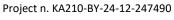




Lesson Plan

| Title of the Lesson | 3D Modeling of Historic or Famous Buildings |
|---------------------------------|---|
| Duration | 2 h |
| Teaching methods and strategies | Live software demonstrations Hands-on modelling practice Architectural style exploration with visuals Group discussions and creative collaboration |
| Learning Outcomes | Understand basic tools in 3D modeling software (e.g., Tinkercad, SketchUp) Digitally recreate simple architectural elements or structures Develop appreciation for historic and iconic architecture Explore the cultural context of buildings from around the world Strengthen spatial reasoning, design thinking, and digital literacy |
| Steps to be Followed | 1. Introduction (15 min) |
| | Discuss global architectural styles (Gothic, Modernist, Classical, Islamic, etc.) Show famous buildings (e.g., Eiffel Tower, Taj Mahal, Sydney Opera House) Demonstrate key 3D modeling software tools (shapes, resize, rotate, align) Adaptation for Inclusivity: |
| | Use large, high-contrast visualsOffer tactile models or printed diagrams |









- Vocabulary sheets with images for multilingual or neurodiverse learners
- Assistive technology (screen readers, captions, zoom tools)
- Recorded software demo for review

2. Main Activity (90 min)

Step 1 – Tool Practice (20–30 min)

- Ask students to create basic shapes: cube, cylinder, cone
- Ask students to explore aligning, resizing, rotating, and grouping

Step 2 - Building Design (30-40 min)

- Ask students to choose a structure to model based on reference images
- Ask students to build base structure, then to add detail and refinements

Step 3 - Creative Customization (15-20 min)

Ask students to personalize models while maintaining defining features

Adaptation for Inclusivity:

Tool Practice

- Handouts with screenshots and keyboard shortcuts
- Peer pairing for support
- Stylus, touchscreen, or adaptive input options
- Preset shape templates for easier modelling







Design Selection

- Curated building list with varied difficulty
- Option to design a portion (e.g., dome, column)
- Use offline sketching or printed design prompts

Detailing Work

- Time checkpoints and visual timers
- Task chunking for better focus
- Optional co-design with a peer or aide
- Celebrate progress, not just finished products

3. Wrap-Up / Reflection (15 min)

- Allow students to present and explain models to the class
- Invite students to share why the building was chosen and what was learned
- Encourage students to reflect on process and problem-solving

Adaptation for Inclusivity:

- Presentation alternatives (video, writing, audio clips)
- Sentence starters and visual prompts
- Flexible timing for model completion
- Create a digital showcase for everyone's work
- Private check-ins for shy or sensorysensitive students







Required material and resources

- Computers or tablets with Tinkercad, SketchUp, or similar
- Internet access (if browser-based tools are used)
- Headphones (optional for focus)
- Reference images or books featuring architecture
- Adaptive devices (stylus, large keyboards, zoom tools)
- Visual guides and printed handouts

In details:

3D Modelling Tools:

- <u>Tinkercad Free, browser-based modeling</u> tool
- SketchUp for Web Free 3D modeling tool
- BlocksCAD Intro to 3D modeling with coding

Architecture Inspiration

- Google Arts & Culture: Architecture
- <u>Great Buildings Collection Famous structures</u>
- ArchDaily Explore modern and classic architecture

Support for Teachers & Learners

- Tinkercad Lesson Plans
- Inclusive Teaching Tools CAST UDL Guidelines
- <u>Using Tinkercad with Students with</u>
 <u>Disabilities MakerEd</u>







| | Accessible Architecture Curriculum – ACE |
|--------------------------------------|--|
| | Mentor Program |
| | |
| Assessment or evaluation to shallows | |
| Assessment or evaluation techniques | Hands-On Engagement: |
| | |
| | Evaluate students based on their active |
| | participation in each phase of the modelling |
| | process, including learning the software tools, |
| | building the structure, and customizing their |
| | design. |
| | design. |
| | Cultural Insight |
| | Cultural Insight: |
| | Assess students' ability to make meaningful |
| | connections between their model and its |
| | architectural or cultural context, including an |
| | understanding of the building's style, history, or |
| | |
| | cultural significance. |
| | C. H. I |
| | Collaboration and Teamwork: |
| | Evaluate how students work together in pairs or |
| | small groups, ensuring all members contribute to |
| | the design, decision-making, and digital |
| | construction tasks. |
| | Construction tasks. |
| | Final Product: |
| | Assess the completeness and creativity of the 3D |
| | 1 |
| | model, considering how closely it reflects the |
| | reference structure and how effectively students |
| | used the digital tools to express key architectural |
| | features. |
| | |
| Ethical Considerations | Accessibility & Equity |
| | ,, |
| | Ensure tech tools are compatible with |
| | assistive tech |
| | |
| | Provide alternative task paths and pacing |
| | options |
| | Offer diverse content in various formats |
| | (audio, print, simplified) |
| | (22227, 2227, 2227) |
| | Cultural Awareness |
| | - Cartanan Attan Cricoo |
| | 1 |







- Represent buildings from many cultures and time periods
- Let students explore architecture tied to personal identity or interest

Tech & Environmental Responsibility

- Promote file reuse and digital conservation
- Limit unnecessary printing and emphasize screen-time balance
- Encourage thoughtful, respectful peer feedback

