

WELCOME PACKET



EQUIP YOUR TEACHERS WITH SCI-OPS: GLOBAL DEFENSE

PLASMA GAMES



VIRTUAL LEARNING ADVENTURE

Sci-Ops is a skills-based educational game that teaches students Chemistry and Physical Science concepts through a turn-based strategy game (like chess). Integrating multiple modes of instruction (videos, simulations, text and story-driven content) within a cohesive and immersive learning experience, and infused with real-world context and technologies, the game connects learning to in-demand STEM careers and education pathways.

Players are motivated to develop mental models of core concepts, learn essential terminology, and understand critical formulae. Players then make use of this knowledge through high-level decision making (e.g., balancing tradeoffs in equipment upgrades and taking strategic action in-game) in an engaging format that promotes self-paced learning.

PEDAGOGY OF SCI-OPS

- FUSES SCIENCE STANDARDS WITH MODERN, 3D, AND ENGAGING GAME MECHANICS.
- VIRTUAL AND IN-CLASS INTEGRATION MATERIALS TO EASILY INFUSE FUN INTO ANY CURRICULUM.
- USES VIDEOS, GRAPHS, CHARTS, SIMULATIONS, TEXT AND OTHER FORMS OF MEDIA TO VIRTUALLY DELIVER CONCEPTS AND RELATIONSHIPS.
- ENGAGES STUDENTS ON MULTIPLE INSTANCES AND LEVELS OF ALL BLOOM'S TAXONOMY.[1]

HONORS & AWARDS

GAMES AND LEARNING ALLIANCE
2020 BEST LEARNING GAME

GAMES FOR CHANGE
2020 BEST LEARNING GAME
FINALIST



NATIONAL SCIENCE FOUNDATION
AWARD WINNING

HTTPS://PLAY.PLASMA.GAMES @PLAYPLASMAGAMES

[1] Blooms, B.S. (1956). "Taxonomy of Educational Objectives, Handbook 1: The Cognitive Domain." New York: David McKay Co Inc.

STUDY DESIGN

In the Spring of 2019, Plasma Games conducted in-class pilots with nearly 5,000 students and 71 teachers pilots in 48 schools across 12 counties in North Carolina. The sample extended from 7th grade science through 12th grade AP Chemistry, and is reasonably representative of North Carolina's and America's students. The study included pre-test surveys of students and parents 2-weeks out; a 30-minute in-class demo of Sci-Ops; and post-test surveys of students and teachers.

Surveys included NC Department of Public Instruction end-of-course (EoC) chemistry questions, measures of psychological motivation, and self-reporting of feedback on the game for liking. Surveys and data collection were conducted with consultation from researchers at North Carolina State University, who independently analyzed the data.

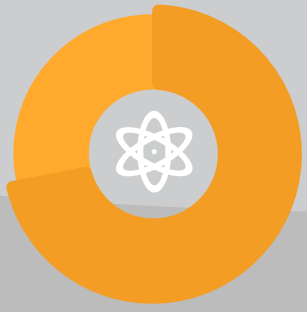
RESEARCH RESULTS

MOTIVATING



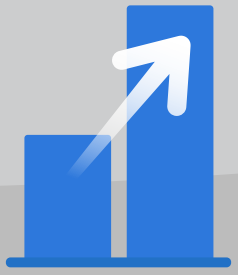
+3-7% OF STUDENTS IMPROVED THEIR SELF-EFFICACY AND UTILITY IN CHEMISTRY & STEM

ENGAGING



72% OF STUDENTS LIKED THE GAME AND WANT IT IN THEIR CLASS

EFFECTIVE



+19% INCREASE IN CORRECT ANSWERS TO END-OF-COURSE (EOC) QUESTIONS AFTER 20-30 MINUTES OF GAMEPLAY

ADDRESSING EQUITY & DIVERSITY

Students of **all genders, races and socioeconomic status** showed learning gains, improvements in self-efficacy, and enjoyed playing Sci-Ops in their classroom. In addition, females showed greater gains in self-efficacy (+3.6% vs. 2.8% for all students) and African American students showed the greatest gains in Chemistry interest (+6.3%).

100% OF ALL TEACHERS IN THE STUDY EXPRESSED AN INTEREST IN CONTINUING TO USE SCI-OPS!

This product **CHANGES LIFE TRAJECTORIES TOWARDS FULFULLING STEM CAREERS**. Legislators, please fund this program for our students!

-JESSIE MAGLIO, SCIENCE TEACHER IN WAKE COUNTY, NC

I was extremely impressed with the pairing of high-level graphic design while merging rigorous content. The seamless integration of gaming strategy along with practical chemistry concepts is outstanding."

-ELLIS AYERS, EXECUTIVE DIRECTOR ACADEMIC SERVICES IN AVERY COUNTY, NC

I consider Plasma Games as a very supportive resource in teaching and my students consider it as an **INGENIOUS WAY OF LEARNING.**

-ELENA VOICILIA, SCIENCE TEACHER IN ROCKINGHAM COUNTY, NC

THERE IS NO GAME LIKE SCI-OPS as it fuses education and entertainment in a fun, unique gaming experience.

-DR. BRIAN HUNNELL, ASSISTANT SUPERINTENDENT IN CLEVELAND COUNTY, NC

Plasma Games **HELPS MY STUDENTS' CONSIDER STEM CAREERS INTERESTING, IMPORTANT AND NECESSARY** for 21st century learners.

-ENID PEREZ, SCIENCE TEACHER IN GUILFORD COUNTY, NC

THE GROWTH THEY'VE SHOWN SIMPLY BY USING IT... is huge. That is evidenced by data collected during last year's pilot study and research effort.

-JAMES BROWN, SCIENCE TEACHER IN HARNETT COUNTY, NC

MOTIVATION AND PARTICIPATION is higher in my students because of Plasma Games.

-GRACE YUSCKAT, SCIENCE TEACHER IN CUMBERLAND COUNTY, NC

I love that this game includes real scientists in North Carolina with interesting jobs. This has the **POTENTIAL TO INSPIRE STUDENTS TO PURSUE A STEM CAREERS** that they may otherwise not realize is possible.

-CHRISTINA PENNINGTON, CURRICULUM COORDINATOR IN ASHE COUNTY, NC

Sci-Ops is going to pull in those kids who never thought they had an interest or ability in Chemistry. This is an area of need in our schools that can **DIRECTLY IMPACT OUR COMMUNITIES FOR THE FUTURE.**

-DR. DONNA COTTON, CHIEF ACADEMIC OFFICER IN WILKES COUNTY, NC

The game will **INSPIRE STUDENTS** to pursue STEM college majors and careers.

-DEBBIE JENNINGS, CAREER TECHNICAL EDUCATION DIRECTOR IN BURKE COUNTY, NC

Plasma Games provides STEM learning in a gaming environment to **INCREASE STUDENT LEARNING AND RETENTION.**

-WILLIAM GAY, SCIENCE TEACHER IN UNION COUNTY, NC

Students will **RUN** to class to play this game.

-RENEE CRANDOL, SCIENCE TEACHER IN EDGECOMBE COUNTY, NC

I try to motivate my students to learn complex concepts that many of them feel like they can't do. After playing Plasma Games, many of them feel like they can even continue their science education with a more in-depth chemistry course. **THE GAME IS EMPOWERING.**

-JAMES GARDNER, SCIENCE TEACHER IN GUILFORD COUNTY, NC

PLASMA GAMES

MY STUDENTS HAVE BEGUN TO CONSIDER NEW CAREER PATHS AFTER BEING EXPOSED TO THEM IN THE GAME. QUESTIONS ABOUT WHAT CLASSES SHOULD THEY TAKE, ETC.

-WENDY TAKAH, HIGH SCHOOL SCIENCE TEACHER IN ROWAN COUNTY, NC

My students love Plasma Games because: (1) it doesn't feel like they are learning while they are (2) It keeps them thinking and engaged (3) **PROVIDES RELEVANCE TO CURRICULUM AND REAL WORLD APPLICATIONS.**

-KIMBERLY MAWHINEY, SCIENCE TEACHER IN CURRITUCK COUNTY, NC

Plasma Games will be a very **VALUABLE RESOURCE** in improving and promoting STEM programs.

-CHAD BROOKS, SCIENCE TEACHER IN CHEROKEE COUNTY, NC

It's **MORE INTERACTIVE** than our other virtual instruction materials we have.

-KATHY GLASHEEN, INSTRUCTIONAL COACH IN UNION COUNTY, NC

Plasma games will provide my teachers tools to support their work in **BUILDING** & **DIVERSIFYING THE STEM WORKFORCE.**

-KRISTINA ROGERS, SR. ADMINISTRATOR OF SECONDARY SCIENCE IN WAKE COUNTY, NC

It has **OPENED THEIR EYES TO A DIFFERENT APPROACH TO LEARNING**, and how a career in science could be fun.

-CHRISTY HALL, SCIENCE TEACHER IN ALEXANDER COUNTY, NC

Students will definitely be **MORE ENGAGED** in learning.

-DEREK LAPISKA, CHEMISTRY TEACHER IN NEW HANOVER COUNTY, NC

PLASMA GAMES MOTIVATES THEM TO A HIGHER LEARNING LEVEL, enables student to practice critical thinking skills, promotes meaningful learning, and increases focus.

-SANDRA STORCH, SCIENCE TEACHER IN ROCKINGHAM COUNTY, NC

My students are **MORE INTERESTED IN STEM AND STEM CAREERS** after using Plasma Games

-MICHELLE PARRISH, SCIENCE TEACHER IN HARNETT COUNTY, NC

Plasma Games is an **EXCELLENT RESOURCE!**

-THOMAS BROWN, HIGH SCHOOL SCIENCE TEACHER IN WATAUGA COUNTY, NC

North Carolina students need access to Sci-Ops to increase their learning in chemistry. The software **MAKES LEARNING TANGIBLE AND FUN**. Funding from the legislation will equalize the opportunities across the state so all students will have equitable resources.

-CHRISTY ARROWOOD, INSTRUCTIONAL COACH SCIENCE IN BURKE COUNTY, NC

I introduced Plasma Games to my honors chemistry students and now **THEY BEG TO PLAY EVERY TIME WE HAVE A SPARE MOMENT**.

-REBECCA COOPER, HIGH SCHOOL SCIENCE TEACHER IN WILKES COUNTY, NC

WE WOULD GREATLY APPRECIATE THE SUPPORT OF OUR LEGISLATORS TO HELP GIVE OUR STUDENTS ACCESS TO PLASMA GAMES.

-JENNA REGAN, SECONDARY CURRICULUM DIRECTOR OF PERSON COUNTY, NC

PLASMA GAMES

PLASMA GAMES' LEVEL OF MEANINGFUL CONTENT DOES NOT EXIST IN OTHER GAMES.

-HEATHER DIETZLER, CHIEF ACADEMIC OFFICER IN CATERET COUNTY, NC

Plasma games **INCREASES STUDENT ENGAGEMENT IN LEARNING SCIENCE**. The integrated gamification and competition support multiple opportunities for students to build background knowledge and/or review previous content.

-DOTTIE HAYES, INSTRUCTIONAL FACILITATOR IN CALDWELL COUNTY, NC

OUR LEGISLATORS NEED TO PURSUE FUNDING TO OFFER THIS LEARNING RESOURCE for the students of Caldwell County Schools as well as others across the state.

-KEITH HINDMAN, MIDDLE SCHOOL DIRECTOR IN CALDWELL COUNTY, NC

I believe **THIS IS THE DIRECTION OUR LESSONS NEED TO TAKE** in order to engage students, keep interest high, and keep students thinking critically about science content.

-DR. TONI WITHEROW, MATH & SCIENCE DIRECTOR IN RICHMOND COUNTY, NC

It is more in a gaming format versus other types of resources we have tried. We know **STUDENTS RESPOND BETTER TO GAMES RATHER THAN LEARNING TOOLS**.

-STEPHANIE HORTON, DIRECTOR OF CURRICULUM & INSTRUCTION IN BERTIE COUNTY, NC

Plasma Games can **PIQUE THE KIDS' INTEREST IN A STEM CAREER** when they didn't realize it existed before.

-CHRIS CONWAY, INSTRUCTIONAL COACH IN UNION COUNTY, NC

My students when they come to my class, the jobs they only know are servers in the restaurants or grocery stores and what they want is to just leave school when they reach their legal age to work. **I HAVE SEEN AN INCREASE OF STUDENTS AIMING TO FINISH A COLLEGE DEGREE OR A UNIVERSITY DEGREE.**

-JONAS ALMERINO, SCIENCE TEACHER IN WAYNE COUNTY, NC

MY STUDENTS NEED THIS TYPE OF LEARNING AS THEY HAVE GROWN UP AMIDST COMPUTER GAMING AND FIND IT MAKES LEARNING FUN.

-SCOTT EVANS, SCIENCE TEACHER IN WATAUGA COUNTY, NC

PLASMA GAMES IS MORE SELF-CONTAINED / MORE RELEVANT THAN OTHER RESOURCES WHILE ACTUALLY BEING A GAME.

-NICK HENDLEY, SCIENCE TEACHER IN GRANVILLE COUNTY, NC

Sci-Ops will pique the interest in students....This will **INSPIRE STUDENTS TO PURSUE STEM DEGREES IN COLLEGE.**

-KELLY DELONG, DIRECTOR OF K-12 MATH AND SCIENCE IN RICHMOND COUNTY, NC

I think that this will be a **FANTASTIC PROGRAM MODEL** that we would love to scale for many, many classrooms beyond our science classroom.

-DONNELL CANNON, PRINCIPAL IN EDGECOMBE COUNTY, NC

This has turned out to be a wonderful platform to inspire students in chemistry. I have found that **BOTH HIGH-ABILITY STUDENTS AND LOWER-ABILITY STUDENTS HAVE ENTHUSIASM FOR THE GAME AND THE SCIENCE INVOLVED**. I highly recommend as a supplement to any science curriculum.

-ADRIENNE EVANS, SCIENCE TEACHER IN COLUMBUS COUNTY, NC

PLASMA GAMES


PLASMA
GAMES