

Course Title:	Home Builders Institute Trades Foundation
Grade(s):	8th Grade HBI

Course Description
This semester-long course provides students with foundational knowledge and skills aligned to the Home Builders Institute (HBI) PACT Core. Through a combination of hands-on activities, demonstrations, and practical applications, students develop an understanding of essential concepts used across the construction and skilled trades industries. The course is organized into four key areas of study: workplace safety, construction mathematics, tools and equipment, and employability skills. Students learn industry-standard safety practices, apply mathematical concepts used in construction settings, develop familiarity with common tools and equipment, and build career readiness skills, including résumé development and professional workplace expectations. This course serves as an entry point for students interested in exploring careers in construction and the skilled trades.
Approved Curricular Materials/Textbook(s)
HBI learning management system for completion of Phase 1 of the Pre-Apprentice Program

Unit Title	Unit Description (Include Unit Objectives)	Unit Pacing
Unit 1: Introduction	Learning Target: - Students will receive an overview of the HBI program and begin program setup - Students will review classroom rules and norms - Students will login to the computers and set up accounts used periodically within HBI LMS - Students will review the skill achievement records (SAR) for each module	Class 1
Unit 2: Safety and Measuring introduction	Learning Target: - Students will receive a tour of the wood working area - Students will learn routine safety rules for operating in the space - Students will be introduced to measuring to the nearest 1/16" - Students will participate in safety lessons on the equipment	Class 2-4

Unit 3: Shop stools, an introduction to tools and equipment, and safety and measuring (continued)	Learning Target: • Students will understand Personal Protective Equipment including mitigation of hazards, engineering solutions, and choosing appropriate safety gear • Students will demonstrate retained knowledge on woodworking introductions from 7th grade by creating shop stools for the wood working tables • Students will demonstrate proficiency in measurement, hand saw, sanding, fasteners, drill press, and shaping through creation of woodworking stools • Students will receive an introduction to the compound miter saw with instructor guidance for use • Students will receive an introduction on the table saw with instructor guidance for use	Class 5-9
Unit 3b: Safety PACT CORE	Learning Target: • Students will continue review in the HBI site on the safety content in preparation for an assessment	Class 10
Unit 4: Introduction to CAD assembly	Learning Target: • Students will create a CAD design for a basic toy accomplishing an assembly from the multiple sides/parts created • Students will create an orthographic and isometric viewed plan for a CAD design review • Students will create an assembly in the CAD software for the practice plan [paper backup plan]	Class 11-12
Unit 5: Creating a Plan for a birdhouse, including assembly	Learning Target: • Students will create an orthographic and isometric viewed plan for a birdhouse design • Students will create an assembly in the CAD software for the birdhouse [paper backup plan]	Class 13-14
Unit 6: Building a birdhouse	Learning Target: • Students will plan for building a birdhouse	Class 15-20

	• Students will apply additive manufacturing for a small-scaled birdhouse • Students will create a birdhouse using subtractive manufacturing	
Unit 6b: Construction Math PACT CORE test	Learning Target: • Students will continue review in the HBI site on construction math content in preparation for an assessment	~ Class 21
Unit 7: Planning for a small shed build (group work)	Learning Target: • Students will plan a shed build with group members • Students will apply knowledge on CAD assembly work for the orthographic and isometric drawings and dimensions of the shed build • Students will consider carpentry principles in designing their shed build	Class 22-24
Unit 8: Building a shed	Learning Target: • Students will demonstrate basics in construction math • Students will apply math principles with carpentry tools and equipment • Students will build a small shed in groups	Class 25-35
Unit 9: Tools and Equipment PACT CORE	Learning Target: • Students will continue review in the HBI site on tools and equipment content in preparation for an assessment	Class 36
Unit 10: Employability module	Learning Target: • Students will project an accurate and favorable view of their qualifications in a job interview, maintain professionalism, and be successful in the workplace • Students will explore career opportunities based on interests and career desires • Students will develop good habits for future career aspirations	Class 37-42
Unit 11: Career Whiz PACT CORE	Learning Target: • Students will continue review in the HBI site on employability content in preparation for an assessment	Class 43