Advanced Wall Framing - Advantages and Disadvantages of Framing Methods

2 X 6 wall, studs 16” on center
Advantages
• Everybody is used to doing things this way.
• More stable backing for sheetrock and sheathing
Disadvantages
• More wood framing conducts more cold and heat into the house.
• More materials are used than with 24” on center framing.
• There is more labor than with 24” on center framing.

2 X 6 wall, studs 24” on center
Advantages
• There is less wood to conduct heat and cold through the wall.
• Less materials and labor
Disadvantages
• The sheetrock and exterior sheathing do not get as much support.

2 X 6 wall, staggered 2 X 4 studs
Advantages
• Insulation blocks the conduction of cold and heat through the wood.
• Holes do not have to be drilled through the studs for wiring.
Disadvantages
• More materials are used.
• There is more labor.

2 X 8 wall, staggered 2 X 4 studs
Advantages
• There is more insulation in front of the wood to block the conduction of heat and cold.
• A 2 X 8 wall can hold more insulation in between studs.
• Holes do not have to be drilled through the studs for wiring.
Disadvantages
• More materials are used.
• There is more labor.

2 X 6 wall, studs 24” on center, with exterior foam
Advantages
• Foam insulation blocks the transfer of cold and heat through the wood framing.
• It blocks cold and heat between the studs, making the insulation very efficient.
• The wall sheathing is protected from condensation.
Disadvantages
• Additional materials and labor
• Foam causes health problems in some people.
• Although foam is recyclable, it is not biodegradable.

2 X 6 wall, metal studs 16” on center
Advantages
- Hollow metal studs are lighter than wood and easier to handle.
- Metal is recyclable.

Disadvantages
- Metal conducts more heat and cools into the house than wood.
- Metal framing is usually not as sturdy as wood.
- Recycling metal generates pollution.
The above drawings are models that students would make. A display would be made of the different models.