



Case Study

Woodcliff Lake Middle School



“Maplewoodshop creates a new type of learner; it teaches students to slow down and think differently. They’re required to plan, and be very deliberate about everything, and [create] iterations of success. This process-driven mindset is a skill that will help them grow into adults that know how to achieve success.”

-Tom Nikolaidis, STEM Instructor
Woodcliff Lake Middle School

► School Vitals

School: Woodcliff Lake Middle School is making STEM a priority. There are 2 full-time STEM instructors who devote many hours of classroom time to activities like robotics, coding, and now, woodworking

Students: 250 students of all learning levels

Location: Northern NJ

Grades using the program: 6-8

► Why Maplewoodshop

The foundation of STEM and the engineering design process is about slowing down, planning, and iterative success. Teachers needed a way to help students pace steady progress, not race to the finish. The Maplewoodshop program gives students the opportunity to work through the engineering and design process in an appropriate paced and meaningful way.

► Educating With Maplewoodshop

Project created: Dog House

Concepts Learned/Reinforced: Mathematical Scaling, Ratios, Thermal insulation, Geometry

Life Skills Learned/Reinforced:

Collaboration, Cooperation, Creativity, Teamwork

Using no power tools, Mr. Nikolaidis’ class built a life-size dog house for some stray dogs that were seen in town. Each student built a small prototype and incorporated complex concepts like thermal insulation into their design. Students voted on the best design and used math skills to scale the project to actual size.

Taking things a step further, they laser engraved a student-created logo onto the dog house. The project went beyond academics. It helped develop

altruism and created an opportunity to give back to the community. The class had a donation ceremony and invited the town council and members of the police department to be present as Mr. Nikolaidis and his students donated the dog house to the police department.

As a result, the town council invited all the kids to attend an event where they were presented with a plaque and a Certificate of Appreciation for all their work on the dog house.

“Building the dog house, start to finish, was a great community project that went way beyond the classroom.” -Tom Nikolaidis

The success of the dog house project has inspired the class to create a community project every year. No matter what they choose to create, they will build it in the woodshop and give it to the school community or the town. The feeling of community is stronger because of this work.

► What’s Next?

Tom and his administration are rolling the Maplewoodshop Program out to more students; 5th graders will use it for the first time this year and more children will experience it through the upcoming academic year, the afterschool program, and in classroom time.

Tom has plans to incorporate CAD and other technology with the low-tech Maplewoodshop program to give his students even greater exposure to the STEM world.

Building confidence, creativity, and community in students through woodworking.