



# Syllabus: 8<sup>th</sup> Grade PLTW – Green Architecture

Mr. Knetter

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**\*\*my e-mail address can be accessed from this page\*\***

## WHAT IS PLTW:

Project Lead The Way is a United States non-profit organization that develops hands-on, project-based science, technology, engineering and math curricula for use by elementary, middle, and high schools

## PLTW UNITS TAUGHT THIS YEAR: (3 units over the next 18 weeks)

- Architectural Basics**.....Students will be able to understand that.....

The ability to measure accurately is important at school and at home, at work, and when pursuing hobbies.

Precision measuring tools are needed for accuracy, but tools must be used correctly to ensure that accurate measurements are taken.

Quality of workmanship and accurate measurements with precise instruments are necessary to successfully solve problems.

The use of scale is important in design in order to create a functional space that is proportional and aesthetically pleasing to the client.

Dimensioning and measuring are required for any architectural project as well as many careers in related fields.

Area and perimeter are used to find the square footage of a floor, a wall, or the length and width needed to build the exterior of a home.

When designing a home, standard rules must be followed in regards to traffic flow, room sizes and relationships, and the layout of kitchens and bathrooms.

A set of architectural plans includes: plot plan, foundation plan, floor plan, elevations, 3-D views, and construction details.
- Introduction to Sustainable Architecture**.....Student will be able to understand that....

Sustainable building solutions are an important part of the world today as our resources are dwindling.

Many different processes are used to recycle a variety of materials.

Researching the various recycling processes helps one better understand the requirements and the complexity of recycling processes.

The air we breathe inside a room can contain contaminants and particles, making it potentially dangerous for humans.

The health consequences of poor indoor air quality include coughs, colds, cancer, and even death.

Building green refers to methods of fabricating both commercial and residential structures to reduce their impact on human health and the natural environment.

Architectural designs are created based on the needs of humans and function of the building in relationship to the climate, region, and culture.

Within a local community there can be a variety of construction materials and architectural styles depending on purpose.

Architects, engineers, designers, and engineering technologists are in high demand for the development of future technology to meet societal needs and wants.

3. **Architectural Design Challenge**....Students will be able to understand that....

The ability to measure precisely and accurately is important at school and at home, at work, and when pursuing hobbies.

Numerous symbols are part of architectural plans. It is important to be able to identify such symbols.

Wood frame construction is popular because it is economical and strong.

Using graph paper and an architectural scale can help in the visualization of a space before the start of the prototype phase.

Architecture today uses computer-aided design (CAD) systems to quickly generate and annotate working drawings.

Three-dimensional computer modeling uses descriptive geometry, geometric relationships, and dimensions to communicate an idea or solution to a technological problem.

Using alternative materials in construction is beneficial to our environment.

Architecture and construction emphasize using environmentally friendly practices in their career fields.

Architects and engineers use the design process when designing and building structures.

Shipping containers stack up as waste unless they are repurposed; they offer many benefits as construction materials that are strong, water proof, pest proof, recycled, easy to build with, etc.

Creating a functional and environmentally friendly home is considered sustainable housing that could be adapted for emergency shelter in disaster areas.

**SUPPLIES:** All students will be given an Architectural Notebook for notes and assignment

1. FLASHDRIVE (Optional....will allow you to work on projects @ home if you download Revit 2017)

**GRADING:** Grading is an area of concern for students, parents, teachers, and administrators. There is no perfect way to assess student achievement; however, I grade on the percentage basis with the following activities being used to determine a student's performance.

1. **Unit test and quizzes:** (Quizzes can be announced and unannounced!!!)

\*\*will equal **60%** of the total grade\*\*

\*\*all students will have the opportunity to take re-test during lunch hour, ASP, and/or after school

2. **Classwork:** classroom assignments, lab reports, group projects, and student PLTW lab books

\*\*will equal **30%** of the total grade\*\*

\*\*Late work will be as followed:

**-I WILL ACCEPT LATE WORK THRU THE END OF THAT CURRENT QUARTER**

3. **Performance:** group cooperation during projects and **citizenship skills!!!!** *"Work Hard and Be Nice to People"*

\*\* will equal **10%** of the total grade

**STUDENT ATTENDANCE:** Please refer to your student planner.

**STUDENT TARDIES:** Please refer to your student planner. My expectation is....you must be in my room when the bell starts to ring.

**GRADE SCALE:** School Board approved

A = 96, 97, 98, 99, 100 (4.00)	C+ = 83, 84 (2.50)	D+ = 75, 76 (1.50)
A- = 93, 94, 95 (3.75)	C = 79, 80, 81, 82 (2.00)	D = 72, 73, 74 (1.00)
B+ = 91, 92 (3.50)	C- = 77, 78 (1.75)	D- = 70, 71 (0.75)
B = 87, 88, 89, 90 (3.00)		F = 69 (0.00)
B- = 85, 86 (2.75)		

**Management:** The PLTW rules will coincide with the School Board approved expectation outlined in the student planner.

**Special rules which only apply to PLTW classes are as followed:**

1. Brining a POSITIVE ATTITUDE!!!!
2. Be on time and ready each day.
3. Follow directions when given the first time.
4. Respect yourself and others in the class.

**CONSEQUENCES:** Class consequences will also coincide with the School Board approved expectations outlined in your student planner. Protocol will be the following for behavioral issues:

1. Simple warning
2. Classroom detention served with the teacher during lunch (30 minutes)
3. Parent contact and **two** classroom detentions served with the teacher (30 minutes a piece)
4. Administrative intervention

**The following are expectations that I have deemed fair and reasonable for 8<sup>th</sup> grade PLTW. If you agree with my philosophy, both of you may sign at the bottom and return to Mr. Knetter by March 6<sup>th</sup>. If there is part of this syllabus, which you do not agree with, please feel free to contact me at the above phone number or send me an e-mail regarding your concern. I look forward to having a great year with all of you!!!**

**Student Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Guardian Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_