**Tech Expert Module:** [***Smithsonian Education***](http://smithsonianeducation.org/)

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**Overview:**

 The Smithsonian Education website (<http://smithsonianeducation.org/>) can appear intimidating at first. This massive treasure trove of articles, information, games, and lesson plans can make a person feel a bit overwhelmed, and even lost. And make no mistake, though the website is well organized, to find what you are looking for requires having a specific idea in mind. It requires experience with the way the website function (no teacher should try to use this resource for an immediate class without having the time to casually explore it first). But if you can learn to use this tool to its true potential, the possibilities are nearly limitless. Any subject you can imagine with regards to your core subject will have an article to gather information from. Though the games provided can appear childish to older students,, younger middle school students might find the change in learning-style refreshing and enjoyable.

 First, if you want to use this resource, you must understand what it is. As a tool, it is more of a reference guide than a means of presentation or assessment. Think “encyclopedia” or “teaching guide” more than “chalkboard” or “pencil”. The website is divided up into three major sections: Educators, where the majority of information is, Families, and Students. Of these sources, it is most likely that a teacher or student will spend the most time at the “Educator” page. This site if further broken down into Field Trips, Professional Development, Lesson Plans, Resource Library, and Online Events. Most of the use of this website is found within the Lesson Plans, which includes hundreds of tested, successful lesson plans on a wide range of subjects, and the Resource Library. This part of the webpage is a large collection of resources; they can be sorted by grade level, subject, and Standards of Learning from every state. The “Families” section is broken down by At the Smithsonian, Point and Click, and Time Together. Finally, the Student Section is composed mainly of games and activities, mostly sorted by their subject matter.

 Ultimately, the “Families” and “Student” sections fall a little flat. Unless you intend to visit the museums, or unless you’re students are particularly young, these websites will have little interest to you. However, the two strongest parts of the website, the large collection of Lesson Plans and the nearly 1000 Resources that can be sorted numerous ways, are useful to both teacher and student. If a teacher has a specific idea in mind of what he/she is looking for (vague concepts bring up too broad a search), and if the teacher has set aside enough time to search through the large database, this website can be invaluable to teachers from all age groups, particularly those having trouble expressing SOL objectives to students in a way they can relate to. The website is also incredibly useful to teachers who are at a loss for a certain lesson, though the number of ready-made lesson plans is nowhere near as impressive as the number of resources that can be found. Though not so complex that it becomes a “visit everyday” website, it is something that is certainly worth checking out every once in a while to see what new material has been added. More importantly, aside from its more practical uses as an encyclopedic source, it can be used for teachers to find ways to use the Smithsonian Institute’s resources to improve their knowledge in their pedagogical skills in their content area. While certainly not a magic wand to provide resources for any subject or lesson plans for any material, it is certainly worth checking out what is available.

**How to Get Started with Smithsonian Education:**

One of the major problems with using a site this big is not knowing all that is has available. So a brief outline will be provided here to help readers grasp just how much Smithsonian Education offers. Let’s start off by understanding each of the three major areas of the website, and what their uses are. The Families section is the smallest, providing mostly ways for families to spend time together learning, and encouraging families to visit the Smithsonian Museums. If you know of students that are planning a trip to Washington DC, you might encourage them and their family members to visit the Family section of the website to encourage. There’s a section titled “Make the Most of It” which provides a comprehensive list of things students should do before, during, and after a visit to the Smithsonian museum. There are also “spotlights” that stress child-friendly educational exhibits; not just in Washington, DC, but major cities around the country. Finally, there is the “Events for Families” section. This will take you to the Smithsonian Online Calendar. From here, you can see the Event Calendar, as well as the official calendar for Museums, Zoos, and other things related to the Smithsonian. Ultimately, the “Families” section seems more aimed at assisting families plans trips to the Smithsonian and Smithsonian-sponsored events, providing activities for these exhibits and helping families get the most out of them before, during, and after visiting.

The student section has areas for Art, Science/Nature, History/Culture, and People/Places. These subjects correlate to the Smithsonian Museums. Each section includes activities and games. These both seemed aimed at younger crowds, with perhaps young middle school students being the oldest possible age range. If you work with Elementary or Middle School children, the game section might be worth your time to investigate. It could provide entertaining ways to help younger students study certain topics. However, once the student gets out of the pre-teen age group, it is unlikely that these games will be able to keep their attention for very long. As a sample, I played the “Digging for Answers” Game, which is a point-and-click quiz game that covers a small variety of topics. The material wasn’t necessarily easy, nor was it anything that you might be expected to cover in class. Another game, entitled “Choose Ur Style” (the spelling is intentional), was a basic computer paper-doll game focused on teaching students about customary African outfits. While the fact that you choose what goes on the doll add interactivity to it, the “game” is more of an interactive picture book than anything else. Ultimately, while the games section might have the rare game or two that could apply to a topic you are teaching, they are largely avoidable except as time killers. Aside from these games and activities, the Students section also includes “Events for Kids” (which again takes you to the Smithsonian Calendar) and a section called “Secrets of the Smithsonian.” This section deals primarily with some of the unique things that can be found within the Smithsonian museum, such as the Hope Diamond and the very large Fossil collection. Also mentioned in Smithsonian Castle, where James Smithson (the father of the Smithsonian) is buried. Each of these “Secrets” is actually a brief introduction, with links to more detailed information.

The most important part of the site, however, is the Educator’s site. This section is broken down five ways: field trips, professional development, lesson plans, resource library, and online events. The “field trips” section provides a link to the “Value of Field Trips”; this section attempts to convince you why field trips to places like the Smithsonian are important. Also included are multiple “Orientation Videos”, which are to be watched prior to visiting a particular museum to help prepare both teachers and students on what to expect. There are separate videos for teachers and students, each one running between five and ten minutes long. There are also sites to help plan a field trip, and worksheets to accompany a field trip as well. Unlike the games, the worksheets actually appear to be useful to older students, encouraging them to engage in analysis of particular items (a link to one of the worksheets can be found [here](http://smithsonianeducation.org/educators/field_trips/ask_yourself/si_fieldtrip_museum_object.pdf)). If you have ever considered planning a field trip to the Smithsonian, this webpage is a must visit.

The Professional Development section is devoted to helping teachers use the Smithsonian’s resources to improve their craft. Numerous online conference series, teachers’ nights, and other events of a similar nature are promoted. In this way, the Professional Development website serves as a hub for teachers who want to find ways to improve their lessons, their understanding of their content, and the resources they have available. Of course, this Professional Development site is limited to the Smithsonian events that are occurring at the time; when I last visited, only eight different conferences were being promoted, and they were all very specific and limited subjects (Climate Change, Abraham Lincoln, etc.) However, this part of the website might be worth checking in on occasionally. Though not something you’ll use often, there might be something worth paying attention to every once and a while. A US History teacher, for example, might find an online conference on Lincoln or the Apollo Program to be very useful. An English teacher might have to check back later, however.

After Professional Development comes one of the most important sections of the Website: Lesson Plans. The front page of this website includes the current “Top 10” (ten highest ranked) lesson plans in the collection for that month. A quick glance usually reveals just how diverse this group really is; the top ten can, at times, include Poetry, World War II, Climate Change, and Music. To the left is the search function, which will help you better locate a specific topic by grade and subject. Alternately, you can look a lesson plan in a large selection of one of four major subjects: Art and Design, History and Culture, Science and Technology, and Language Arts. The search method is very sensitive, with usually more than one word complicating the search unnecessarily. Sometimes, it is most easiest to search through the lesson plans by selecting your grade, subject, and maybe only a single key word. Though these lesson plans are very specific, their simply aren’t so many that you can guarantee there will be a lesson plan devoted to your subject.

Perhaps the single most important part of the Smithsonian Education website is the Resource Library, found at the bar at the top of the Educator’s webpage. You will first find that ability to search for resources by keyword. This search is similar to the lesson plan; you may type in a keyword, then select the corresponding grade level, subject, and museum. Another very useful instrument is the ability to search by State Standards of Learning. For example, if one enters into the search the “Virginia Standards of Learning”, mentions that one is a tenth grade teacher, and teach social studies, the website will provide the Virginia SOLs for World Geography. Clicking on the standard will provide link to sources that might help address the area. This, to me, is by far the most useful way to search for resources in the catalog; it is accurate, quick, and most importantly, easy. There are hundreds and hundreds of resources in the Resource Library. While some of them are primary sources, some are secondary sources, and still others merely list important secondary sources that the museum recommends curious teachers look into. One must note that the resources available are limited; this isn’t a way for a rushed and panicked teacher to quickly find the magic solutions to all of his/her problems. Rather, the Resource Library, when used properly, can enhance any lesson by providing interesting, relevant sources than can assist directly with instructing towards the Standards of Learning.

**Classroom Examples: Lesson Plans and IdeaLabs**

The way that the resources materials can be used is rather evident. Teachers can find both primary and secondary sources to help students build their own learning. As discussed earlier, teachers can use the Resource Library to find resources suited to enhancing and enriching their lessons. But just as important, sometimes the Smithsonian Education can provide actual lesson plans by themselves. These are not simple two-to-three page lesson plans planned in a hurry. These are Smithsonian-designed plans, with impressive graphics, questions, and ideas all ready made up. In fact, some of them only require reading, printing, and passing on to students. Many of these plans have been reviewed by teachers and students, proving just how successful they have been in getting across important messages. As stated earlier, these lesson plans vary widely in topic, and can be applied in many different ways. Not only are these lesson plans themselves interesting, they can used by creative teachers as parts of larger, more complex lesson plans. Provided below are examples of lesson plans provided by the Smithsonian Institute. A few even include examples of how creative teachers have taken pre-designed lesson plans and made them truly unique. Whether you wish to use the tools to build your own plan, or follow a pre-constructed one, there’s a pretty good chance you might find yourself inspired by something you see on Smithsonian Education.

**Example 1: The Music of Poetry**

(<http://smithsonianeducation.org/educators/lesson_plans/music_in_poetry/index.html>)

History teacher Kali Williams, while working with her students on a unit based around the roaring 20’s, used the lesson plan provided by the Smithsonian entitled “The Music in Poetry.” The focus of the lesson was introducing both poetry and music to students, and helping them draw connections between the two art forms through concepts such as rhyme, rhythm, beat, etc. The lesson plan provided many different examples of music, from a Bob Dylan ballad to Jazz in the Harlem Renaissance, which is then compared to poetry. Williams used this lesson to help explain the culture of the roaring 20’s; in particularly, the Harlem Renaissance. She asked her students to individually compose blues-form poems about the times, using what they had learned in the lesson. African Americans moving to the North, farmers buying on credit and going into debt, clashing attitudes of traditional women and flappers, and the general clash between urban and rural values were all brought up by the students. Students then used those poems to create reflections on the time period. An example of one of the poems was provided:

**Flappers
by a Traditional Woman**
Her hair's not past her ear,
And she looks like a boy.
Her hair's not past her ear,
And she looks like a boy.
The black curls don't go far,
And she's become a man's toy.

A little lady's walkin’ by,
And the men are a-lookin’.
A little lady's walkin’ by,
And the men are a-lookin’.
Her skirt's up to her knees,
She should be at home cookin’.

It doesn’t say much,
When she says she'll be rich someday.
It doesn't say much,
When she says she'll be rich someday.
Who knows why she’s outta the house.
The husbands should be the one’s willin’ to pay.

Through poetry, Williams was able to create a level of empathy with her students for people who lived in the roaring 20’s. Any Social Studies teacher will tell you that empathy is one of the most important goals for any teacher in the subject. By taking from the lesson plan what she liked, and by adding her own twist to it, Williams created a truly memorable lecture that the students will never forget.

**Example 2: The Universe – An Introduction**

(<http://smithsonianeducation.org/educators/lesson_plans/universe/index.html>)

Some of the Lesson Plans provided by Smithsonian Education come with so much material involved that a teacher need not add anything else. One of these very lesson plans is called “The Universe – An Introduction.” Included with this lesson plan are the actual Lesson Booklet, Activity Materials, An Interactive Online Game, and two video-lectures from Smithsonian scientists. The lesson plan is designed to be as if you brought the Smithsonian Institute right into the classroom! The lesson plan itself begins by asking and answering some fundamental questions about what the universe is, and how it is built up (What is the Universe, How Big is It, What is a Galaxy/Star/Planet?). Things such as the Universe’s age, and how that age is measured, are also addressed.

To get students to consider the vastness of the Universe, and to perhaps peak their interest in the field of astronomy of physics, students are asked to do a size comparison test called “The Two Inch Universe.” First, a small two-inch sized object represents the Earth. Students are asked to determine how big the Moon would be if the Earth were only two inches in diameter. Then how big would the Sun be? The answer: the size of a mini-van! Now imagine that the entire Solar System is only two-inches in diameter. That mini-van is now just a tiny dot at the center of that circle. By comparison, if our solar system were two-inches in diameter, then our galaxy would still be the size of a continent. Finally, ask them to shrink the entire galaxy down to two-inches in diameter. How big would the Universe be? Students are then asked to guess. The answer is, of course, that we’re not entirely sure. However, students can be made aware that it is quite possible that the Universe is infinite, and that you could never make something large enough to encompass the entire Universe.

To wrap up the topic, a teacher has many different choices. Students can be asked more philosophical questions, like the one provided below;

-Some people say they feel insignificant after understanding the scale of the universe. Others say it makes them feel that life on Earth is special, that the human mind has only grown more significant by understanding this vastness. What is your view?

Or, teachers may show students through the “Online Exhibit Hall” about the vastness of the Universe, which not only addresses many of the issues just discussed in the lesson plan, but also talks about how people can get involved in astrophysics if they are interested. Again, teachers are provided with a large number of tools, examples, worksheets, and possible assessments. It is up to the teacher to use these tools to put together a satisfactory lesson.

**Example 3: IdeaLabs: World War II Rationing**

(<http://smithsonianeducation.org/educators/lesson_plans/idealabs/rationing.html>)

 Another example of how Smithsonian provides creative ideas to help students understand material is though their “IdeaLabs.” IdeaLabs, usually found in the Students section, are interactive programs, usually made up almost entirely of primary sources, to help students empathize with the times and to create their own knowledge. One of the most impressive IdeaLabs I came across was one about rationing during World War II. This IdeaLab seeks to combine two different core areas; Art, and History, to help students better understand the symbols of World War II at the American Home front, as well the societal and historical implications of rationing on World War II America.

 The lab starts at a painting; *Wartime Marketing* by Martha Baché. Students can click on different parts of the painting to reveal different things about how certain items were rationed during the Second World War. For example, clicking on the food being purchased will bring up a few primary sources dealing with “Wartime Shortages”, such as advertisements and notices. These primary sources are explained and clarified by information on the side. Other parts of the picture will activate Home Front Ammunition, Home Front Conservation, and Everyone’s Duty. As with the first section, primary sources are included.

 A lesson plan is included with this idea lab that includes objectives, vocabulary, analysis of the painting itself (emotions it conveys, class representations). A worksheet for the art aspect is also included, helping students to identify and analyze the symbolism in the art. Finally, an actual photograph of a market is presented to help students compare the art with the real thing. Students are then asked to determine what the artist was saying with her work? What does this message say about American culture and attitude during World War II? How does that impact us still today? Does it?

 This lesson could be a very successful add-on to a study of World War II in American History classes. Not only does it force students to deal directly with everyday individuals living at that time period, rather than focus on overarching themes of great villains and terrific heroes, but it also blends core subject areas. It helps introduce students of one subject area to others; students who enjoy history can learn to appreciate art and the humanities as well. More importantly, they can learn the importance that art has as a historical tool; art can be used as a source to help students empathize with the people who lived at a certain period of time.

**Example 4: Making Friends With Franklin**

(<http://www.smithsonianeducation.org/educators/lesson_plans/franklin/start.html>)

 Some of the lesson plans are so complex that they are designed to be used in multiple lessons. Such is the case with “Making Friends With Franklin”, a lesson plan devoted to the founding father that spans three total lessons. More interestingly, this lesson plan includes links to four different national standards on its front page: two in language arts, one in science, and one in visual arts. And of course, Benjamin Franklin always has a place as a core figure in any American History or US Government class. This lesson is another great example of how a lesson can crossover into multiple core areas, and make connections with many types of students on different levels.

 The entire lesson is broken down into four parts; an introduction, and three lessons. The introduction includes an in depth biography of Franklin, particularly his contributions to literature and science. Teachers can also use the Making Connections sections to point historians, philosophers, and scientists towards other great minds of the time who frequently get left in Franklin’s shadow. The introduction address Franklin primarily as an innovator, though does mention how Franklin behaved with people he considers his friends. Teachers can use this in depth look at Franklin to stop getting people to think of the founding father as a demigod; he was a man, just like any individual student participating in the lecture.

 The proves this, the lesson plan includes three lesson activities. Each activity is designed for students to follow in Franklin’s footsteps, performing many of the same exercises that he did. To improve his writing, Franklin would try to take others people’s works, try to come up with a main “theme” of the work, and then re-write them himself. He would then later re-work his own works. In the first activity, students are encouraged to re-write Franklin’s work (specifically, his infamous “Kite Eassy”) by taking the theme down and re-working the sentences. This is to help them become better writers in the same way Franklin did. The next lesson visits Franklin the scientist; student build an experiment that well help them demonstrate how electrical charges attract and repel. Then, as Franklin did, students will draw conclusions about the nature of electricity, both from a scientific and philosophical standpoint. Finally, students will (as Franklin did) create a self-portrait emphasizing objects and setting. All of these activities help to improve skills in students on many levels; as writers, as critical thinkers, as scientists, as philosophers, and as artists. But more importantly, a good teacher can help a student understand that they are capable of all the things Franklin was, if only they set their mind to it. Franklin was a genius, no doubt about it. But everybody has strengths; the fact that Franklin used his to help found a country dedicated to the principles he cared about shows what one is capable when he/she realizes his true potential. Franklin was just a man; if he can do great things, then maybe so can you.

**Assessing for the Classroom:**

**Pro's**

Resource Library sorted by SOL Criteria:

One of the handiest things about the Smithsonian Resource Library is that the sources can be located based on their place at local and national standards of learning. This makes it easy for teacher to not only locate material, but apply it in their teaching in a way that meets the standards their states request.

Hundreds of Prepared Lesson Plans:

The Smithsonian provides many online, in depth, multi-faceted lesson plans for students in many different subject areas. Just as importantly, many of these plans feature multiple subjects, allowing students to possibly relate subjects they have difficulty with subjects they understand better. These lesson plans also often come with worksheets, assignments, labs, and assessments to help guide the teacher towards a particular objective.

Ways To Improve As a Teacher:

Through online seminars, the Smithsonian provides ways for teachers to not only better understand their content area, but also teach it more effectively to their students. Smithsonian open houses are also available to teachers willing to make the trek to either Washington DC or New York, where they can learn first-hand how their fields are changing in exciting new ways.

Interactive Online Activities:

There are a number of online activities that are designed to both stimulate the mind as well as be educating. There are many different ways that Smithsonian is trying to embrace edutainment!

Visitor Plans:

For those who want to visit the Smithsonian on a field trip, or with family, activities, games, orientation videos, and other things that could be helpful are provided. They are made easy to access under both the “Families” section and in the “Educator’s” section under “Field Trips.”

**Con's**

Limited Resources:

Many of the resources provided by the Smithsonian may also be found through a common internet search. In fact, an internet search on Google or Bing might bring up more results. Even though you know a Smithsonian source is reliable, it still leaves a lot of holes in any teacher’s curriculum. Not everything a teacher needs is located here. It isn’t a crutch; but rather, it can enhance a lesson or curriculum.

That’s A Lot of Information To Take In:

There are so many things that this website can do that it might be a bit overwhelming the first time you visit. If you’re a new teacher, or a teacher not used to using technology, it may actually be a bit intimidating or confusing.

Lots of Emphasis Focused on the Museums:

The fact is, most students live too far away from the Smithsonian centers to ever actually go on a class field trip there. Thus, a lot of the possibilities mentioned on the website are simply unobtainable for most students.

Aimed at Younger Students:

The games, a lot of the activities, and pretty much 80% of the student section is designed with “kids” in mind, not young adults. That’s not to say that there isn’t plenty of material on the site for secondary students. But they will need somebody to guide them through the site. If they go immediately to the Student section, they might give up on the website after realizing who it is aimed at.

**Considerations for Teachers:**

This Tool Is Not a Last Minute Life-Saver – You cannot use this tool to find the perfect resource: that’s what Google and other search engines are for. You cannot use this tool to make up for a lack of preparation; if anything, using this tool means you’re going to need even more preparation than usual. This tool is used to find source, lesson plans, ideas, and activities that will enhance your classroom’s learning experience.

This Tool is a Lesson Enhancer, not a Teacher-in-a-Computer – This website does not include your entire curriculum. It isn’t perfect; it doesn’t have everything you need at all times. And even the most complete lesson plan it provides is nothing without a good teacher to relate it to the class. You might find, after going through a lesson plan or two, that it’s easy to lie back every once in a while and let the lesson plan do your work for you. Don’t. Use that lesson plan to build your own. Add your own interpretations, relate it to your students personally.

Guide Your Students if You Want Them to Use It – Unless you’re teaching younger students, or unless one of your students is going to the Smithsonian Institute, do not let them use the Student section. They are more likely to find it childish than helpful. Instead, help them learn how to use the Resource Library, or even the Lesson Plan section. These are the kind of things that can help students put together a fantastic paper or oral presentation. Students can certainly gain a lot from this site… just not in the student section.

This Tool Has Limits, So Use It Sparingly – The resource is not a large as it immediately appears. And though most objectives in most subjects have some kind of source linked to it, you will probably find that the source just doesn’t fit with what you’re trying to do. If used every once-in-a-while as an off-beat, different, and fun lesson, this can be very helpful to a teacher. But if used frequently, you’ll find yourself getting off track with random (yet interesting) lessons and resources that may not help you me

Check This Tool Frequently For Updates – The website is always being updated with new resources, seminars, lesson plans, idea labs… the list goes on. This source is never the same. Though you don’t need to check every day for an update, be sure to stop by every once in a while and see what’s new.