Junior Achievement JA TRADES

BIM- Building Information Modeling

Training

Junior Achievement™ USA

Member of JA Worldwide

What is JA Trades?

- Junior Achievement of Greater St. Louis offers a program called JA Trades, designed to introduce middle and high school students to careers in the trades. This hands-on program emphasizes the value of STEM skills and provides real-world experiences across a variety of trade professions.

- Students rotate through different stations to gain practical insight into careers such as welders, electricians, carpenters, and more.

- Volunteers play a vital role in the success of this program. We appreciate your support and hope your experience is both rewarding and memorable.

Why teach Trades?

- High Demand: Skilled workers are needed more than ever as many retire.
- Career Path: Trades offer a solid, well-paying alternative to college.
- Hands-On Learning: Ideal for students who prefer practical, real-world skills.
- Strong Earnings: Many trade jobs offer great pay and benefits.
- Essential Roles: Trades are critical to keeping our communities running.

Volunteer Role

- Students will rotate through several trade stations to gain first-hand experience with different skilled careers. Your role is to lead a simulation that teaches students how BIM technology operates. You'll introduce the activity, guide them through the controls, and help them understand how this equipment is used in Trades.

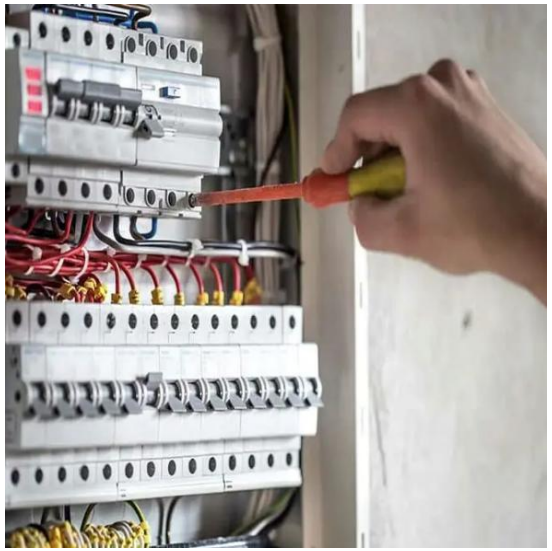
What is a BIM?

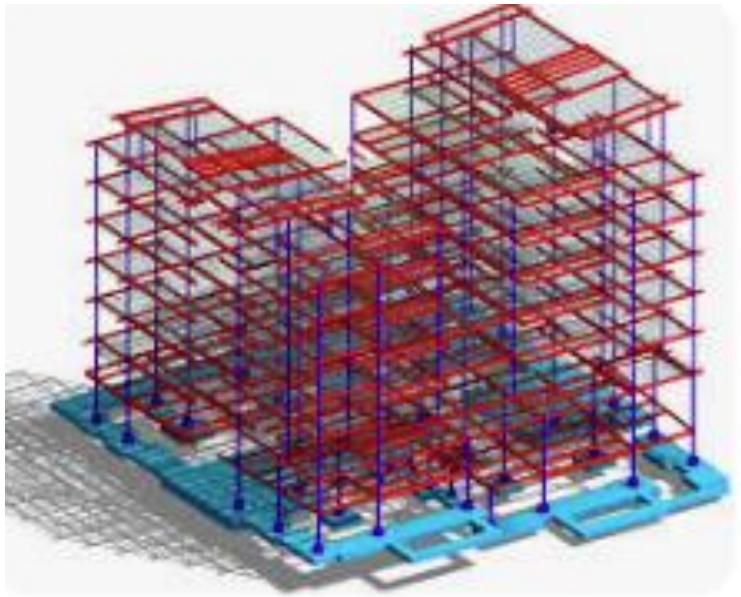
BIM stands for **Building Information Modeling**. It's a smart way to design and build things like schools, houses, or bridges using 3D computer models.

Instead of just drawing buildings on paper, people use special software to create detailed 3D models that show how everything fits together. Example: walls, windows, pipes, and more.

It helps individuals work together, avoid mistakes, save money, and make sure the building is safe and energy-efficient.

Industries that use BIM





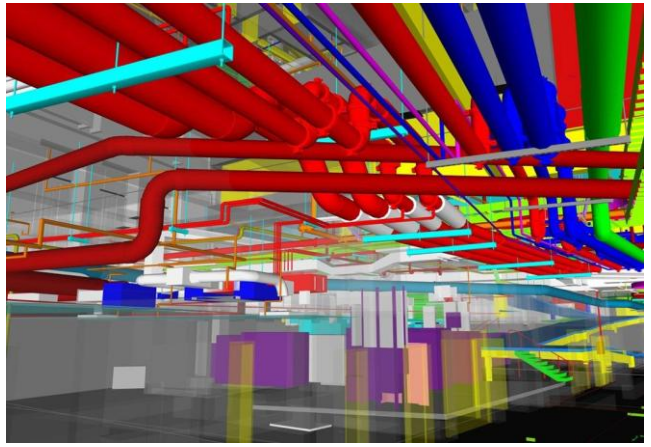
- Plumbing
- HVAC
- Lighting
- Electricians
- Steelwork Contractors
- Builders & Architects
- Structural engineers

Certification Information

- Universities offer BIM certificate courses
- Community colleges
- General contractors will offer training and certification in BIM
- Online certificate programs

The average annual pay of a BIM specialist is $86,000-$105,000

Student Activities

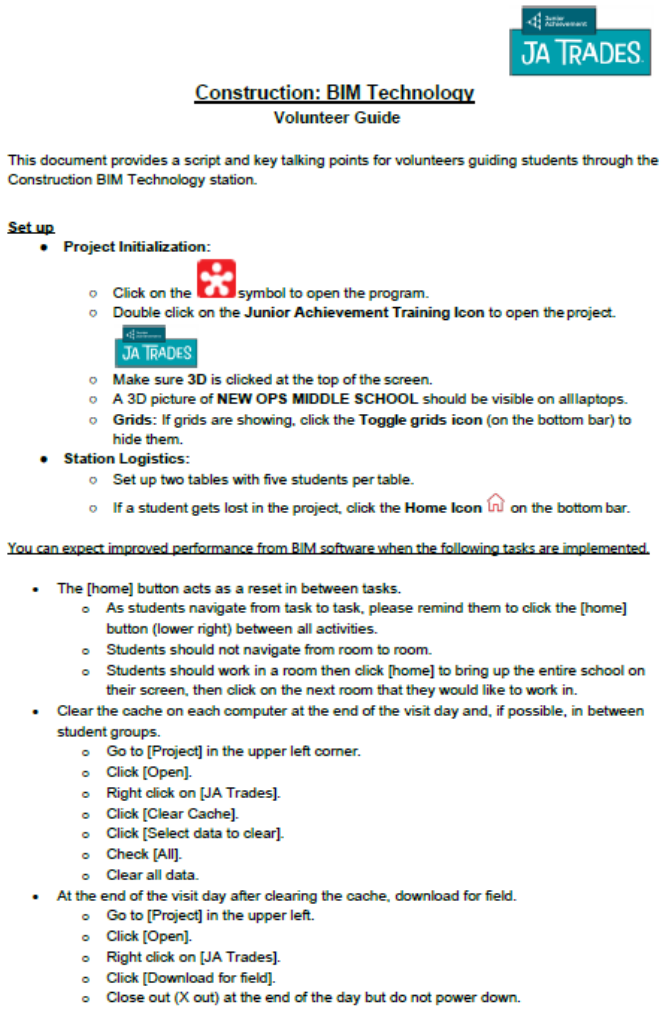


- Students will explore a **3D digital model** of a school.
- They'll look at different parts of the building—walls, pipes, air systems, and more.
- They'll use laptops to **navigate through the model**, zooming in and out, clicking on different features, and learning how buildings are put together.
- Students will be **assigned a trade role** (like an HVAC technician, plumber, or electrician).
- They'll learn what that job does and find related systems or tools in the building model.
- They'll search for **conflicts in the design**, like pipes running into air ducts or electrical wires placed in the wrong spot.

BIM Project Example

St. Louis Aquarium
Ranked as one of the most impressive BIM project in the USA.

Simulation Activity Instructions



JA TRADES

Construction: BIM Technology

Volunteer Guide

This document provides a script and key talking points for volunteers guiding students through the Construction BIM Technology station.

Set up

- **Project Initialization:**
  - Click on the symbol to open the program.
  - Double click on the **Junior Achievement Training Icon** to open the project.

    JA TRADES
  - Make sure **3D** is clicked at the top of the screen.
  - A 3D picture of **NEW OPS MIDDLE SCHOOL** should be visible on all laptops.
  - **Grids**: If grids are showing, click the **Toggle grids icon** (on the bottom bar) to hide them.
- **Station Logistics**:
  - Set up two tables with five students per table.
  - If a student gets lost in the project, click the **Home Icon** on the bottom bar.

You can expect improved performance from BIM software when the following tasks are implemented.

- The [home] button acts as a reset in between tasks.
  - As students navigate from task to task, please remind them to click the [home] button (lower right) between all activities.
  - Students should not navigate from room to room.
  - Students should work in a room then click [home] to bring up the entire school on their screen, then click on the next room that they would like to work in.
- Clear the cache on each computer at the end of the visit day and, if possible, in between student groups.
  - Go to [Project] in the upper left corner.
  - Click [Open].
  - Right click on [JA Trades].
  - Click [Clear Cache].
  - Click [Select data to clear].
  - Check [All].
  - Clear all data.
- At the end of the visit day after clearing the cache, download for field.
  - Go to [Project] in the upper left.
  - Click [Open].
  - Right click on [JA Trades].
  - Click [Download for field].
  - Close out (X out) at the end of the day but do not power down.

- You will receive a handout with detailed instructions upon your arrival to JA Trades. JA staff will check in to ensure you are comfortable with the task at hand and answer any questions you may have.

THANK YOU!

We look forward to seeing you at JA Trades!

Enjoy the Day!

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