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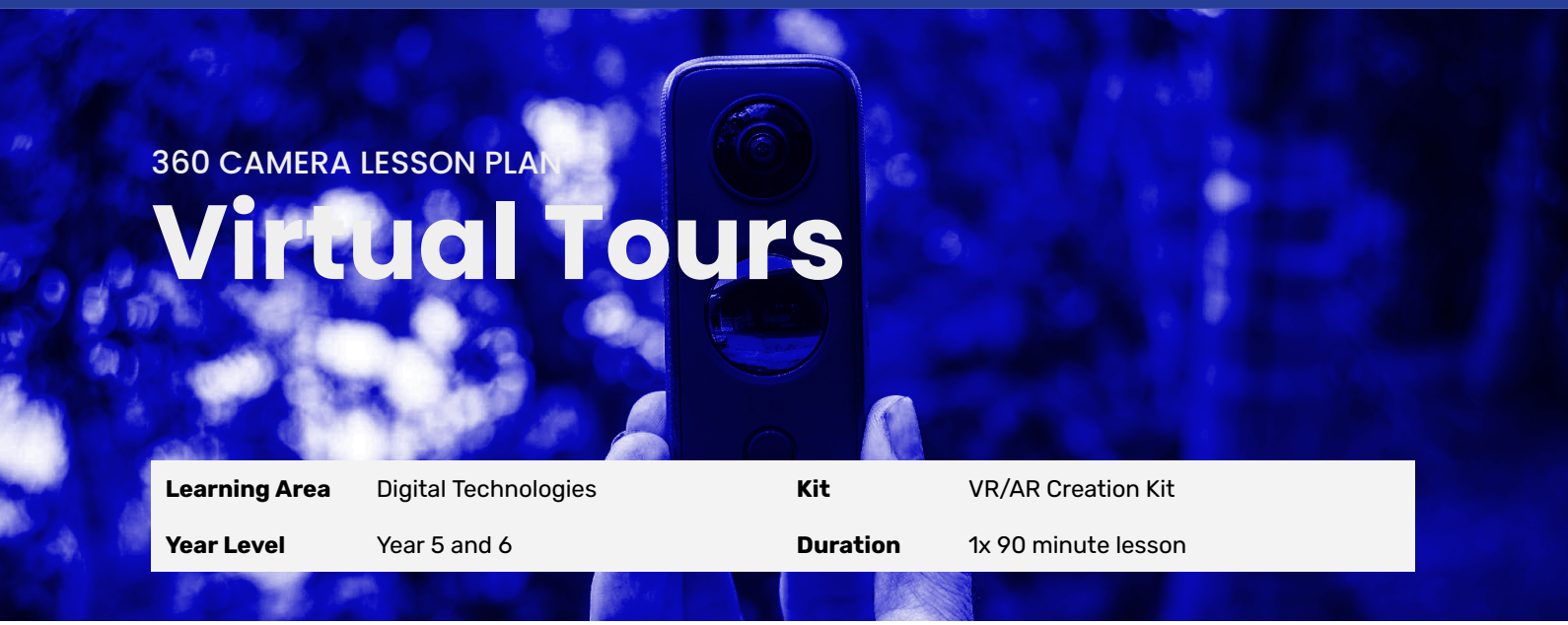
Lesson Plan



360 CAMERA LESSON PLAN

Virtual Tours

Learning Area	Digital Technologies	**Kit**	VR/AR Creation Kit
Year Level	Year 5 and 6	**Duration**	1x 90 minute lesson

Introduction/Description

Both virtual and augmented reality experiences have paved the way in effectively engaging students with the curriculum. In addition to consuming this content, students are able to let their creativity shine by using 360 cameras to design their own virtual reality experiences.

Learning Intentions

In this lesson, students will understand the process of using the Ricoh Theta 360 cameras to capture their own 360 images. Students will develop their critical and creative thinking skills through the use of CoSpaces or Thinglink.

Task Summary

After capturing 360 images using the Ricoh Theta 360 camera, students create an interactive and informative virtual tour of a chosen area of their school using either Thinglink or CoSpaces.

Preparation

Students are expected to:

- Have an understanding of CoSpaces or Thinglink (logging in, creating a new cospace, basic functions).
- Have decided which area of the school they wish to create a virtual tour for.
- OPTIONAL - conduct prior research about the school using primary sources (principal, teachers e.g.) to include in their tour.

Teachers should make sure that:

- All hardware has been charged and sanitised.
- Student devices have the most recent updated version of the Theta app installed.
- Slide Deck has been checked and teacher has accessibility.
- A copy of the digital notebook has been distributed to students and they have downloaded/ made a copy for themselves.
- Students have been divided into pairs or groups depending how many 360 cameras are available.
- A CoSpaces/Thinglink teacher account has been created, and

Developed by Naomi Guglielmo, BEd

students have been given their own log-ins.
- Time has been spent viewing the following tutorials for using the 360 cameras:
    - 360 Camera Safety
    - Camera Buttons and Modes
    - Connecting Camera to Student Device
    - Theta App

Resources

Hardware
- Ricoh Theta 360 Cameras
- USB-C Cables
- HHVR Headsets
- Mobile Devices
- Student Laptops
- Headphones
- Internet Access
- Smartboard/TV

Applications
- Theta
  The 360° camera Ricoh Theta greatly surpasses your field of view to capture the entire surroundings with a single shutter click. You can view and share on a computer or smartphone the images and videos you shoot.

Tasks/Presentations
- Virtual Tours Teaching Deck
- Virtual Tours Student Digital Notebook

Videos
- VR/AR Education Kit - Camera Buttons and Modes
  Learn about the Ricoh Theta 360 Camera buttons and modes in this short video by Lumination.
- Connecting Camera to Student Device
  Learn how to connect the Ricoh Theta 360 Camera to a device via Wifi in this short video by Lumination.
- Theta App
  This video by Lumination outlines how to use the Theta app on a device to access 360 camera images and live feed.

Websites
- Thinglink
  ThingLink is an award-winning education technology platform that makes it easy to augment images, videos, and virtual tours with additional information and links. Over 4 million teachers and students use ThingLink for creating accessible, visual learning experiences in the cloud.

- CoSpaces
  CoSpaces is a mixed reality web-based application that allows users to create and engage with interactive media content. CoSpaces affords student the ability to demonstrate their knowledge in new ways by building virtual interactive worlds,

simple or complex, that is approachable for the uninitiated.

- 360 Tour - Delightex Munich Office
  A 360 tour of one of the CoSpaces offices, using CoSpaces.

- Museum Tour Example
  Hosted on Thinglink, this museum tour showcases what students can include in their own virtual tour of the school.

Learning Sequence

Part 1

1 (15 mins) **Introduction**

- Ask students the questions 'What do you think a 360 tour is? Where have you seen 360 tours in your life?' and prompt them to write their answers on page 2 of the Virtual Tours Student Digital Notebook.
- Choose one of the 360 tour examples, linked on page 3 of the Virtual Tours Teaching Deck to look at as a class (alternatively students could access and explore for themselves, depending on the time available).
- Discuss the important elements that the 360 tour has included (e.g. titles, important information, directions, photos etc.) and talk through the content on slide 4 of the Virtual Tours Teaching Deck
- Explain to students that they will be learning how to use 360 cameras to create their own virtual tour of an area of the school. Watch the tutorial videos on slides 5-7 of the Virtual Tours Teaching Deck to help students become more familiar with using the 360 cameras.

2 (75 mins) **Development**

- In their groups, invite students to decide which role each group member will play.
  Descriptions of each role can be found on page 9 of the Virtual Tours Teaching Deck:
  - Manager (ensure group members are working together)
  - Photographer (decide where to place camera, take the images)
  - Technician (connect camera to student device and monitor photos on the Theta app)
  - *NOTE - if working in pairs, students can just assign the roles of Photographer and Technician.*
- Students record their role on page 3 of the Virtual Tours Student Digital Notebook.
- In their groups, students create a list of images they will need to take with the 360 camera to create their virtual tour on page 4 of the Virtual Tours Student Digital Notebook. Remind students that they might like to take regular photos to include in their tour as well.
- Once each group has finished creating their list, distribute the 360 cameras and student devices and assist them in connecting their camera to the device (as required). Feel free to watch the tutorial on slide 6 of the Virtual Tours Teaching Deck again.
- When the camera has been successfully connected to the device, each group can then go and take their 360 photos. Instruct students to return once their photos have been taken.
- Upon returning, students can then import their 360 photos onto their laptop. The following instructions are listed on slide 11 of the Virtual Tours Teaching Deck
  - *USB: connect the student device to a laptop using a USB cord*

and retrieve the 360 images under 'This PC'. Save into a folder named '360 Tour'
- *Theta App: open the image, tap the 'share' icon, and select the option most relevant to your students (i.e. outlook if students have a microsoft email address). Students can then email themselves the images.*

- Students create their virtual school tour using CoSpaces or Thinglink. Use slide 12 of the Virtual Tours Teaching Deck to help students get started.
- Once each group have logged in and have made a start, display slide 13 of the Virtual Tours Teaching Deck to remind students what they need to include in their tour.
- Prompt students to take a screenshot of their virtual tour, and include it on page 5 of the Virtual Tours Student Digital Notebook along with the URL.

3 (5 mins) Conclusion

- Each group can pair up with another group to share their virtual tours with. Students answer the following prompts on page 6 of the Virtual Tours Student Digital Notebook:
  - What challenges did you come across?
  - What did your group do well?
  - Do you think your virtual tour could be improved? Why / why not?

Modifications

Adaptations

- If additional time is required for students to complete the task, this lesson can be extended to 2 separate sessions.
- Depending on how many 360 cameras are available, some students could choose to work individually.
- Use a different virtual tour tool if preferred e.g. My360.
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Extension Ideas

- Students could work together as a class to create a whole school tour together. Each group can be given a different area to photograph (rather than choose themselves), and each groups' work could be collated in the same CoSpace or Thinglink tour.
- Students can take photographs using a normal camera to add photos of the different areas within their tour.
- Visual Art: students can include photos of their artworks as part of their virtual tour.

Curriculum Connections

Australian Curriculum	NSW Curriculum	VIC Curriculum
Version 8.4 Year 5 and 6 - Digital Technologies Digital Technologies Knowledge and Understanding *Examine the main components of common digital systems and how they may connect together to form networks to transmit data (ACTDIK014)* Digital Technologies Processes and Production Skills *Acquire, store and validate different types of data, and use a range of software to interpret and visualise data to create information (ACTDIP016)* Version 9 Year 5 and 6 - Digital Technologies Digital Technologies Knowledge and Understanding *Examine how digital systems form networks to transmit data (AC9TDI6K02)* Digital Technologies Processes and Production Skills *Generate, modify, communicate and evaluate designs (AC9TDI6P04)*	Stage 3 - Science and Technology plans and uses materials, tools and equipment to develop solutions for a need or opportunity **ST3-2DP-T** explains how digital systems represent data, connect together to form networks and transmit data **ST3-11DI-T**	Levels 5 & 6 - Digital Technologies Plan, create and communicate ideas, information and online collaborative projects, applying agreed ethical, social and technical protocols **VCDTDI029** Develop digital solutions as simple visual programs **VCDTCD033**

Cross-Curriculum Priorities

▯ Aboriginal and Torres Strait Islander Histories and Cultures
▯ Asia and Australia's Engagement with Asia
✅ Sustainability

Capabilities

✅ Literacy
✅ ICT Capability
✅ Critical and Creative Thinking
▯ Personal & Social Capability