



JA TRADES

**BIM- Building
Information
Modeling**

Training



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What is JA Trades?

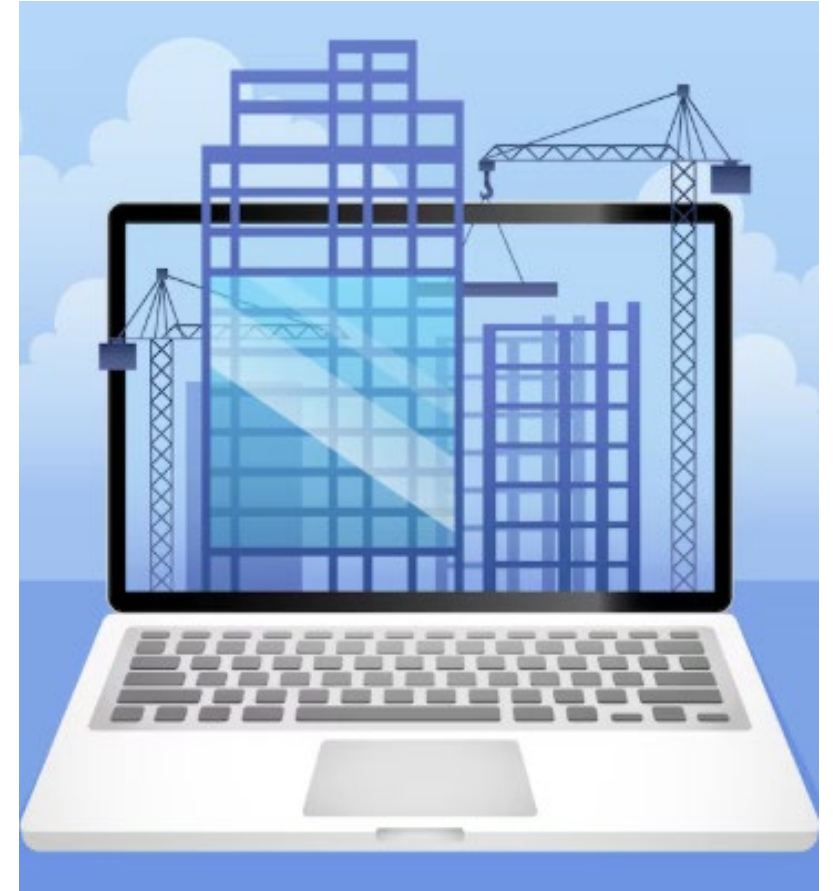
- Junior Achievement of Greater St. Louis offers a program called JA Trades, designed to introduce middle and high school students to careers in the trades. This hands-on program emphasizes the value of STEM skills and provides real-world experiences across a variety of trade professions.
- Students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



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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.

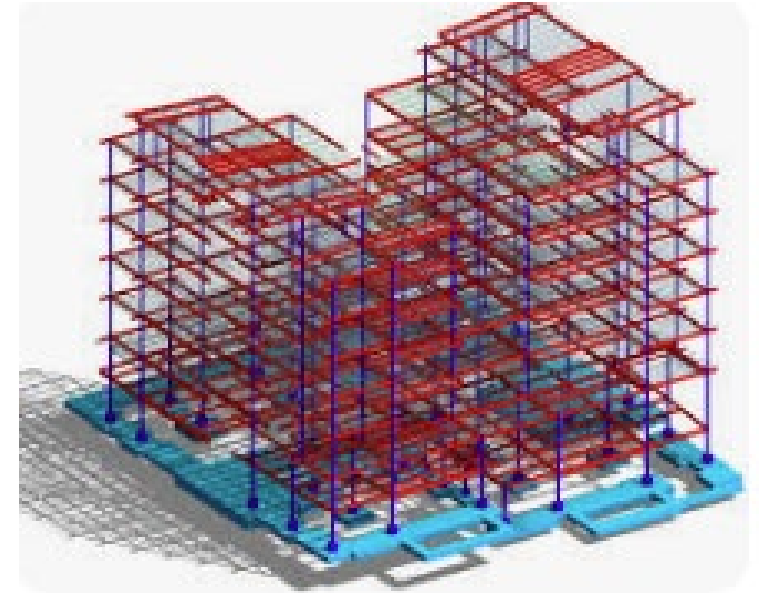
Instead of just drawing buildings on paper, people use special software to create detailed 3D models that show how everything fits together. Example: walls, windows, pipes, and more.

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



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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

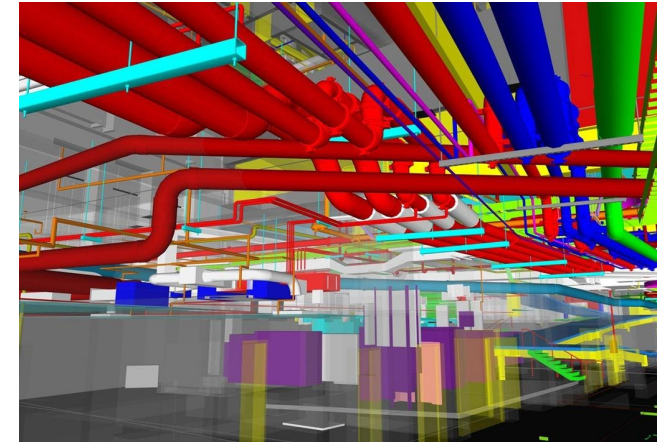


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Student Activities

- 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.



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BIM Project Example



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



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Simulation Activity Instructions


JA Trades: Construction: **BIM** Technology

Volunteer script and talking points.

If locked out of laptop (email: bim03@jastl.org password: JAcadbim33)

If student gets lost in project, click the home icon on the bottom

2 tables / 5 students per table

Click on the  symbol to open [program](#). Next double click on the [Revizto](#) Training Icon



Make sure **3D** is clicked at top. A 3D picture of **NEW OPS MIDDLE SCHOOL** should be on all laptops. If grids are showing click Toggle grids icon, bottom bar, to hidden. You may now continue with students. Ideally the above is set on laptops before students arrive.

Welcome students as they arrive.

This experience will introduce you to BIM with the use of a Middle School design.

What is BIM? **Building Information Modeling**, or 3D modeling technology.

The construction industry uses BIM technology to plan and coordinate buildings and their systems (HVAC, plumbing, lighting etc.) **virtually**, before building them **physically**.

This means, trade contractors of all types use BIM technology to manage projects and make sure their work will be installed correctly. Examples: Plumbers, electricians, fire protection, structural engineers etc. All use BIM.

BIM technology can be used on a computer, tablet, or smartphone.

BIM designers and coordinators have important jobs in the construction industry. These jobs are in high demand, pay well, and can be achieved through various career pathways.

Who plays video games? This is the same type of gaming technology as a video game. Let's explore!

Use your mouse or **W**-forward, **A**-left, **S**-backward, **D**-right on your keyboard to move through the building.

Navigate around the screen and find some objects: locate the dump truck, the truck with the crane, the cement truck (all are outside the building)

- 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.



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THANK YOU!

**We look forward
to seeing you at
JA Trades!**

Enjoy the Day!



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