

Positive Physics and Chemistry

GRADE LEVELS:

8-12

EDUCATIONAL SETTING:

This program is best implemented in situations where the same students meet for the full implementation, rather than drop in and out for a lesson or two.

Award Provides:

- Training sessions
- One year teacher subscription to online platform
- All student subscriptions to online platform for academic year 23-24
- \$100 stipend for attendance of required workshop
- On-going support

Additional Cost(s) to Awardee in 2023-2024:

- No additional cost necessary

Approximate Sustainability Cost After Award Period:

\$299/Teacher/Year (includes unlimited student subscriptions)

2023-2024 STEM Scale-Up Program Summary:

Positive Physics & Chemistry ([positivephysics.org](https://www.positivephysics.org)) is an engaging, online physics and chemistry lesson and problem bank. The site was built by teachers in diverse classrooms and designed to be accessible to students on any level from basic to AP.

- > 3000+ Interactive questions & video lessons designed to replace a textbook.
- > Immediate feedback & automatic grading.
- > Randomization to prevent copying.
- > Nurturing environment to build student confidence.

1 Minute Video Intro: <https://www.youtube.com/embed/fOaLWnjAhF4?autoplay=1>

FREE ACCESS FOR SPRING 2023 SEMESTER!

Positive Physics & Chemistry is offering a completely free trial for Iowa teachers and their students for the Spring 2023 Semester! To activate your free trial create an account on [positivephysics.org](https://www.positivephysics.org) and contact jack@positivephysics.org for your free upgrade.

TEACHER REVIEWS:

"Students are more engaged and challenged with the concepts since using Positive Physics. Understanding of key learning targets has increased and with different given values for each student, collaboration has gone through the roof. What an excellent addition to my physics class!"

-Joshua Hoffman, High School Teacher from IA

"I am so glad I found Positive Physics! It has replaced my textbook and my students absolutely love it!"

-Jon Kelley, High School Teacher from MA

"My students LOVE Positive Physics. It is the best way to build confidence and have students work toward mastery of these skills!"

-Chris Lesure, High School Teacher from CT

"I have never used an online source as regularly as I do this one"

-Kevin Bosworth, High School Teacher from KS

Requirements to Implement the Program:

- 1.) Educator(s) must participate in one, one hour workshop (Teacher will receive \$100 attendance stipend)
- 2.) Educator(s) must participate in the STEM Council Scale-Up Educator Survey.

Website:

<https://www.positivephysics.org/>

Videos:

<https://www.youtube.com/embed/fOaLWnjAhF4?autoplay=1>

Information Webinar Demo/Q&A:

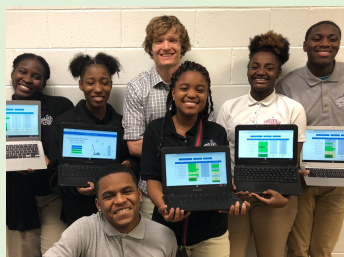
Wed, January 18, 4pm - 4:45pm CT

Thurs, February 2, 4pm - 4:45pm CT

Wed, February 22, 4pm - 4:45pm CT

Sign Up Here:

<https://calendly.com/jrepling/positive-physics-demo-iowa?month=2023-01>



Happy Physics & Chemistry Students

Iowa Standards Alignment:

Positive Physics and Chemistry is designed to cover all topics covered in the following courses:

Physics
Chemistry
Physical Science
AP Physics 1
AP Physics 2
AP Chemistry
Physical Science (coming Fall 2023)
Engineering (coming Fall 2023)
Biology (coming Fall 2023)

In addition, each unit begins with an inquiry activity that is based on the NGSS/Iowa standards. Three inquiry activities with strong curricular ties are described below:

HS-PS2-1: Analyze data to support the claim that Newton's second law of motion describes the mathematical relationship among the net force on a macroscopic object, its mass, and its acceleration. [See Unit 5 Inquiry]

HS-PS2-2: Use mathematical representations to support the claim that the total momentum of a system of objects is conserved when there is no net force on the system. [See Unit 14 Inquiry]

HS-PS3: Develop and use models to illustrate that energy at the macroscopic scale can be accounted for as a combination of energy associated with the motions of particles (objects) and energy associated with the relative position of particles (objects). [See Unit 13 Inquiry].

Professional Development:**Initial Workshop**

Duration: One hour

Date(s): Either July 18, 2023 at 11:00 AM CST or July 27, 2023 at 1:00 PM CST

Location: Virtual through Zoom

Follow-up Workshop (Optional)

Duration: One hour

Date: August 23, 2023 at 4 PM CST

Location: Virtual through Zoom

Photos:

Physics Example Question

Chemistry Example Question

STEM Scale-Up Program Application Link: www.iowaSTEM.org/Scale-Up-Application