Grade 4 - Tinkercad

Lesson Plan

Lesson Title:
Design a California Mission in Tinkercad

Grade Level:
4th Grade

Standards

- **CA History-Social Science:** 4.1
- **CA Computer Science:** 3-5.AP.11
- **CA Media Arts:** 4.VA:Cr1.1
- **ISTE:** 1.4 Innovative Designer

Objective

Students will design a simplified 3D model of a California mission using Tinkercad to demonstrate their understanding of mission-era architecture and its role in California history. They will apply design thinking, remix digital models, and collaborate to refine their creations.

Materials

- Computers or tablets with internet access
- Tinkercad accounts (student or classroom login)

- Projector/teacher computer for demonstration
- Reference images of California missions
- Lesson rubric handout

Lesson Procedure (50 minutes)

1. Engage (5 min)

- Teacher shows pictures of several California missions.
- Ask: *"What role did missions play in California history? How can we show their design in 3D?"*
- Briefly explain that today students will become designers using Tinkercad to model these historical structures.

2. Explore (10 min)

- Teacher gives a quick demo of Tinkercad basics: moving shapes, resizing, grouping.
- Show an example of a simple mission-style model (arched doors, bell tower, courtyard).
- Students explore the Tinkercad workspace by dragging and resizing 2–3 basic shapes.

3. Plan (5 min)

- Students sketch a quick outline of their mission on paper (or whiteboards).
- Decide which key features they want to include (arches, courtyard, cross, bell tower).

4. Create (20 min)

- Students build their mission in Tinkercad.
- Encourage them to remix shapes (e.g., cylinders for bells, rectangles for towers, pyramids for roofs).

- Teacher circulates, supporting technical skills and encouraging creativity.

5. Share & Reflect (10 min)

- Students do a “gallery walk” — rotate laptops/tablets to show each other’s designs.
- Prompt reflection: *“What features did you highlight? How does your model connect to California’s history?”*
- Class discussion on how digital design helps us represent the past.

Assessment

- Teacher observes student participation, creativity, and ability to use Tinkercad features.
- Students explain their model choices during reflection.

Rubric (1–4 scale)

1 – Minimal effort; incomplete model; no historical features
2 – Basic model with limited detail; shows some mission features
3 – Clear mission model; demonstrates understanding of history and use of Tinkercad tools
4 – Detailed, creative mission model; strong connection to history; thoughtful reflection

---

Extension Ideas

- Export models for 3D printing mini-mission replicas.
- Create a class “Mission Map of California” in Tinkercad by combining projects.
- Write a short narrative from the perspective of someone living at the mission and pair it with the 3D model.