# Virtual Reality  |  Strand: Creative Design |  Skill: Beginner



**STRAND:**
Creative Design

**FUTURE READY SKILLS:**
- Creativity
- Coordinating with Others
- Judgment and Decision Making

CREATED:  4/6/2020  |  REVIEWED: 4/17/2020
**AUTHOR(S):** Lindsay Lamm, North Allegheny
Implementation shown: **Grade 2-5**

**RESOURCE LIBRARY TOOL(S):**
VR Viewers, Ricoh Theta Cameras
**ADDITIONAL:** Google Expeditions, Google Tour Creator

**OVERVIEW:** Students become producers of virtual reality resources while documenting experiences throughout the school year.

**ADAPTATION:** Documentation of FIeld Trips (particularly GOAL field trips). School tours for new students. Virtual documentation of evening school events for anyone that cannot attend. Previewing of 5th grade overnight field trip for visitors that may have a bit of anxiety.

**RATIONALE:**
Anytime we can move students from consumers to producers is a way to better prepare our students for future jobs and technological advances.

**NOTES:** *Please be very aware of the sharing settings for your projects, as well as your school district's policies regarding sharing of these types of projects. For example:*
- We did a project where the students created a virtual reality tour of a high school. However, after discussing with principals, upper administration, and school resource officers, we had to keep the tour on file in-house. We could not make the tour public due to security concerns.

- Please also be aware of any students that may be in the photographs and any identifying information put in with the commentary for the Google Tour, as it needs to adhere to any district policies you may have.

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**1) EXPLORE GOOGLE, 50 mins**

Students will use existing Google Expeditions throughout the school year to further explore topics of interest within the curriculum or through independent studies of personal interests.

**2) PLAN PHOTOS, 40-60 mins**

Students will work as a class with the classroom teacher to help develop an itinerary for what pictures should be taken on their field trip to later annotate in the Google Tour.

**3) TAKE 360 PHOTOS, FIELD TRIP**

Students will take pictures with a Ricoh THETA 360 camera during a field trip for annotation later in the pathway.

**4) ANNOTATE PHOTOS, 60-180 mins**

Students will annotate the Theta 360 photographs by adding comments, images, and site narrations for various points of interest in the photographs.

**5) PUBLISH TOURS, 30-60 mins**

Students will share the Google Tour creation in various ways.

# ABC CREATE Learning Pathways | abccreate.org/pathways

## ACTIVITY 1: EXPLORE GOOGLE EXPEDITIONS

| | MATERIALS or RESOURCES: | LEARNING GOALS: |
|---|---|---|
| **60 mins**  **ONLINE** | ● WiFi-enabled device<br>● Google Expeditions App<br>● VR Headsets (optional) | **Students will be able to...**<br>● Further their understanding of topics within the curriculum by exploring places virtually via Google Expeditions already created in the database. |

**ACTIVITIES**:
Before students can be expected to have a vested interest in the creation of virtual reality, they need to experience it authentically.

Google Expeditions offers a significant database of virtual reality experiences for students to explore. Presently, many textbook companies are paying to have Google Expeditions created as a companion to their resources. While Expeditions can be explored in Virtual Reality via VR goggles, it is also very accessible on iPad devices without the goggles. If you are in the market for VR goggles, we highly recommend the Merge VR headsets, as they are durable, compatible with many devices, and easy to wear for little ones.

The first suggestion before moving further in this pathway is to find at least four Google Expeditions to use in your classroom. We want students to experience this resource on multiple occasions, preferably in multiple subject areas.

To do this:
1) Download Google Expeditions on your teacher iPad.
2) Sign in as a teacher with your educator Google account.
3) Search the database for Expeditions that will fit within the objectives and goals of your curriculum.
4) Save these Expeditions on your iPad for easier use later!

Once you have Expeditions that will work for you:
1) Start the Expedition of your choice on your teacher iPad.
2) Have students download Google Expeditions to their iPads.
3) Expeditions are run via WiFi network. This is important to note, as the app will not work if WiFi is down or in a setting without WiFi.
4) Once students tap Google Expeditions, they should be able to find your teacher account and a "Join" button on the Expedition you started already.
5) From here, you lead the Expedition with as much or as little discussion as you would like.
6) NOTE: Google does update Expeditions on a fairly frequent basis. We always recommend updating the app to the newest version before launching to keep everyone on the same page.

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## ACTIVITY 2:
## PLAN FIELD TRIP PHOTO ITINERARY

| | MATERIALS or RESOURCES: | LEARNING GOALS: |
|---|---|---|
| **40-60 mins**<br><br>**OFFLINE** | • Outline of Field Trip Itinerary<br>• Collaborative note-taking software of choice | **Students will be able to...**<br>Work as a class to develop an itinerary for pictures to be taken while on the field trip for annotation later in the process.<br><br>*Special focus will be placed on whether students should be in the pictures and how to determine best picture places |

**ACTIVITIES:**

1. Teacher should have a rough outline of the field trip itinerary for students.

2. Using this itinerary, students should help create a list of what pictures should be taken on the field trip for annotation later in the process. This is a great time to have a discussion with the students regarding great pictures for annotating.
   - Discuss how the pictures from the Google Expeditions the kids have already seen were very open pictures with multiple focal points in each one.
   - Consider talking about how most of the pictures on the sample Google Expeditions focused on the parts of the landscape without having too many people or tourists in the pictures.

3. Allow students to revise the list based on discussions from above.

4. Determine who is going to take the photographs for the trip.
   - Will you have groups of students responsible for particular parts of the trip?
   - Will you have an adult taking the pictures due to the age of the students?

5. Determine how students will be annotating the Google Tour.
   - Will you have one class Google Tour and all students will be responsible for contributing?
   - Will you have groups responsible for particular parts of the trip, similar to a Jigsaw activity?

6. This planning step is important to have nailed down before going on the Field Trip, as pictures can only be taken while on the field trip.

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## ACTIVITY 3:
## TAKE PHOTOS DURING FIELD TRIP

| FIELD TRIP | MATERIALS or RESOURCES: | LEARNING GOALS: |
|---|---|---|
| **FIELD TRIP**<br><br>**OFFLINE** | ● Charged RICOH 360 Camera<br><br>● Tripod for camera (optional)<br><br>● Device for taking pictures with THETA 360 app (optional) | **Students will be able to...**<br>● Take PHOTOS with the Ricoh THETA 360 camera for annotation later in the Pathway process.<br>● Look at the photographs after they are taken, but before leaving the trip, to be sure all photos are ready to be used. |

**ACTIVITIES:**

1. The night before the field trip, charge the Ricoh THETA 360 camera. Do this by plugging in the camera overnight to attain a full charge for the next day.

2. Before leaving for the field trip:
   ● Have the camera, monopod/mini tripod, and a device with the THETA 360 app.

   ● Check the connection from camera to device. The THETA 360 camera has a personal WiFi connection. Be sure to go to the WiFi settings on the device with the app and connect to the camera. This allows for previewing of the photographs on the device and transferring of photos from camera to device seamlessly.

3. Take the pictures as you are working through your field trip.
   ● We recommend checking the final photographs before moving onto the next one and before leaving the field trip, as these are necessary for the next steps in the pathway.

   ● When in doubt, ALWAYS take another photograph. It is always better to delete a photograph that is a duplicate.

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# ACTIVITY 4: ANNOTATE FIELD TRIP

| ⏱ 60-180 mins 💻 ONLINE | **MATERIALS or RESOURCES:**<br><br>● Laptop for Google Tour Creator<br><br>● THETA 360 photographs in Google Drive | **LEARNING GOALS:**<br><br>**Students will be able to...**<br>● Annotate their field trip photographs with points of interest, adding comments, still images, or even site narratives to each marker |
| --- | --- | --- |

**ACTIVITIES:**

1. Begin by putting the photographs into the [Google Tour Creator](#) software. We have found success in the Tour being hosted on the teacher Google account, as viewing permissions are managed better in this option.

2. Next, have students put Points of Interest into the photos.
   - Students have the option to add captions, still pictures, and voice-over narrations to the points of interest.
     - **Note:** Captions can be added instantaneously. Still pictures and voice-over narrations do require extra time, as pictures need to be found and voice-overs need to be recorded.
   - Students can also add as many points of interest to a photograph as they would like.
   - The grade level with which you are working will determine how to add these points of interest.
     - For lower grade levels: we recommend adding the points of interest as a whole class. This allows for whole class ownership of the Tour.
     - For upper grade levels:
       - you may want students to work in small groups on just one of the photographs (jigsaw method). In this model, students can do more research and add more in-depth information to the points of interest.
       - Another option for upper grade levels is to still have those groups of students, but require them to add one point of interest to every photo. This allows for more complete ownership of the tour.

3. Annotation can truly be made as simple or complex as you would like it to be. We found quite a bit of success with annotating as a whole class. Our objective was to review main points of the field trip, and this activity allowed us to accomplish this objective while creating a resource that could be shared with parents and loved ones who maybe could not come on the trip with us.

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## ACTIVITY 5: PUBLISH TOURS

**30-60 mins**

**ONLINE**

**MATERIALS or RESOURCES:**

- WiFi-enabled device
- Google Expeditions App
- VR Headsets (optional)

**LEARNING GOALS:**

**Students will be able to...**
- Share Google Tour creations in various arenas.

**ACTIVITIES:**

- An important part of this work is identifying an audience with whom students can share their Google Tour creations. This allows for a more specific focus while creating points of interest.

- Google Tour creation audiences could include:
  - Parents and students who maybe could not make a particular field trip due to unforeseen circumstances.
  - Future students who may need an overview of  new surroundings before feeling comfortable in a new place.
  - School Board and Parent Faculty Association members, as students could show what they learned as a "thank you" for the funding provided by these organizations to go on the field trip.
  - Other classmates - If more than one classroom is doing this activity, it would be interesting to trade Google Tours and see the similarities and differences in what pictures and points of interest were included.

- We would strongly encourage you to find an audience that works for your project and follow through with the sharing of the resource, as students are able to take pride in their work.

- *NOTE - Please be very aware of the policies your district has regarding sharing of information, especially if you choose to have students identify themselves with the information they contribute to the Google Tour.*

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**This Pathway was created by:**

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**Feel free to contact us with any questions or suggestions, or to share your students' creations. We would love to see them!**