

## Technology Toolkit for Science

Tool	Grade Level	Category	Purpose	Sample Activity	How to Find It
<b>Amazing Space</b>	6-8 9-12	Simulations/Models	Amazing <b>Space</b> is a website that features many types of resources about space including online explorations about gravity, the <b>solar system, comets and asteroids, black holes</b> , and other space-related topics.	The students choose an online exploration that is relevant to the topic of study. For example, if the class or student is studying gravity, he or she might select a simulation of how planets with different amounts of gravity are affected by falling comets. The students would use what they have learned about the topic of study to develop their own live or simulated demonstration to present to an audience.	<a href="http://www.amazingspace.org">http://www.amazingspace.org</a>
<b>Discovery Ed Virtual Fieldtrips</b>	3-5 6-8 9-12	Virtual Field Trips	This site features both live and archived virtual field trips for students in all grades. Some of the archived examples include trips to NASA and the National Zoo in Washington, D.C.	Students participate in a live, virtual field trip relevant to the current topic of study. After attending the field trip, students will select a topic related to the excursion to explore further. Then students will create a project to demonstrate what they have learned about their topic of study.	<a href="http://www.discoveryeducation.com/Events/virtual-field-trips/explore/index.cfm?campaign=flyout_teachers_virtual_field_trips">http://www.discoveryeducation.com/Events/virtual-field-trips/explore/index.cfm?campaign=flyout_teachers_virtual_field_trips</a>
<b>NBC Learn: Science in the News</b>	6-8 9-12	Research/Reference	Science Behind the News features videos about science topics that are a part of today's current events. Some of the topics covered include <b>drug-resistant bacteria, extrasolar planets and flu vaccines</b> .	Students select a topic from the website relevant to a given or self-selected topic. Then, they use the information from this site and other resources to develop a project or presentation.	<a href="https://www.nbclearn.com">https://www.nbclearn.com</a>
<b>Phet Interactive Simulations</b>	9-12	Simulations/Models	This website produced by the University of Colorado at Boulder is a hub for simulations and models for <b>Physics, Earth Science, Biology and others</b> . It also features teaching resources. Examples of featured simulations include <b>building molecules and atoms, radioactive dating, molarity, the</b>	This activity can be done individually or in small groups. Students become familiar with key terms concerning what they will be doing with the given simulation. Then, they are given the opportunity to explore the simulation before receiving explicit directions concerning the activity. When exploration is done, students will complete the simulations	<a href="https://phet.colorado.edu">https://phet.colorado.edu</a>

			<b>greenhouse effect</b> , and <b>balancing chemical equations</b> .	designated by their teacher. If possible, students will apply what they have learned through the simulation by conducting an exploration of the live phenomenon or process with an authentic lab activity.	
<b>Ptable</b>	9-12	Simulations/Models	Ptable is a dynamic <b>periodic table</b> that allows students to obtain information instantly about specific <b>elements</b> and their properties.	Students will become familiar with a key term or concept related to the periodic table. They are given the challenge to find the elements that meet specific criteria by using the interactive chart. Once they have made their determinations, students will select a few of the elements to test to see if they do meet the specified criteria. The teacher will approve the elements chosen prior to students doing the lab activity to ensure safety.	<a href="http://www.ptable.com">http://www.ptable.com</a>
<b>San Diego Zoo for Kids</b>	K-2 3-5 6-8	Virtual Field Trips	The San Diego Zoo for Kids is more like a virtual zoo than a website. Students have the opportunity to view live animal cams, see pre-recorded expeditions and learn more about the zoo animals through resources such as games and videos.	Students will go on a virtual scavenger hunt to find out specified information based on the current topic of study.	<a href="http://kids.sandiegozoo.org">http://kids.sandiegozoo.org</a>
<b>Science Take: The New York Times</b>	9-12	Research/Reference	This site features short videos on a variety of science content areas such as <b>biology</b> and <b>astronomy</b> . Videos can be downloaded directly, sent as links or embedded into other websites.	Students create a website on a topic of study based on specific learning objectives. They embed videos supporting their topic directly into their sites.	<a href="http://www.nytimes.com/video/sciencetake">http://www.nytimes.com/video/sciencetake</a>
<b>Sheppards Software: Science</b>	K-2 3-5	Games/Interactive Media	Students in the elementary grades can play games related to a variety of science topics. Games feature links to related content so students can review the material before playing the game.	The teacher will prepare a list of “units of study” from the “Kid’s Corner” section of the website for students to choose from as an independent learning activity. For each unit, the teacher will list the tasks, activities and games the	<a href="http://www.sheppardsoftware.com/science.htm">http://www.sheppardsoftware.com/science.htm</a>

				students should complete. If the teacher chooses to, he or she may have students do a small project to demonstrate what they learned.	
<b>The Kids' Science Challenge</b>	3-5 6-8	Games/Interactive Media	Students in elementary grades can watch videos about various science topics, play games, complete activities and learn about different careers in science. There is also a section for teachers and parents featuring lesson plans and activities.	Students select one of the science career profiles from the "KSC Science Careers" section of the website. Then students will explore the resources available and learn more about a real scientist who is in that career field. They will use the information from this site along with other outside resources to create a job profile for the career they chose and present this information any way they choose to. For example, after learning more about what a microbiologist does, a student writes a fake job announcement on a webpage he or she creates.	<a href="http://kidsciencechallenge.com/careers/index.php">http://kidsciencechallenge.com/careers/index.php</a>
<b>Wildscreen Arkive</b>	3-5 6-8	Research/Reference	Wildscreen Arkive is an interactive science website focusing primarily on <b>earth and life science</b> . It features games, quizzes, images, and information about a variety of topics including <b>habitats, different species, and conservation</b> .	Students explore the Wildscreen Arkive website to research a topic of their choice related to the learning objectives. With proper permission from content creators, they can use the videos and other resources to create a project in the form of a report, a video, or another multimedia product.	<a href="http://www.arkive.com">http://www.arkive.com</a>