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Tech Talk
Destination Adventure: Virtual Field Trips that Won't Disappoint!

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Abstract

Who doesn't love going on an adventure, seeing new sights, observing rare occurrences, talking to people from far away, and experiencing new things? Imagine the thrill students can have with doing things not before possible, all while deeply engaged and mastering academic standards. What about taking a trip to the Louvre in France, learning about corals in the Caribbean Sea, investigating ecosystems in Colorado, or learning about engineering by visiting an Amazon fulfillment center? Even if these may seem out of reach, each of these are possible via a virtual field trip. A virtual field trip (VFT) can be a great way to provide unique, one-of-a-kind experiences that will captivate students and provide meaningful, standards-aligned learning activities.

VFT Defined

So, what is a virtual field trip (VFT)? Han (2021) describes it as a computer simulation of an actual field trip. VFTs involve using a computer or digital device to explore locations, events, or real-life situations represented by images, videos, and audio. Some involve augmented or virtual reality, while others utilize synchronous meetings with experts (Duong, Telemeco, Dean, & Hansen. 2022). VFTs can be a live virtual tour with a guide or a video recording of a past event. Some VFTs were in place before the COVID pandemic; however, many were developed during the pandemic as a temporary measure to engage students. Many VFTs are continuing to reach a larger audience and fulfill their organization's mission of increasing awareness and educating the public (Han, 2021).

Why VFT

There are many reasons why a virtual field trip makes sense. Sometimes taking students on an actual field trip is not feasible because of logistical barriers (Krawkowka, 2012). The travel, expenses, and complexities can prevent teachers from the adventure they want their students to have. VFTs tend to be more cost effective - especially when they are free (Blachowicz & Obrochta, 2011; Duskin; 2021; Lukes, 2014), they tend to be more accessible because physical boundaries and obstacles are not present, and there are fewer safety concerns (Han, 2021; Krawkowka, 2012).

Benefits

There are benefits VFTs afford students beyond overcoming boundaries and obstacles. VFTs are shown to increase students' exposure to new perspectives (Duskin, 2021; Hampshire, 2021; Ross, 2021); are more accessible for rural students (Duskin, 2021); and can increase students' learning outcomes (Galas & Ketelhut, 2006; Merchant et al., 2014).

Learning during a VFT can be embedded in project-based and/or problem-based learning experiences (Krawkowka, 2012). Imagine students presented with a real-world problem that requires them to consult a scientist in the field, one they can ask questions virtually. Imagine students then creating innovative solutions to the real-world problem and presenting that to an audience that is either meeting in person or virtually. With the use of VFTs, cross-curricular connections can be made while aligning with academic standards, boosting content knowledge, sparking curiosity and interest in new things and places, connecting curriculum to real-world experiences, and improving vocabulary acquisition (Lester, 2012).

Keep in Mind

When planning a virtual field trip, there are a few things to keep in mind. It is important to engage students' senses (hearing, seeing, feeling, smelling) to enhance the experience (Blachowicz & Obrochta, 2011). Don't forget to identify curricular goals and connections to the standards (Blachowicz & Obrochta, 2011; Lester, 2012). Be sure to investigate resources/websites to meet the goals and standards and that will ignite student engagement and curiosity (Lester, 2012). Plan the progression to ensure enough time, space, and interest. Be sure that the curricular goals can be accomplished (Lester, 2012; Hampshire, 2021). Don't forget to debrief the VFT and allow time for student reflection of the learning. Then determine the level of effectiveness of the experience and make notes of how to improve the experience for future VFTs (Lester, 2012).

Even though the field trip is virtual, you can make it feel like going on a real field trip by doing a few simple things, like getting permission slips, requesting bagged lunches, going over expectations, and moving to different rooms to represent different locations (Lester, 2012)
Many VFTs are free, and some come with a cost. Below is a table with hyperlinks to VFTs that have options like narrated videos; live, virtual guides; on-demand options, and self-guided virtual tours. Included in the table are descriptions of the offerings, the costs, and notes identifying resources, age ranges, and any requirements.

Table 1: List of virtual field trips with explanations for each

Virtual Field Trip Link	Type	Costs	Notes
The Nature Conservancy	Narrated videos	Free	Teacher guides are available with alignment to the Next Generation Science Standards. All age groups.
National Park Service	Live programs, webcams, virtual tours, narrated videos, photo gallery	Free	Multimedia options, activities for different age groups, teacher portal, games and challenges. All age groups.
National Museum of Natural History	Archived video webinars, Ask Science How, Scientist Spotlight, live online school webinars	Free. Registration required for live online school programs.	Teaching resources available for many programs, Do-it-Yourself exhibits (must apply for access), multiple languages available for many programs. All age groups
Walking Mountain Science Center	Videos, activities, crafts		Teacher resources with lessons and videos. Early childhood - middle school
Discovery Education	Live and on-demand field trips	Free	Elementary - high school. Comes with companion guide, aligned to standards, and hands-on learning activities
Center for interactive Learning and Collaboration	Register for programs	Free to fees - depending on program	Programs for K-12. Disciplines such as music, world languages, science, social studies, the arts, and more. Aligned to standards. Free membership.
Ellis Island Interactive Tour	Self-paced tour with text, images, and video	Free	Explores Immigration through Ellis Island with an option to explore immigration from 1492 to current times
Museum of the Revolutionary War	Self-paced tour with text, images, and	Free	Classroom kit and resources for grades 2-8

	video		
Google Maps Treks	Content provided in text, images, video, and Google map images	Free	Many locations around the world to choose to explore.
360 Schools	Images that can be viewed in VR or normally	Free	Thousands of panorama images to choose from. A couple of guided tours and how to create guided tours included.
Airpano	Video and images	Free for some options	360 degree videos and images from around the world
Virtual Field Trips	On-demand videos and activities	$6-10 for single video, $45/year for single class, $350/year schoolwide	Videos, activities, quizzes and worksheets for K-9 social studies, geography, life sciences, and ancient civilization lessons.
World Awareness Children's Museum	Virtual and interactive led by museum educator	Free	For preschool - 6th grade. Activity to complete during or after the event. Aligned NYS Next Generation Learning Standards. 60 minutes long for up to 30 students.
San Diego Zoo live cams Watch and Learn Video San Diego Zoo Arts and Crafts Activities	Live cams and recorded videos. Activities	Free	Watch various animals live in the zoo setting or recorded videos of animal interactions. Free activities associated with zoo animals.
Oregon Zoo	Narrated videos	Free	Lesson linked to English language arts, physical education and science.
The Louvre	Self-guided virtual tour	Free	Access to several Petite Galleries.
Louvre Kids	Animated stories	Free	Short video stories about different art pieces
Google Arts &	Images & text	Free	Options include artists, mediums,

Culture	and 360 narrated videos		art movements, historic events, historical figures, etc.
Amazon Fulfillment	Scheduled virtual tour	Free	Behind the scenes one hour tour using live streaming, videos, 360 degree footage and real-time Q&A. Registration required
Amazon Future Engineer Tour	Scheduled virtual tour	Free	Registration required. Downloadable teacher toolkit provided. Aligned to CSTA K-12 computer science standards

These are but a few of the many virtual field trips to choose from to help enhance instruction and meet curricular needs. Virtual field trips are a great way to let students experience new and exciting places, people, and animals. While it takes work on the front end to design a virtual field trip that aligns to standards, sparks curiosity and wonder, and has front-loading and debriefing activities, it can be well worth the effort!

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