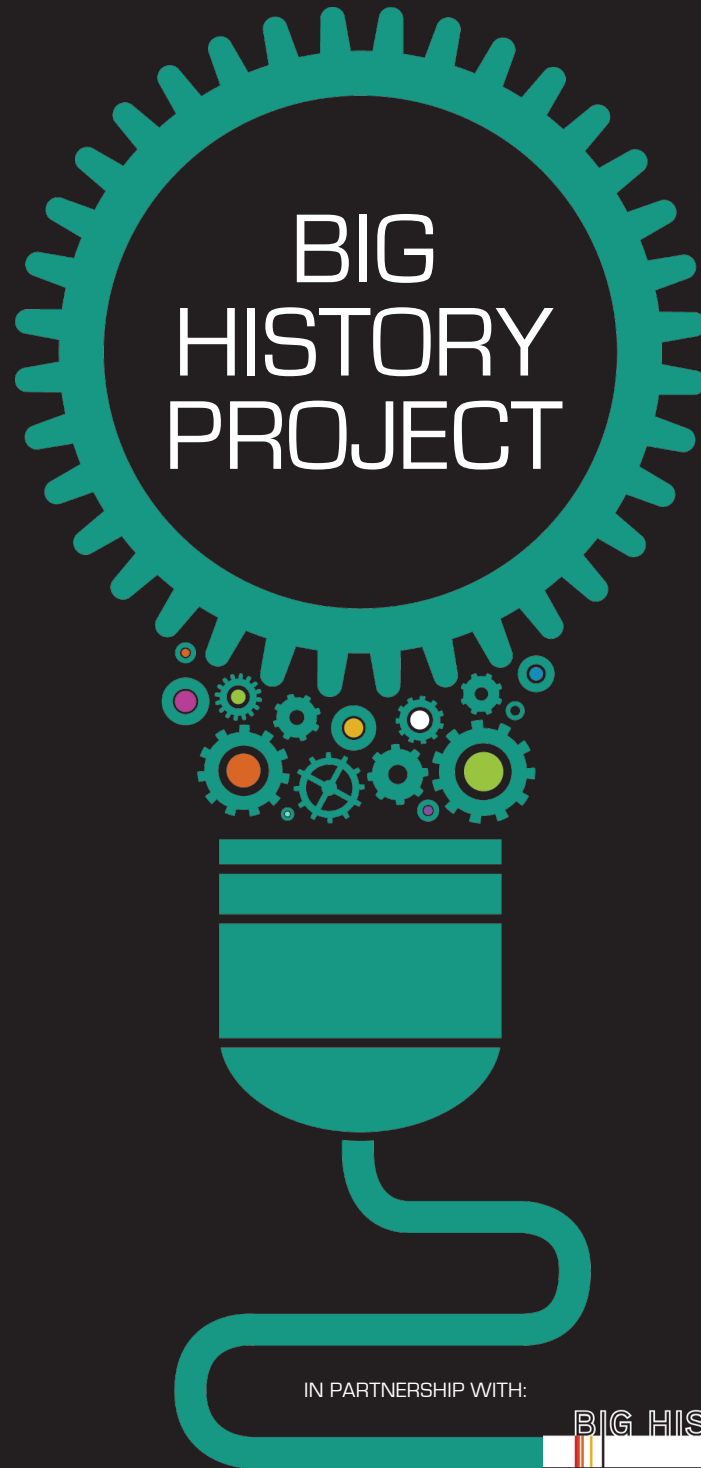


GETTING SMART ON



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BIG HISTORY PROJECT

Introduction

Authored by Tom Vander Ark,
founder and CEO of Getting Smart



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Big History: An Organizing Principle for a Compelling Class, Block, or School

"Big history" is a field of study that starts with the Big Bang 13.8 billion years ago. It draws on cosmology, astronomy, biology, geology and economics to explain how we got here. After Bill Gates saw a series of lectures on big history by historian David Christian, he was inspired: "He really blew me away. Here's a guy who's read across the sciences, humanities and social sciences and brought it together in a single framework. It made me wish that I could have taken big history when I was young, because it would have given me a way to think about all of the school work and reading that followed. In particular, it really put the sciences in an interesting historical context and explained how they apply to a lot of contemporary concerns."

Gates and Christian met and launched the [Big History Project \(BHP\)](#), calling the project an effort "to get Big History taught to as many students around the world as possible." After launch, the team recruited high school teachers, university-level educators and curriculum specialists to design a course, working simultaneously with software developers and designers.

BHP's [website](#) presents content in an integrated and visually compelling way. Its 10 chapters consider stars and elements, life, early humans, agriculture and civilization, expansion and interconnection, and the future. You can find about 280 hours of content, including 300 custom-designed and curated pieces. Yet the core content of about 80 hours is designed for a blended high school social studies course. To make the content as approachable and effective as possible, everything from texts and videos to comic books and custom-designed illustrations is available for use at the teacher's discretion.

Commenting on feedback from early pilot sites, Gates said, "One of the most encouraging signs was that students said Big History was really teaching them to think and not just memorize things."

Four aspects of Big History Project were immediately appealing to me, not only as instructional materials but also as an intellectual mission for a course of study:

- **Integrated and multidisciplinary studies.** Our formal education system, particularly secondary courses and credits, have compartmentalized the world. We've largely succeeded in making history and science boring. Big History is, as Rabindranath Tagore said in a [poem](#), "Where the world has not been broken up into fragments [b]y narrow domestic walls" and "[w]here the clear stream of reason has not lost its way [i]nto the dreary desert sand of dead habit..."
- **Compelling multimodal content.** Big History content is presented in 10 unique chapters, and all materials can be used in a variety of ways. Videos are suitable for smartboards, all texts are downloadable and printable or viewable online, and everything is designed to work across tablets and PCs. It's a great example of premium content—and it's free!
- **Big, not small, questions.** Big History asks big questions. How did we get here? How do we decide what to believe? How did Earth form? What is life? If we want [Deeper Learning](#), we need to ask bigger questions. There is great potential for integration of the humanities with the sciences, which begs for evidence-based writing.
- **Launch pad.** Big History is not a canned curriculum; it's a launch pad. The questions behind Big History are big enough to support a course, a school or an entire degree program.

Big History can be used in a variety of ways, from a single course to an entire four-year academy.

Course. The most common use is and will be as a ninth or 10th grade social studies course. [DSST Public Schools](#) uses the content in 10th grade social studies at their Stapleton campus. Big History could serve as preparation for AP world history or serve as a high school capstone course. "I really like how the course challenges students to wrestle with big questions—questions like how different time scales affect our perspective on history, how language transformed humanity, and what it means to be human," said [Gates](#). "It's a course I believe everyone should take."

Block. Big History lends itself to a big block incorporating science, social studies and lots of research and writing. A Long Island high school uses Big History as instructional resources for a science and social studies block with a focus on human geography. A California school uses the content in an English and social studies block.

Academy. I'm so excited about Big History as an organizing concept, I would love to see it incorporated into the intellectual mission of two- or four-year academies, such as:

- Four-year STEM-focused high schools. Big History could be combined with an applied engineering curriculum like that of [Project Lead the Way](#).
- Four-year art- and humanities-focused schools. For integration inspiration, add Leonard Shlain's [Art & Physics](#) as a text and visit [High Tech High](#).
- Four-year Project-Based Learning schools like [Edvisions](#).
- Two-year ninth and 10th grade prep academies for an upper-division program of IB, AP or dual enrollment.

With a little more work, a Big History merit badge high school would be very cool. The key concepts in Big History could be converted from 10 chapters into knowledge maps and 100 badges with multiple options for demonstrating mastery. Add 50 badges for math, 50 for communications, and 50 for foreign language, fitness and other subjects, and you've got a very interesting 250-badge DIY, exploration-based high school experience. By blending online and onsite, individual work and project teams, and adding lots of field trips, Big History High is a compelling idea.

Top 10 Things To Know About Big History Project

Authored by Bonnie Lathram, Project Manager at Getting Smart.

Humans interested in humanity, proceed. Middle school and high school teachers interested in a cool, integrated block, read on. High school principals interested in boosting engagement, critical thinking and writing across the curriculum—we have a super block for you—Big History Project.

1. What is the Big History Project (BHP)?

Go to [Big History Project's website](#). You don't have to sign up to watch and learn more, but you'll want to. And signing up is free. BHP is open, free and online. Enough said.

2. How do you teach the history of 13.8 billion years?

Big History does this through cool videos, animations, articles and texts, infographics, and classroom activities for middle and high school students. All course content comes with notes for teachers. There are also [Project-Based Learning](#) activities in three units that take approximately two weeks to complete and follow the PBL method as outlined by the [Buck Institute](#).

3. How is it deployed in classrooms?

Supported deployments include teaching a traditional BHP course or a condensed version with ninth and 10th grade students. Many schools teach Big History in lieu of world history. Additionally, teachers have adapted BHP to use content for middle and high school students in world history, science, English Language Arts, and in Project-Based Learning, capstone or senior project work. Big History is technology-based. Sometimes teachers show videos to the whole class and use technology portions in the classroom, distributing hard copies of the readings for students at home. Other times, teachers employ [blended](#) and [personalized learning](#) strategies, allowing students to explore BHP individually, at their pace and tailored to their specific interests, with work on lessons using technology in the classroom or for homework. Check out the table below for ideas.

Big History Project Course Deployment Summary

	Supported Deployments		Customer Created Deployments				
	Full Year	Semester	Middle School	World History	ELA Integrated	Capstone	Science Integrated
Description	Traditional BHP course	A condensed version	Simplified or extended version of Big History for younger students	Year-long course combining Big History and World History	Year-long course combining history and ELA	Culminating elective to synthesize disparate topics and previous classics	Year-long course combining history & science
Target Student	9th & 10th grade students	9th & 10th grade students	7th & 8th grade students	9th & 10th grade students	9th & 10th grade students	12th grade students	9th & 10th grade students
Course Hours	160 hours	85 hours	160 hours	85 hours	160 hours	160 hours	160 hours
Instructional Hours	80 hours	80 hours	80 hours	80 hours	80 hours	80 hours	80 hours
Supplemental Hours	80 hours	5 hours	80 hours	5 hours	80 hours	80 hours	80 hours

4. **What are the essential skills and core concepts?**

Essential skills include thinking across scales, integrating multiple disciplines ([BHP teachers we interviewed reiterated this](#)), and making and testing claims. Core concepts include threshold moments, collective learning and origin stories.

5. **How's the history of 13.8 years organized?**

Big History is divided into two sections with a total of 10 units. "Part 1: Formations and Early Life" includes units around the Big Bang, stars and elements, the solar system and Earth, and the beginning of life on Earth. "Part 2: Humans" includes units on early humans, agriculture and civilization, expansion and interconnection, acceleration, and the future.

6. **Where can I learn more about joining a community of educators who teach using Big History Project?**

Find Big History Project on [Facebook](#), [Twitter](#) and [Yammer](#). Once you sign up at the BHP site, you'll have access to a community of educators who share feedback, suggest new ideas, and contribute to the site for continual improvement. There are also [Big History Project summits](#) (including one in Seattle, where BHP is based) and at other "cluster meetings" in the U.S., Australia and Canada. There's also an [International Big History Association](#), which hosts conferences and events yearly.

7. **Follow up to #2: How do you show 13.8 years of history in 18 minutes?**

Founder of Big History Project and historian David Christian's TED Talk titled "[The History of Our World in 18 Minutes](#)" lays the groundwork for great discussions. Watch it with students, watch it with your fellow teachers, and watch it with your friends. And let the discussions commence.

8. **What's the effect of adding another zero?**

[The Powers of Ten video](#), created by husband and wife team [Ray and Charles Eames](#), was made for IBM in 1977. This now-famous video showcases the outer universe. Every ten seconds, we see the camera's magnification ten times farther out. Starting from a park on Lake Michigan in Chicago, we venture from that park until the galaxy in which we reside is seen as a speck of light. BHP uses this video to teach the relative size of all things in our universe. And it's pretty mind-blowing.

9. **What do students and teachers say?**

Amy Heibel, a middle school teacher in Washington state, said, "Big History does a good job explaining the theory of knowledge. How do we know what we know? How have people's ideas about the universe changed over time? The kids are able to look at this from a social studies point of view. I love that it brings in some of the social studies and marries all of that with science." Traci Pannullo, a curriculum leader in New Jersey, said that students realize learning "is bigger than what I am learning about in my classroom. Big History is organized in a way that makes students be able to take action. It gets students engaged and encourages critical thinking, and they consider themselves change agents. They engage in action and make a difference." [See more of Heibel and Pannullo's interviews here](#). And hear from founder [David Christian](#) and students who use Big History in their classrooms [here](#).

10. **"It's my favorite course of all time."**

Bill Gates is a big supporter of BHP founder Christian and the project, calling it his "[favorite course of all time](#)." Gates funded the development of the content and related course resources.

Life's Universal Themes Capture Student Engagement

Authored by Bonnie Lathram, Project Manager at Getting Smart.

As educators, we often ponder how we can capture the big ideas in order to create increased student engagement. We recently interviewed two educators who are utilizing [Big History Project \(BHP\)](#) at their schools to do just that. BHP creates opportunities for blended science and humanities coursework to spark engagement and get students thinking BIG about life, the universe, and our interconnectedness to life around us.

Ridge and Valley Charter School

[Ridge and Valley Charter School](#) in New Jersey is a K-8 school whose [mission](#) is based on ecological literacy. Ridge and Valley's curriculum integrates all of their content. The teachers, called guides, are facilitators, and the school emphasizes collaboration and democratic decision-making processes. The school sits on a 17-acre property, creating almost limitless opportunities for expeditionary and Project-Based learning.

Tracy Pannullo, a curriculum coordinator and leadership team member, told us that Ridge and Valley uses Big History in sixth, seventh and eighth grade with five guides (teachers) and 45 students. The five guides work with students for three years, and Big History is implemented over a three-year loop. They incorporate three units each year. Other than a math class, the rest of the day at Ridge and Valley is unscheduled. Students work on content-specific work and projects, and skills are taught within the context of larger projects.

Maplewood Parent Cooperative

We interviewed Amy Hiebel, a seventh and eighth grade teacher at [Maplewood Parent Collaborative](#) in the Edmonds School District in Edmonds, Washington. Years ago, Heibel saw and loved the [Powers of Ten video](#), by Ray and Charles Eames, first released in 1977. Heibel learned that it is part of Big History Project's collection of extensive videos to engage students in the big ideas around science and history. She uses Big History Project across two years in seventh and eighth grade science courses.

A conversation with Big History educators reveals some compelling benefits of this philosophy:

- **Emergence.** Ridge and Valley Charter School focuses on the concept of collective intelligence and emergence, which includes how ideas, culture, thinking, evolution, movement, and language all emerge over time. While Ridge and Valley teaches these elements to all students, middle school students are particularly able to connect to the concept Guides pose questions such as "What is emerging within you?" and "What is changing inside of you?" while students study similar emergence concepts within the universe.
- **Shifting the paradigm for how students see themselves.** Pannullo said, "We use the story of the universe and the bigger context of time and space to show how we are all interconnected. This is also the larger mission of our school, which is helping us to shift the paradigm for how students see themselves in a larger context."
- **Curriculum expands students' AND teachers' thoughts about our universe.** Heibel said, "I have a chemistry degree and have been teaching for 25 years. I have seen connections myself that I never got before. My seventh graders know all elements up to iron are made into fusion stars, and my students are getting big ideas of things I did not know when I was their age."

- **Social studies can be married with science.** According to Heibel, “Big History does a good job explaining the theory of knowledge. How do we know what we know? How have people’s ideas about the universe changed over time? The kids are able to look at this from a social studies point of view. I love that it brings in some of the social studies and marries all of that with science.”

How does Big History create engagement, teach with the Common Core in mind, flip the classroom, and personalize the learning?

- **Cross-content collaboration.** Heibel said, “In my science class, I am using the same outlines as English and social studies class. We use a three-pronged thesis statement, and each paragraph will have a topic sentence, and evidence, and explain the evidence. This brings down the classroom walls. If you work with your teaching partners, what you learn with one subject area helps in other subject areas.”
- **Impact on personalization.** The high degree of personalization is a significant factor in the engagement level of students. Pannullo said, “The guides move through the Big History Project curriculum in ways that are meaningful for student projects. We don’t necessarily go through a unit sequentially, but rather we look at how it complements our existing curriculum framework. Guides really think through what pieces we need to use or fit best in terms of activities, assessments, articles and other resources. Students can access the different resources themselves, and a high degree of engagement is created.” Heibel spoke specifically about students’ desires to know more about why they are here, noting that this is of particular interest to students as they are growing and changing in middle school: “All throughout Big History, the content connects back to students. It’s interesting to students. Not only is this the story of the universe but also how did you get here?”
- **Blended learning.** Heibel said, “Students from the beginning think of Big History as an online community. They have an email and log in. We start off talking about Big History as just another story—a modern scientific story. We talk about origin stories. It is a way for the students who come from a variety of backgrounds to engage in the curriculum. ‘This is a story. I don’t have to dismiss it, and I can take it or leave it.’”
- **Flipped classrooms.** Heibel went on to speak about how well Big History is set up for a flipped classroom. “There are short introduction videos and questions that go along with it. There are different materials online; students watch a 12-minute video clip for homework, then discussion, then lab work. There is a really easily available website and the kids navigate it well.”

Heibel summed up Big History when she said, “The content is very rich, and the coolest aspect is them learning that all of knowledge is interconnected. Content areas in schools are fake. Knowledge is knowledge. We have created these separations. The kids can see all the content is interconnected. They see knowledge as part of the big story.”

Big History Project Chat: Rich Content, Rich Discussion

Authored by Getting Smart Staff.

We are huge fans of [Big History Project](#), and we've featured their rich content in a [blog series](#) we are writing about [next gen tools](#) for classrooms focused on inquiry pedagogy. The New York Times just featured Big History Project in a magazine feature titled "[So Bill Gates Has This Idea for a History Class.](#)" While we appreciate the article with its focus on the background and history of Big History Project, we also want to feature the teacher voice in the conversation about how BHP engages students.

So Tom Vander Ark from Getting Smart, along with Eric Waldstein from Big History Project, recently conducted a Google Hangout with two teachers, Traci Pannullo and Amy Heibel, who use Big History Project in the classroom.



Google Hangout features Tom Vander Ark as moderator and includes interviews with Eric Waldstein of Big History Project and Traci Pannullo and Amy Heibel, two educators who utilize BHP in science, PBL, and world history courses. [Original blog post featuring Google Hangout.](#)

yourself in a classroom to check out the website, with Vander Ark adding, "The amount of content is breathtaking and beautifully presented." Pannullo adds, "You come to understand the deeper connectedness of all content. The teacher has to learn more about all these different pieces... As a teacher, you become a systems thinker." Happy searching ... and learning!

The teacher voice is important, as is hearing from the students directly about the impact that Big History Project has had on their engagement in science and history. From teachers we have heard repeatedly that students have a deeper understanding of the interconnectedness of all knowledge. As we move from schools that seek to contain knowledge in silos to project-based, real-world and blended approaches that recognize that learning can't be contained into traditional subject areas (or contained in classrooms), Big History Project leads the way in providing rich content for Deeper Learning.

In the interview, the educators discuss the larger contexts of the universe, featuring a 13.8-billion-year timeline, in teaching middle school history and science. Waldstein mentions that BHP is [deployed](#) in a variety of types of classes. The teachers use social media network [Yammer](#) to connect, share ideas and obtain feedback from one another. The teachers suggest that it's worth locking

25 Next Gen Tools for the Inquiry Classroom

Authored by Bonnie Latham, Project Manager at Getting Smart.

Next gen tools provide meaningful ways teachers and students can explore, question, reflect and share—leading to [Deeper Learning](#) and [blended](#) and personalized opportunities for students.

They also provide rich content for blended blocks of social studies, science and math and help spur thought-provoking discussions, Socratic seminars, writing prompts and opportunities for extensions into real-world settings.

1. Big History Project is our first example of great next gen tools, offering free, open source curriculum perfect for world history, science, or a block for grades 7-10 (and beyond—even parents can sign up). There are lots of extension activities, and students watch videos, read texts, and write all while learning 13.8 billion years of history.

Like Big History, the next gen tools below are multidisciplinary and multisensory.

2. At [Lego](#), it's all about building and students using their hands to create (and destroy). Great ideas such as designing simple (and powered) machines and teaching students the art of storytelling are all inside this [online catalog](#) for using Lego in the classroom, from preschool up.
3. [Discovery EDU](#) has free teacher resources aligned to Common Core State Standards (CCSS) using Discovery Channel's rich multimedia content.
4. [PBS for Educators](#) has their [Point of View series](#), which includes video content for the older set, [SCI girls](#) promoting STEM, and an updated [Daily News Story](#) to keep students talking about current events. (A recent post features a [video](#) titled "Ferguson residents speak up around protests" along with discussion questions for students.)
5. Over at [NASA](#), students can create their own podcasts using NASA technology. There are plenty of STEM resources, and NASA provides lots of career information, scholarship opportunities and internship opportunities. NASA even has student ambassadors.
6. [Nat Geo for Teachers](#) offers lesson ideas like "[World Population and Wealth Distribution Using Cookies](#)." You can use multimedia to teach complex topics, encourage inquiry, and more.
7. While we're still huge fans of in-person shadow days and internships, we also like cool options for students to experience careers virtually, such as those [United Teach](#) provides. Sign up as a volunteer and share your passions with students, or sign up as a teacher and connect your students virtually to adults doing cool stuff in a variety of careers. We still encourage the "real thing," but United Teach makes connections possible for students in remote areas, for those working on projects who need an adult mentor, or for students with niche interests.

Realistic simulations and game-based learning are here, and they are revolutionizing the classroom. These next gen tools create massive engagement opportunities for the digital set and offer rich, hands-on learning experiences.

8. [Canvas](#) offers [free MOOCs](#) for students and educators, including one on how to teach [Minecraft](#) in the classroom.
9. The [U.S. Navy](#) has [STEM apps](#) that simulate what it's like to be in the navy and take students on nautical adventures.
10. The [U.S. Army](#) does also, [here](#).
11. [PhET](#) from the University of Colorado provides free, interactive, online physics and chemistry simulations—think video games—for students to simulate landing on the moon and understand how our solar system works.

Coding jobs are prevalent, and the field is growing fast. According to the [Bureau of Labor Statistics](#), some of the fastest-growing occupations are in computer science and related fields. These fields are anticipated to [grow](#) by more than 50 percent in the next three years. We've written a lot about coding, including this [Smart List](#) that highlights 10 coding organizations you need to know.

12. [Code.org](#) has tons of resources for teachers and students to get started on coding, and it leads the way in promoting [Hour of Code](#).
13. We highlighted [Apps for Good](#) in a [recent post](#) about projects that combine humanities with coding. Great organizations that get our kids thinking about social justice issues and designing code are models for content integration and [Project-Based Learning \(PBL\)](#).
14. Over at [Code HS](#), you'll find everything you need to learn computer science at school or at home. They have various [course options](#), including Web design and [professional development](#) for educators.

Project-Based Learning and Design Thinking. Project-Based Learning (PBL) approaches allow students to explore their own interests through authentic projects, ideally real-world and supported by mentors. Design Thinking projects are one approach to PBL that's highly engaging, where students walk through a specific process to come up with innovative solutions to problems. For profiles of exemplary PBL schools, see [Deeper Learning for Every Student Every Day](#).

15. [Big Picture Learning](#), an international network of schools, takes PBL and personalization to another dimension. Around since the 90's, Big Picture Learning schools understand "one student at a time" and "personalized" learning in ways others are only beginning to think about. They offer [13 new guidebooks](#) on PBL, [individualized learning plans](#), [college and career readiness](#), the importance of [noncognitive skill development](#) and more.
16. [Educurious](#) combines online PBL courses with their expert network of people in various professions and careers.
17. This [video](#) from the design firm [IDEO](#) showing the re-design of a grocery cart can help you learn more about [Design Thinking](#), a specific type of PBL that focuses on empathy research and design for the user experience. They also have a [toolkit](#) for teachers.
18. The [D School at Stanford](#) has [resources](#) for Design Thinking in the K-12 classroom.
19. The folks at [Leadership + Design](#) offer excellent hands-on professional development opportunities for educators to do Design Thinking over the course of a weekend or during week-long intensives.

And let's not forget tools to Present, Pin and Portfolio.

20. Portfolios. Check out [eduClipper](#) and [Pathbrite](#).
21. Pinning. Tools for teachers and students include [Tackk](#) and [Pin Resource](#) to pin standards-aligned resources with [MasteryConnect](#). Or share what you know on [Learnit.st](#), and, of course, [Pinterest](#).
22. Storytelling. Head on over to [Storybird](#) and this take this [storytelling course on Coursera](#).
23. Presenting. Have your students make digital posters from [Glogster](#). (Also see [30 apps for sharing, showing and tracking](#)).

24. Publishing. Ideas for publishing include [Edublogs](#), [Kidblog](#) and [Blogger](#). (And check out [10 reasons for students to blog](#).)
25. And, clearly falling into the category of “you can find anything on Google,” Google has an [extensive library](#) of searchable lesson plans that encompass all of the above and more. You can find lesson plans for coding, PBL, Design Thinking, Game-Based Simulations, and Rich Content (and way more). Happy Googling!

Conclusion

Authored by Bonnie Lathram, Project Manager at Getting Smart.

Why We Should Know Our Bigger History

Don't know much about history? Well, Sam Cooke may sing a song about NOT knowing much about history, but in this case, we hope we have made a compelling case that maybe we all SHOULD know a lot about history—not just the history of mankind, but also the history of the whole universe.

Some questions to ponder as we think about using Big History Project:

- Why do we teach the history of mankind and leave out most of the 13.8-billion-year history of the universe?
- Why do we separate natural history from world history when they are so related?
- How have science and math influenced human history?

We've been watching the Big History videos, tailored to the pre-teen and teen audience in smart and savvy ways. (The videos are also engaging for adults!) BHP's second video on [human development](#), for example, features commentary about humans as a tiny blip on the radar screen of history. The video points out that humans are important and complex—a validating sign of human significance as well as a reminder of our insignificance in the sweep of history.

Conversations about human significance are challenging and valuable for middle and high school students. At an age when students are often struggling to figure out their place, knowing our “big history” will allow for some perspective taking. For example, there is a [growing canon of research](#) about the importance of children knowing their own family history—with possession of this knowledge being associated with resiliency, increased coping skills and better grades.

Knowing our “big history” might also be associated with increased resiliency, perspective taking and empathy. And it might help us have a deeper appreciation for all life forms and embrace a feeling of connectedness to all things in the universe, including to each other.

A very compelling reason to teach “big history” may be simply to cultivate these qualities in our children. If BHP does that, teaching it may change the outcome of life on our planet for future generations. Perhaps this is a big feat for a small, nonprofit, free and open source, rich content platform. But we think it's possible.

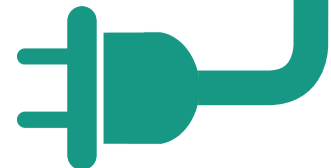
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