

Unit: Framing

Title: Floors

Skill(s) and Knowledge: Describe platform, balloon, and post-beam framing, identify framing members, install columns, girders, and sills, layout and install joists, frame openings in floors, install bridging and subflooring. Describe how termites and fungi destroy wood, and methods of prevention.

Tasks: Students will be able to: Install columns, girders, sill, subfloor, Measure, cut and crown joists, Hand-nail 12d and 8d nails. Square the floor system using Pythagorean Theorem. Apply bridging and subfloor to the joists.

Performance objective:

Students will identify the framing member needed, measure and use the skill saw to cut sills and joists, plates and studs to length, hand-nail 12d and 8d nails, and install subflooring with construction adhesive and sheathing nails.

Tools, supplies and reference materials:

Builder's level, chalk-line, hammers, framing square, skill saw, 12d and 8d nails, construction adhesive, framing materials, subfloor, and bridging. Career Connections Project Book 3 pages: 117- 165.

Methods of instruction: Demonstration on how to install framing members, lecture on floor framing using power point presentations and text book. Field trip to a jobsite or the Union Training Hall to see the task performed by professional carpenters.

Estimated time: 30 hrs. **Number of students:** 10

Task analysis or activities:

Students will erect a floor frame.

1. Set-up the framing materials
2. Refer to the prints
3. Install Columns and Girders
4. Cut and install sills
5. Install Joists and bridging
6. Apply Construction adhesive
7. Install subfloor materials

Evaluation: Students will be graded on their use of time, safety methods, quality of work, cleaning and organization of their work area, interaction with other students, and vocational employability skills grading rubric. Manipulative skills assessments and written evaluations.

Performance Notes:

Vocational Frameworks References

- 2.A.01.05 Identify and apply OSHA safety regulations.
- 2.B.04 Understand detail views and schedules.
- 2.E.01.01 Demonstrate use and maintenance of layout, marking and measuring tools.
- 2.H.01. Understand Floor framing.
- 2.F.01.01 Demonstrate use and Maintenance of a portable circular saw.

English/Strand 3 Frameworks References:

- 2.B.01-06 Determine the meaning of symbols, key terms, and other domain-specific words and phrases in a technical context.

Frameworks References: Math

- 2.B.01 Use Trigonometric ratios and Pythagorean Theorem to solve right triangles in applied problems.

Common Core References:

- Read and listen critically for information understanding and enjoyment
- Set goals and achieve them by organizing time, workspace, and resources effectively
- Work both independently and in groups

SCANS references:

Foundation Skills:

1. Basic skills— reading, writing, mathematics, speaking, and listening.
2. Thinking Skills-- thinking creatively, making decisions, solving problems, visualizing, knowing how to learn, and reasoning
3. Personal qualities--individual responsibility, self-esteem, sociability, self management, and integrity

Work Place Competencies

1. Resources--allocating time, money, material, space, and staff.
2. Interpersonal skills--working in teams, teaching others, serving customers, leading negotiating, and working well with culturally diverse populations.
3. Information--acquiring and evaluating data, organizing and maintaining files, interpreting & communicating, and using computer to process information
4. Systems--understanding social, organizational, and technological systems, monitoring and correcting performance, and designing or improving systems.
5. Technology--selecting equipment and tools, applying technology to specific tasks, and maintaining and troubleshooting technologies.