Identify structural problems that may be caused by other trades. |  |
| CTE CNST.13.1.3 Discuss the importance of correctly orienting knockouts on prefabricated materials. |  |
| CTE CNST.13.1.4 Explain the importance of placing large fixtures before framing is completed. |  |
| CTE CNST.13.1.5 Explain the importance of nailing directly over studs when doubling top plates. |  |
| CTE CNST.13.1.6 Explain why carpenters need to know basic wiring and plumbing practices, especially when remodeling. |  |

### Performance Standard CNST.13.2 Inspection and Code Requirements

| Student Competencies by Performance Standard | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| CTE CNST.13.2.1 Explain the purpose of Building Codes. |  |
| CTE CNST.13.2.2 Discuss the importance of knowing state and local codes and ordinances. |  |
| CTE CNST.13.2.3 Match activities on a job schedule with required inspections. |  |
| CTE CNST.13.2.4 Identify required building permits. |  |
| CTE CNST.13.2.5 Determine the average lead-time required to get an inspector on site. |  |

# Indicators of quality Rubric:

Standards-aligned and Integrated Curriculum:

| Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| 1. The curriculum is based on industry-validated technical standards and competencies. |  |
| 1. The curriculum is aligned with relevant content and standards for core subjects, such as reading, math and science, including federal, state and/or local standards, as appropriate. |  |
| 1. The curriculum incorporates employability skill standards that help students succeed in the workplace, such as problem solving, critical thinking, teamwork, communications and workplace etiquette. |  |
| 1. The curriculum allows for student application of integrated knowledge and skills in authentic scenarios. |  |
| 1. Materials used reflect current workplace, industry and/or occupational practices and requirements. |  |

Access and Equity:

| Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| 1. Materials are provided in a way that ensures all students have the opportunity to achieve success in the program of study, including by meeting Title IX, Americans with Disabilities Act and other accessibility requirements. |  |
| 1. Materials and assessments are free from bias, inclusive and non-discriminatory, and offered in a way that ensures all students have the opportunity to achieve success in the program of study. |  |
| 1. Contains guidance to support differentiated and culturally responsive (i.e., purposefully represents diverse cultures, linguistic backgrounds, learning styles and interests) instruction in the classroom so that every student’s need are addressed by including:    1. Suggestions for how to promote equitable instruction by making connections to culture, home, neighborhood, and community as appropriate.    2. Appropriate scaffolding, interventions, and supports, including integrated and appropriate reading, writing, listening, and speaking alternatives (e.g., translations, picture support, graphic organizers) that neither sacrifice content nor avoid language development for English language learners, special needs, or below grade level readers.    3. Digital and print resources that provide various levels of readability.    4. Modifications and extensions for all students, including those performing above their grade level, to deepen understanding of the content.    5. Materials in multiple language formats. |  |

Student Focus:

| Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| 1. The material supports the sequential and cumulative development of foundational skills and progresses in specificity to build students’ depth of knowledge and skills. Those skills are necessary for a student’s independent comprehension of grade-level complex texts and mastery of tasks called for by the standards. |  |
| 1. Content and standards within the program of study are non-duplicative and vertically aligned to prepare students to transition seamlessly to the next level of education. |  |
| 1. The material provides many and varied opportunities for students to work with each standard within the grade level. |  |
| 1. The material cross-refers and integrates other content areas. |  |
| 1. The material has a balance of text types and lengths that encourage close, in-depth reading and rereading, analysis, comparison, and synthesis of texts. |  |
| 1. The material includes sufficient supplementary activities or assignments that are appropriately integrated into the text. |  |
| 1. The material has activities and assignments that develop problem-solving skills and foster synthesis and inquiry at both an individual and group level. |  |
| 1. The material has activities and assignments that reflect varied learning styles of students. |  |
| 1. The material includes appropriate instructional strategies. |  |
| 1. Project-based learning and related instructional approaches, such as problem-based, inquiry-based and challenge-based learning, are fully integrated into the material. |  |

Pedagogical Approach:

| Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| 1. Provides guidance for teachers throughout for how learning experiences build on each other to support students in developing a deep understanding of the content. |  |
| 1. Provides scaffolded supports for teachers to facilitate learning of the content so that students are increasingly responsible for making sense of the content. |  |
| 1. The material provides opportunities for supporting English language learners to regularly and actively participate with grade-level text. |  |
| 1. The material gives clear and concise instruction to teachers and students. It is easy to navigate and understand. |  |
| 1. Includes appropriate academic and content-specific vocabulary in the context of the learning experience that is accessible, introduced, reinforced, reviewed, and augmented with visual representations when appropriate. |  |
| 1. Allows teachers to access, revise, and print form digital resources (e.g., readings, labs, assessments, rubrics). |  |
| 1. Uses varied modes (selected, constructed, project-based, extended response, and performance tasks) of instruction-embedded pre-, formative, summative, peer, and, self-assessment measures of learning. |  |
| 1. Includes editable and aligned rubrics, scoring guidelines, and exemplars that provide guidance for assessing student performance and to support teachers in planning instruction and providing ongoing feedback to students. |  |
| 1. Provides multiple opportunities for students to demonstrate and receive feedback on performance of practices connected with their understanding of concepts. |  |

Presentation and Design:

| Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| 1. The material has an aesthetically appealing appearance. |  |
| 1. Digital and print materials are consistently formatted, visually focused, and uncluttered for efficient use. |  |
| 1. The material has a reasonable and appropriate balance between text and illustration. The material has grade-appropriate font size. |  |
| 1. The illustrations clearly cross-reference the text, are directly relevant to the content (not simply decorative), and promote thinking, discussion, and problem solving. |  |
| 1. Non-text content (performance clips, images, maps, globes, graphs, pictures, charts, databases, and models) are accurate and well integrated into the text. |  |

Technology:

| Standards | Justification: Provide examples from materials as evidence to support each response for this section. Provide descriptions, not just page numbers. |
| --- | --- |
| 1. Technology and digital media support, extend, and enhance learning experiences. |  |
| 1. The material has “platform neutral” technology (i.e., cloud based) and availability for networking. |  |
| 1. The material has a user-friendly and interactive interface allowing the user to control (shift among activities). |  |

For Questions Contact

Content & Curriculum

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1. [Idaho T&I Residential Construction Program Standards](https://cte.idaho.gov/wp-content/uploads/2018/02/Residential-Construction-Standards.pdf) [↑](#footnote-ref-1)