

NKN Construction Trades

Lesson Plan: Sustainable Building Practices

Objective: Research and integrate alternative building techniques

Students will pair with partners to research one of the following topics. Each team will develop a statement in support of or reason as to why their topic may not be used in our home construction project.

Topics:

Advanced framing techniques – Raised Heel Trusses

Staggered Stud Wall Framing

24” OC Framing w/single top plate

Rain Screen Siding Installation

Insulation – Relationship of R-Value and U-Factor

Reducing Thermal bridging: Identify areas of thermal bridging

Air Leakage – Areas to focus on, and costs to reduce air leakage

R-Values and costs of fiberglass batting, rigid and blown-in insulation

Heating Systems – Conventional heating ducts in crawl space versus ducts in conditioned areas.

Ductless Heat Pumps - Advantages and costs

Thermal Heating Systems – Advantages and costs

Heat Recovery Ventilator – Advantages and costs

Team Statement: I used to think this now I think this

Follow Up Exercise: Class will work together to develop potential changes that will benefit our house project in energy savings and certifications for tax incentives.

Question: What will benefit our project the most and be cost effective?

Student assessment: Conduct an audit of your own home and complete a list of potential upgrades that would be most beneficial and cost effective.