



GEORGIA

PEACH STATE PATHWAYS

Career, Technical, & Agricultural Education

ACCT—ARCHITECTURAL DRAWING

PATHWAY: Architectural Drawing and Design
COURSE: Architectural Drawing and Design II
UNIT: 3-Residential Sections and Details: Wall Sections



INTRODUCTION

Annotation:

This unit includes lessons on the proper procedure for drawing wall sections. Students will learn to identify the components needed in drawing the sections. They will also learn what dimensions need to be included on the drawings.

Grade(s):

<input type="checkbox"/>	9 th
<input checked="" type="checkbox"/>	10 th
<input checked="" type="checkbox"/>	11 th
<input checked="" type="checkbox"/>	12 th

Time: 25 hours

Author: Carole Ray

Additional Author(s):

Students with Disabilities:

For students with disabilities, the instructor should refer to the student's IEP to be sure that the accommodations specified are being provided. Instructors should also familiarize themselves with the provisions of Behavior Intervention Plans that may be part of a student's IEP. Frequent consultation with a student's special education instructor will be beneficial in providing appropriate differentiation.



FOCUS STANDARDS

GPS Focus Standards:

ACT-ADDII-2: Students will prepare sections and details.

- b. Draw a wall section.

GPS Academic Standards:

MM1P4: Students will make connections among mathematical ideas and to other disciplines.

ELA9RL5: The student understands and acquires new vocabulary and uses it correctly in reading and writing.

SCSh4: Students will use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.

National / Local Standards / Industry / ISTE:

ADDA: Advanced CADD Skills



UNDERSTANDINGS & GOALS

Enduring Understandings:

Wall sections must be included in a set of drawings, so that the structure can be built correctly. Without wall sections, the contractor would not comprehend how to build the structure.

Essential Questions:

- If a wall section is not drawn correctly, what kind of extra expenses will the homeowner/builder incur?

Note: Depending on when or whether traditional (board) drafting is going to be taught in addition to CAD systems, activities may need to be supplemented or changed accordingly.

Knowledge from this Unit:

- Identify the vocabulary used in drawing wall sections.
- Identify the components used in drawing wall sections.
- Read and understand wall section drawings in blueprints.

Skills from this Unit:

- Read correctly wall sections on blueprints.
- Draw a wall section using correct symbols.
- Apply proper dimensions to a wall section.



ASSESSMENT(S)

Assessment Method Type: Select one or more of the following. Please consider the type(s) of differentiated instruction you will be using in the classroom.

- ☐ Pre-test
- ☒ Objective assessment - multiple-choice, true- false, etc.
 - ☒ Quizzes/Tests
 - ☐ Unit test
 - ☐ Group project
- ☒ Individual project
- ☒ Self-assessment - May include practice quizzes, games, simulations, checklists, etc.
 - ☒ Self-check rubrics
 - ☐ Self-check during writing/planning process
 - ☐ Journal reflections on concepts, personal experiences and impact on one's life
 - ☐ Reflect on evaluations of work from teachers, business partners, and competition judges
 - ☐ Academic prompts
 - ☐ Practice quizzes/tests
- ☐ Subjective assessment/Informal observations
 - ☐ Essay tests
 - ☐ Observe students working with partners
 - ☐ Observe students role playing
- ☒ Peer-assessment
 - ☐ Peer editing & commentary of products/projects/presentations using rubrics
 - ☒ Peer editing and/or critiquing
- ☒ Dialogue and Discussion
 - ☐ Student/teacher conferences
 - ☐ Partner and small group discussions
 - ☒ Whole group discussions
 - ☐ Interaction with/feedback from community members/speakers and business partners
- ☐ Constructed Responses
 - ☐ Chart good reading/writing/listening/speaking habits
 - ☐ Application of skills to real-life situations/scenarios
- ☐ Post-test

Assessment(s) Title:

Test: Sill & Floor Construction Vocabulary

Test: Wall & Ceiling Construction Vocabulary

Test: Labeling the Parts of a Wall Section

Individual Project: Have students draw a wall section and apply dimensions.

Assessment(s) Description/Directions:

See instructions attached to each test.

Individual Project: The teacher will assign a wall section for students to draw. Dimensions will be added to the drawing.

Attachments for Assessment(s):

Test: Sill & Floor Construction Vocabulary & Key

Test: Wall & Ceiling Construction Vocabulary & Key

Test: Labeling the Parts of a Wall Section & Key

Rubric: Wall Section



LEARNING EXPERIENCES

Instructional planning: Include lessons, activities and other learning experiences in this section with a brief description of the activities to ensure student acquisition of the knowledge and skills addressed in the standards. Complete the sequence of instruction for each lesson/task in the unit.

Sequence of Instruction.

1. Identify the Standards. Standards should be posted in the classroom for each lesson.

ACT-ADDII-2: Students will prepare sections and details.

- b. Draw a wall section.

2. Review Essential Questions.

- If a wall section is not drawn correctly, what kinds of extra expenses will the homeowner/builder incur?

3. Identify and review the unit vocabulary.

Sill & Floor Construction Vocabulary:

Anchor Bolt	Beam	Bridging
Cantilever	Crawl Space	Curtain Wall
Dead Load	Decking	Dimension Lumber
Double Header	Finished Floor	Firecut
Footing	Foundation	Foundation Wall
Grade	Header	Joist
Keyway	Laminated Beam	Live Load
Moisture Barrier	Reinforced Concrete	Post-and-Beam Construction
Sill	Span	Subflooring
Termite shield	Truss	Weep Holes

Wall & Ceiling Construction Vocabulary:

Anchor	Batt	Blocking
Brick	Brick Veneer	Building Paper

Built-up Roofing	Corner Brace	Cornice
Cross Bracing	Drywall	Eaves
Expansion Joint	Face Brick	Fascia
Firestop	Flashing	Furring
Gutter	Gypsum Board	Insulation
Joist	Metal Wall Tie	Pilaster
Rafter	Ridge	Ridge Board
Roof Sheathing	Sheathing	Shingles
Siding	Soffit	Sole Plate
Stud	Top Plate	

4. Explain the purpose of a wall section.

5. Go over symbols used in sections and details.

6. Draw a wall section to scale.

7. Interest approach – Mental set

Ask students how different climates can affect the house design which would show up in a wall section.

Lesson 1: FLOOR & SILL CONSTRUCTION

Discussion

1. Identify the standards.
2. Review essential questions.
3. Ask students why they think wall sections are needed in a set of plans.
4. Classroom discussion on unit vocabulary (sill and floor construction). Why are these terms important?
5. Assign several vocabulary words to each student who will then present these words to the class.
6. Give quiz on sill and floor construction vocabulary. A word bank can be used on the test, if needed.

Lesson 2: WALL & CEILING CONSTRUCTION

Discussion

1. Identify the standards.
2. Review essential questions.
3. Have students write a paragraph on one of the following:
 - a) If a wall section is not drawn correctly, what kinds of extra expenses will the homeowner/builder incur?
 - b) How do different climates affect the house design which shows up in a wall section?
4. Classroom discussion on unit vocabulary (wall and ceiling construction).
5. Assign several vocabulary words to each student who will then present these words to the class.

6. Give quiz on wall and ceiling construction vocabulary. A word bank can be used on the test, if needed.
7. Watch "What's In a House" video. Have students take test at end of video.
8. Watch video on Building a Shed.

Lesson 3: DRAWING A WALL SECTION

Discussion

1. Identify the standards.
2. Study the parts and dimensions that need to be included on a wall section.
3. Review the correct way to label a wall section.
4. Assign a wall section to be drawn, using CAD or board drafting.
5. Have students draw and dimension the wall section correctly.
6. Give Quiz on Labeling a Wall Section.

Attachments for Learning Experiences:

- Sill & Floor Construction Vocabulary & Definitions
- Test: Sill & Floor Construction Vocabulary & Key
- Wall & Ceiling Construction Vocabulary & Definitions
- Test: Wall & Ceiling Construction Vocabulary & Key
- Wall Section Handout
- Wall Section Test & Key
- Rubric: Wall Section
- What's In a House Video
- http://www.youtube.com/watch?v=6zsXcqw6_KY&feature=related

Notes & Reflections:

Check for understanding frequently. Review vocabulary daily. Make sure that students know what needs to be included in a wall section.

A word bank can be used on the vocabulary and wall section tests, if needed. Additional vocabulary words can also be added to either quiz. The tests can also be broken down into smaller tests, so that fewer words will have to be learned at one time.

The wall section drawing can be broken down into the three basic areas: sill and floor construction, wall and ceiling construction, and roof components. Either one or three tests can be given if this is done.

Students will critique each others' drawings to make sure that they are being drawn correctly and include all important details.

Students can be given a copy of the wall section rubric, so that they will know how they are to be graded.

The amount of time needed for activities is determined by whether the students are doing traditional (board) drafting or using a CAD system. The instructor should choose the appropriate instruction to support either board or CAD drafting.



CULMINATING PERFORMANCE TASK (Optional)

Culminating Unit Performance Task Title:

Draw a Wall Section with Dimensions

Culminating Unit Performance Task Description/Directions/Differentiated Instruction:

Students will draw and dimension a wall section. Wall section with instructions is to be provided by instructor.

Attachments for Culminating Performance Task:

Wall Section Rubric



UNIT RESOURCES

Web Resources:

What's In a House? Video

http://www.youtube.com/watch?v=6zsXcqw6_KY&feature=related

Attachment(s):

Materials & Equipment:

Depending on the medium used, you may need the following:

- Basic drafting tools
- CAD software

What 21st Century Technology was used in this unit:

<input type="checkbox"/>	Slide Show Software
<input checked="" type="checkbox"/>	Interactive Whiteboard
<input type="checkbox"/>	Student Response System
<input type="checkbox"/>	Web Design Software
<input type="checkbox"/>	Animation Software
<input type="checkbox"/>	Email

<input type="checkbox"/>	Graphing Software
<input checked="" type="checkbox"/>	Calculator
<input type="checkbox"/>	Desktop Publishing
<input type="checkbox"/>	Blog
<input type="checkbox"/>	Wiki
<input checked="" type="checkbox"/>	Website

<input type="checkbox"/>	Audio File(s)
<input type="checkbox"/>	Graphic Organizer
<input type="checkbox"/>	Image File(s)
<input checked="" type="checkbox"/>	Video
<input type="checkbox"/>	Electronic Game or Puzzle Maker
<input checked="" type="checkbox"/>	CAD Software