

Science Department

K - 12 Curriculum Review
2022- 2027

Science Review Team



High School Department Chair: Mark Chilton

Middle School Department Chairs: Mary Arlia and Laura Heilig-Trexler

Elementary School Department Chair: Dr. Lisa Waibel

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Input from all elementary teachers and secondary science teachers

Progress Review

A look at the previous 5 - year plan (2015-2020)

- Professional development is ongoing, as the program has immediate access to mentors/consultants daily.
- The HS focused on facility renovations and despite many hurdles, new wing was unveiled in October of 2020.
- The HS Medical Career Pathway continues to be strong while new career pathways use our model as a template.
- The HS continues to work on Keystones and Act 158 graduation requirements.
- At the middle level, we now have a course passing requirement with summer school, but now the passing is at 70% instead of 60%
- Elementary-a consistent, established time requirement for instruction of science for each elementary classroom, in each elementary school, has been established.
- Elementary- a real-world, problem-solving approach is applied to each science lesson.

MISSION



Palisades Science Department Mission Statement:

Our mission is to foster students' critical thinking and innate curiosity, empowering them to utilize the processes and skills of science to persevere and solve real-world problems as scientifically literate citizens.

Current Program

Highlights

Elementary-

- Successful implementation of a highly effective program, *Amplify*, which provides hands-on experiments and various simulations.
- Daily utilization of Chromebooks to support the program using simulations and models.
- Students and parents can access science materials for review and discussion through Clever, strengthening home/school bonds.
- Consistent time allotment to the instruction of science (90 days).

Current Program

Highlights

PALMS-

- Staff members took advantage of opportunities to take science-based professional development.
- We have increased science-based club offerings.
- We have continued STEM implementation and met all of our STEM program goals.
 - Increased participation in STEM Challenge through the Bucks IU
- We have implemented more writing into our curriculum.
- We began exploring 3D and Phenomena programming.
 - Phenomena
 - 3D Learning
 - Sample Program based on 3D: OpenSciEd

Current Program

Highlights

High School-

- The HS facilities were renovated. The new facilities have worked functionally to meet our needs while at the same time providing an inviting and unique environment for the students.
- An Anatomy II course was added and the Medical Career Pathway programs are continuing to be a highlight.
- The STEM outreach club and CSOs put together our first Elementary STEM Night this year.
- Continued focus on improving Keystone scores and meeting graduation requirements for all students.

Bucket #1



Implementation of new state standards (NGSS implementation)

Measurable Goal

Continue to work toward meeting the targets that the state sets forth (i.e. Keystone or other standardized tests). At the middle school, evaluate new programs (contract with Savvas/Pearson ends in '24-'25 school year.) In the '25-'26 school year, implement a new textbook/science-based program that better meets the standards and includes more real-world and hands-on connections.

Bucket #2

Use of technology to improve student learning and develop technology literacy

Measurable Goal

Explore the use of virtual tools (labs, simulations, etc.). Explore new opportunities with technological equipment.

Bucket #3

Addressing the learning needs of all learners

Measurable Goal

Providing diverse opportunities to the curriculum to meet the needs of all learners, from those who require intervention and support to those who benefit from extension.

Bucket #4



Professional Learning

Measurable Goal

Provide multiple opportunities for K - 12 vertical articulation to share comprehensive teaching and learning strategies about the teaching of science.

Next Steps...

Program Updates

- Review NGSS-focused programs to consider for implementation at the middle school.
- Return to 45-minute class for science at the elementary level (two marking periods).
- Continue researching and implementing better enrichment and remediation opportunities for our overachieving and underachieving students.
- Examine the possibility of adding a capstone seminar course for the Medical Career Pathway.

Professional Learning

- Continue to find opportunities for professional learning to increase knowledge of NGSS.
- Allocate time and resources to update planned course documents to reflect NGSS standards and teaching modalities.

2022 - 2027 goals by level



Collaborative Goals Guiding Document