

# REIGN OF KANGXI: EXPLORING ARCHITECTURE THROUGH 3D MODELS

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## Lesson Plan Background:

- **Demographics**
  - **Title:** Scale Models with 3D Printing
  - **Subjects/Grade Level:** Geometry
  - **Suggested duration:** 60 minutes

## THE REIGN OF KANGXI

- Kangxi -> importance of integrating Han Chinese into political system
  - Preserved Confucian-based civil service examination system
  - Sponsored creation of extensive Chinese dictionary
    - 47,000 characters
    - Structure for categorizing and analyzing Chinese terms (scholars still use today)
    - Provided an understanding of eighteenth-century Chinese
      - Influenced literature and language for generations after Kangxi's death
  - Created architectural works
    - Beijing palace in 1694 (Yong He Palace)
  - "Edict of toleration" recognizing Catholicism and legalizing mission activities.
    - Jesuit responded by providing their services as astronomers, cartographers, clock makers, and even diplomatic representatives.
  - 1689, Kangxi employed the Jesuits in negotiations with the Russians on his northern frontier.
    - Manchus successfully repelled the Russians (after Russian invasion)
    - Jesuits sent diplomatic messages to the Russian tsar, Peter the Great.
      - Both sides agreed to the Treaty of Nerchinsk. (Demarcated the border between the two empires)
  - 1715, Pope Clement VI issued a Papal Bull disallowing ancestor worship for Chinese Catholics, Kangxi responded by expelling all Catholic priests from China.
  - Kangxi->Portuguese alliance
    - Trading base at Macao which revolutionized the Chinese diet.
  - Kangxi ruled for 61 years and was the longest-reigning monarch in Chinese history.
- **Learning Objectives**
  - Students will be able to utilize a 3D printing database to find a model.
  - Students will be able to utilize a 3D printer to create their models in preparation for a future lesson where they will calculate surface area, volume and other mathematical concepts.
- **Essential Questions**
  - With the emphasis on architecture, how does one create a model for a building like a palace to know if it's structurally sound?
  - What features are necessary to preserve in a building to show its place in history?

## Lesson Plan Details:

- **Resources**

Here is an example: <https://www.thingiverse.com/thing:3893699>

- **Pre-Assessment of Prior Knowledge**

Students do not need to have any prior knowledge.

- **Teacher-Student Interaction**

1. The teacher will have students look at the types of architecture that was considered well-known during the Reign of Kangxi and will note unique features.
2. Students will look through a 3D printing database of designs to find a piece of architecture that they would like to print.
3. Students will spend time setting up their machine and porting over files.
4. Students will need to be patient for their prints to finish.
5. Students will need to clean their models post-print or to recreate their print if it fails.

- **Closing Activity**

Teachers will have students share their art and will store them in preparation for a future lesson, i.e. calculations.

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This lesson plan is available online for classroom use worldwide and can be accessed at [EASC's Resource page](#).

Source: Kenley, D. L. (2020). *Modern Chinese History* (2nd ed., Ser. Key Issues in Asian Studies). Association for Asian Studies.