FREE WEBSITE

Educator Guide

For Classroom, Informal, and Homeschool Educators

Sparticl is an essential online destination presenting the best the web has to offer in science, technology, engineering, and math (STEM), available for **FREE** and accessible via computers, tablets, and smartphones.

Sparticl has been developed by ***tpt***, Twin Cities Public Television, one of the nation's most innovative public media creators of award-winning educational content, with generous support from 3M.

High-Quality Content

Instead of overwhelming curious teens with long Wikipedia articles or dozens of confusing Google search results, Sparticl brings teens top STEM content from trusted sources such as PBS, National Geographic, Scientific American, Discovery, and the Smithsonian. Content is age-appropriate, accurate, safe, and engaging – curated and vetted by a team of experts. Sparticl has **6,500+ pages** of videos, photos, games, articles, scientist profiles, and hands-on activities!

Designed for Teens

Sparticl is designed specifically for teens ages 13-15, the critical years when STEM interest and performance consistently declines. However, educators of all grade levels are using Sparticl to refresh their own knowledge and create custom classroom activities.

Interactive Learning

In addition to providing great content, Sparticl encourages teens to test their knowledge, rate and share content, and suggest new websites. For every activity, they earn points, acquire badges, and achieve status. Features like safe screen names provide an environment where teens can feel comfortable participating.

An independent evaluation showed that using Sparticl produces significant learning outcomes, including increased content knowledge, improved understanding of the value of science, and greater interest in STEM careers.

Finding Content on Sparticl

On the home page, you will see a carousel of today's most popular topics and top videos, games, and articles. If you are looking for something specific within Sparticl, you have two options:

USING CATEGORIES TO BROWSE

To get the widest view of what's available, use the menu at the top. Select a science area and you'll get a list of categories you can select. Each category page has a list of topics for further exploration. Remember we add new topics regularly, so it's always worth coming back and checking out the updated category pages.

USING THE SEARCH BAR

When you are looking for a specific type of resource or additional content related to a specific topic, you can use the search bar, which you'll find on every page. Autofill will help you find the topics indexed in Sparticl. Otherwise, enter the words or phrases and you'll get a **results page** like the page to the right.

Sparticl will show you topics to explore and specific websites or resources.

TOPIC PAGES

When you navigate to a specific topic page, you'll see about 8-12 options – including articles, videos, scientist profiles, interactives, and hands-on activities. Most topic pages also have topic-related **challenge questions** so users can test their knowledge.

RESOURCE PAGES

When you land on the resource page, you'll see a navigation bar at the top On the left side, you can rate, comment on, and share the content on your social networks. This is where the benefits of **registration** come in. Your students can earn points, status, and badges for everything they do on Sparticl!

Using Sparticl with Your Students

Sparticl is designed to allow users to explore science whenever and however they choose making it useful for classrooms, informal education, and home schooling.

GEARING SCIENCE FOR EACH STUDENT

Sparticl has a mix of easy, medium, and challenging articles that can be valuable when trying to meet the varied interests and abilities of teens. For example, it can be a support tool for those who are struggling with scientific terms and concepts.

HELPING STUDENTS VISUALIZE SCIENCE

Sparticl has a variety of videos, games, and other dynamic methods of delivering content and experiencing science. For teens that struggle with reading or are English Language Learners, they can watch and re-watch a video to help them understand a concept better. Many videos include closed captioning, too.

FLIPPED CLASSROOM USE

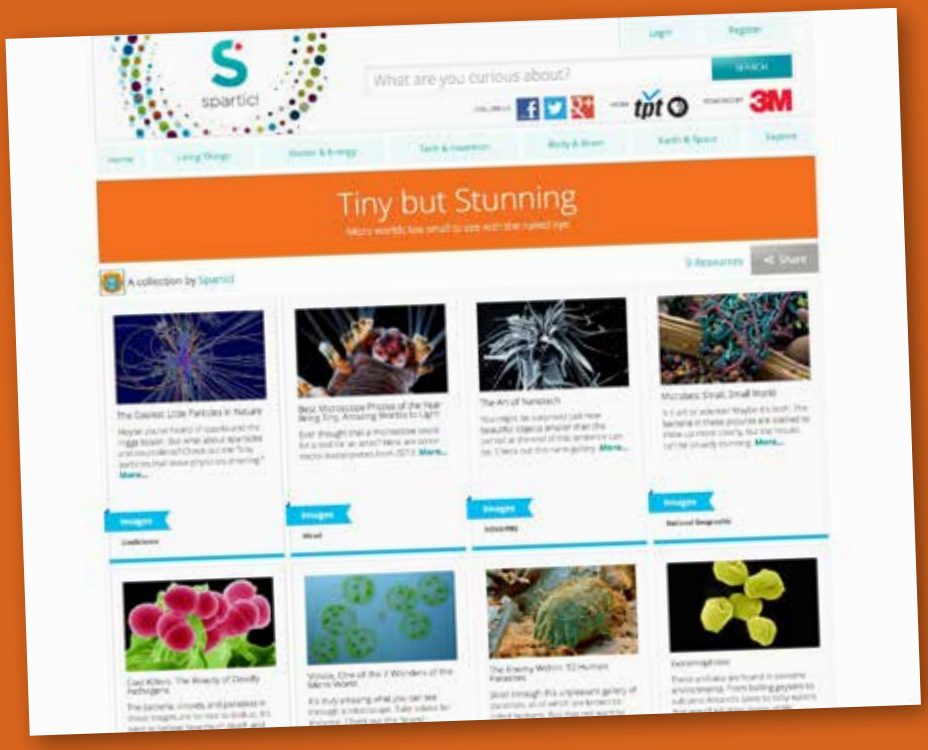
Sparticl is perfect for the flipped classroom. For each topic, there are several content options for student exploration. The Sparticl quizzes on the topic page also allow students to check what they know or have learned before they get to the classroom.

BUILDING STUDENT INTEREST IN SCIENCE

Sparticl gives teens the opportunity for self-guided learning. The points, badges, and statuses serve as motivators. In the classroom, Sparticl can help teens explore topics that don't fit into the syllabus. Even those who say they don't like science may be surprised how much fun it is once they have explored Sparticl.

Create Your Own Collections

Have you seen the "Collect This!" button? This great new feature lets you create collections of all your favorite Sparticl resources. Collections are great for organizing lessons plans, project & homework help, and creating study guides for exams.



Starter Ideas for Using Sparticl

- **Dig deeper into a topic assigned for study.** For example, have teens watch a video on the topic of the day and write a short reflection. You may choose to vary the number and types of resources depending on ability. Consider having teens identify and submit a new resource.
- **Research a topic to teach to others.** Depending on teens' ability and interests, vary the audience required to teach to (e.g. peers, class, younger students).
- **Spend time exploring new and exciting topics** like space tornadoes and plasma balls. Extend this by having the teen present a summary of what he/she discovered.
- **Find and answer the built-in quizzes on Sparticl.** Answers can be found within the resources on each topic page. Consider varying the number of quizzes required to answer based on ability, having teens track questions and answers and note where the correct answer was found, or assigning work within one science area (e.g., Matter & Energy) or category area (e.g., Physics Basics).
- **Use the hands-on activities to spur student projects that are inquiry-based.** Challenge your teens to manipulate a variable in a procedure to generate new findings and more questions.
- **Share inspiring stories,** including examples of science fair winners, teens giving TEDxTalks, and videos and articles about young scientists. Then discuss the role of science in their lives.

Next Generation Science Standards

Sparticl provides content that covers the Disciplinary Core Ideas of the Next Generation Science Standards for middle school students in these areas:

- Physical Science
- Earth and Space Sciences
- Life Sciences
- Engineering, Technology, and Applications of Science

Join the Sparticl Educator Community

SIGN UP FOR OUR E-NEWSLETTER

The Sparticl e-newsletter is designed specifically for people who are responsible for educating others, with highlights of timely topics, ideas for how to use Sparticl, and other tips. It's easy to sign up; just go to: **www.sparticl.org/newsletter**

SPREAD THE WORD

Don't just tell your students. Introduce colleagues, librarians, and parents to Sparticl's expertly curated and regularly updated content. It's a great research tool and fun place to explore.

TELL US ABOUT ADDITIONAL RESOURCES

Know of a great video, game, or article that you haven't seen on Sparticl? Or maybe there's a hidden gem you think we should include? On Sparticl, you can click the "Suggest Content" button in the right column or send us an email at **info@sparticl.org**.