



To try and help us get ready for our Innovation Project, at a few of our meetings I'm going to quickly share some about architecture and city planning.

We'll also have some experts come talk about problems and solutions they're working on, and give us feedback on our work.

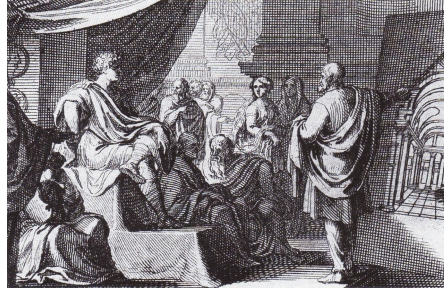
As you probably remember-- Our Innovation Challenge is:

Identify a problem with a building or public space in your community; design a solution; share your solution with others and then refine it.

So today I'm going to spend a few minutes telling you about Vitruvius

Who Was Vitruvius?

- Marco Vitruvius Pollio
- Roman architect, civil engineer, artillery officer
- Lived approximately
- from 80 BCE to 15 BCE
- Wrote *De Architectura*
- Influenced Roman architecture
- Later, when books were rediscovered, influenced Renaissance architecture



Marco Vitruvius Pollio (Not Marco Polo!) We usually just call him “Vitruvius”

Lived more than 2000 years ago

Was an engineer and architect. Also built and operated war machines.

There have been many important architects, but Vitruvius wrote some of the earliest books about architecture

These were important to Roman building, but also when rediscovered influenced Leonardo da Vinci and Renaissance architects

Still important ideas today, 2000 years later!

Vitruvius in The LEGO Movie



Who's seen The LEGO Movie?

You might remember that this guy on the right was **also** named Vitruvius.

When the writers of the movie were creating the character of a “great Master Builder”, they decided to name him and model part of his appearance after the ancient Roman Vitruvius.

Why did **they** think Vitruvius was so important?

Vitruvian Ideals – Buildings Should Have:

Firmitas

Utilitas

Venustas

Strength

Usefulness

Beauty



He had very important ideas about architecture that we still use today.

And he wrote them down, so that they could influence many generations of architects.

De Architectura means “On Architecture”, and it was a series of ten books *on architecture* that he wrote. They expressed many ideas about architecture and engineering.

One important idea was that buildings should have strength, usefulness, and beauty-- or “*Firmitas, Utilitas, Venustas*” as he said in Latin

Oakwood Campus Expansion



Most of us have been lucky to see, over the past year, a major architectural project and to be able to see how architecture affects us.

The new buildings on campus.

Who's happy the portables are gone and there's more space to play??

Oakwood needed more space-- for more students-- and to be able to offer more kinds of experiences and classes to students.

We can see that the architects and Oakwood staff thought about Vitruvian ideals of strength, usefulness, and beauty.

Firmitas: Strength



Firmitas. Strength.

Buildings need to be strong to do their job. They need to stand up to everyday use and years of wear, and to keep us safe in emergencies.

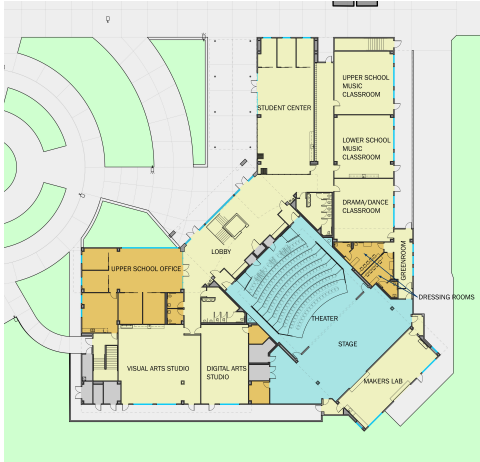
California has earthquakes. There's danger from fire, floods.

Who here signed the big steel beam last year?

This is a picture of the structural steel frame of the Liberal Arts building. Sometimes this is called the "bones" of the building and it kind of looks like a skeleton.

Structural engineers worked hard to make the building strong enough for its job-- both under normal circumstances and should the worst happen.

Utilitas: Usefulness



- XXX image of familiar classroom – LS Music Classroom hopefully

Utilitas. Usefulness.

The entire reason we build most buildings is to use them.

Architects worked carefully to plan the layout and location of the buildings so they could be used for the purposes that Oakwood imagined.

(Correct number, sizes, and shapes of rooms; appropriate halls; entry and exit points; number of windows. Even where power outlets and lights are and how much air conditioning and heating)

Venustas: Beauty



Venustas. Beauty.

The new buildings are beautiful.

Architects worked hard to fit the floor plans into shapes and colors that echoed other shapes and colors on campus.

To fit the buildings into the landscape, surrounding them with trees and plants.

And, to make a building that people would be excited to learn and work in.

(Because it's beautiful both inside and out).



Other Important Ideals

- Economy & Affordability
- Sustainability & Environment
 - Also includes traffic, noise, &c.
- Consistency with...
 - Surrounding buildings
 - Area landscape and history
 - Land use
- Accessibility

Of course, there are other important characteristics of architecture. Vitruvius wrote about some, but others are newer.

Architecture has to fit into a budget: the amount of money, space, and materials used needs to be reasonable.

People want to try and lower buildings impact on the natural environment and to use less energy. Also planners work to try and limit other ways projects negatively affect their environment-- noise, traffic, excessive water drainage, lost views...

Architects and planners make sure that buildings fit in with their surrounding area- respecting that area's history and land uses.

Also, our society cares about making sure that people who can't climb stairs, need wider hallways, etc, can use most buildings.

When thinking about our Innovation Project, Vitruvian concepts-- strength, usefulness, beauty-- and other ideals may give us ideas for problems we can help solve!