



Teacher Resource

# Opera House Renovation

## Focus Questions

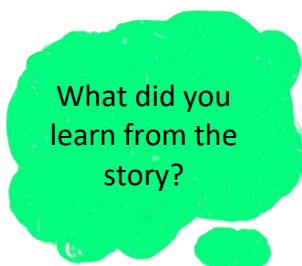
Discuss the BTN story as a class and record the main points of the discussion. Students will then respond to the following:

1. How did they choose the architect for the Sydney Opera House?
2. What year was the Sydney Opera House officially opened?
3. How much did it cost to build the Opera House?
4. Why did the Opera House recently undergo major renovations?
  - a. To improve the acoustics
  - b. To replace all the roof tiles
  - c. To repaint the interior
5. How would you describe the Sydney Opera house?

## Activity: Class Discussion

Discuss the BTN Opera House Renovation story in small groups or as a class. Ask students to record what they know about the Sydney Opera House. What questions do they have? Use the following questions to help guide discussion:

- Where is the Sydney Opera House? Find on a map.
- Why was the Sydney Opera House built?
- What sort of events take place in the Sydney Opera House?
- Why is the Sydney Opera House being renovated?
- Why is it important to conserve the Sydney Opera House?
- What words do you associate with the Sydney Opera House? Make a list.



### EPISODE 20

26th July 2022

### KEY LEARNING

Students will explore the history of the Sydney Opera House. Students will investigate the building, its functions, and its importance to people.

### CURRICULUM

#### HASS – Year 4

Pose questions to investigate people, events, places and issues.

#### HASS – Year 5 & 6

Develop appropriate questions to guide an inquiry about people, events, developments, places, systems and challenges.

Locate and collect relevant information and data from primary sources and secondary sources.

#### HASS – Year 7

Construct significant questions and propositions to guide investigations about people, events, developments, places, systems and challenges.

Apply a methodology to locate and collect relevant information and data from a range of primary sources and secondary sources.

## Activity: KWLH research

The KWLH organiser provides students with a framework to explore their knowledge on the topic of the Sydney Opera House and consider what they would like to know and learn.

What do I <u>k</u> now?	What do I <u>w</u> ant to know?	What have I <u>l</u> earnt?	<u>H</u> ow will I find out?

### Questions to research

Students will collect and record information from a wide variety of sources. Students may develop their own question for inquiry or select one of the questions below.

- When and why was the Sydney Opera House built?
- Who designed the Sydney Opera House? Learn more about the competition to design a National Opera House for Sydney. What was the inspiration behind the winner's design?
- What events take place at the Sydney Opera House?
- What materials were used to build the Sydney Opera House? Find some fun and interesting facts about the Sydney Opera House and how it was built. Include one or more of the following words in your summary: engineering, design, construction, innovation, architecture.
- What is the history of the Sydney Opera House? Create a timeline to show significant events that have taken place in and around the Sydney Opera House.
- What is an historical site and a heritage site? Find a definition. Make a list of heritage sites you know about around the world.
- Who are the traditional custodians of the land on which the Sydney Opera House was built? Explore this [interactive](#) to learn more about the significance of the area for First Nations people. What did you learn from this interactive? Who is Woollarawarre Bennelong? Research his story.



[Sydney Opera House website - Tubowgule](#)

## Activity: Heritage Investigation

Students will choose one heritage building in their local area to investigate and become experts. Students will collect and record information from a wide variety of primary and secondary sources and present the information they find in an interesting way. Below are some examples of heritage buildings around Australia.



Sydney Opera House - [UNESCO](#)



Royal Exhibition Building  
[Museum Victoria](#)



Old Parliament House Canberra - [MOAD](#)



Fremantle Prison – [State Library WA](#)

Students will respond to the following questions:

- Where is it? Locate on a map.
- When was it built or created? How old is it?
- Who designed and built it?
- What does it look like? Draw a picture. Write a brief description.
- Why was it built or created? What is its function and who used it? Why is it important?
- What are some interesting facts about the heritage site? Include a brief history on the site.
- What does the site tell us about previous societies?

Provide students with the opportunity to visit the heritage site they have researched. Students will take photos, sketch drawings and record their observations. Challenge your students to make a 3D model of the structure using recycled materials.

## Activity: Maths with Eddie Woo

Investigate the maths of the Sydney Opera House with superstar maths teacher Eddie Woo. Visit the [Sydney Opera House website](#), choose any one of the videos to watch as a class and download the teacher worksheets.

### Sydney Opera House: Teacher Resources

Join award-winning maths teacher, author and Wootube star Eddie Woo on a marvellous adventure around the Opera House uncovering the mathematical concepts behind the construction and design solutions of building the Sydney Opera House.

Learn about geometry, infinite numbers, and the importance of creativity in STEM. Each episode features special guests who have consulted on the design of the Opera House and includes a worksheet to support continued learning.

Recommended for ages 11+

### Topics

1. Nature Inspiring Design
2. Calculating an Impossible Number
3. The Purity of Geometry
4. Acoustics – Mathematics to Make your Ears Ring

### Presentation & Reflection

- Share and compare your findings with your classmates.
- Present your research in an interesting way.
- What did you enjoy about this activity? What was challenging?

## Activity – Choose a project

Individually or in small groups, students will choose one of the following projects to work on and then present their findings to the class.

### The Sails

Check out "[Badu Gili: Wonder Women](#)". Design your own projection to go on the sails of the Opera House. What is your design? Why did you choose it? Why is it important?

### Make the Opera House

Design and create an artistic representation of the Opera House. How will you build it? Consider using Minecraft or use recycled objects to build a 3D model. You could make a collage or use papier Mache.

## Useful Websites

- [Opera House Advertising](#) – BTN
- [Sydney Opera House completes major renovations](#) – ABC News
- [Sydney Opera House](#)
- [House History](#) – Sydney Opera House
- [Sydney Opera House](#) – UNESCO