

Kentucky Department of Education
Office of Career and Technical Education
PLTW Biomedical Sciences Career Pathway Sustainability Grant
Application

Please check the level of sustainability, adding the:

2nd Course 3rd Course 4th Course Internship/Certification Course

Funding Amount (See Proposed Budget Summary Form): **\$12,940 (HS) & \$8,190 (MS)**

District: Carroll County School District

Address: 813 Hawkins St.

City: Carrollton State KY Zip 41008

School Name: Carroll County High School

School Name: Carroll County Middle School

School Name: _____

Project Director: Bill Hogan Phone 502-732-7070

Email: bill.hogan@carroll.kyschools.us

I assure the attached application has been reviewed and approved for implementation by all stakeholders and the district and school will comply with all requirements, both technical and programmatic, pertaining to the PLTW Biomedical Sciences Career Pathway Grant. Failure to do so could impact future funding.

Principal _____

Date _____

Notary Public _____

My commission expires _____

Notary seal _____

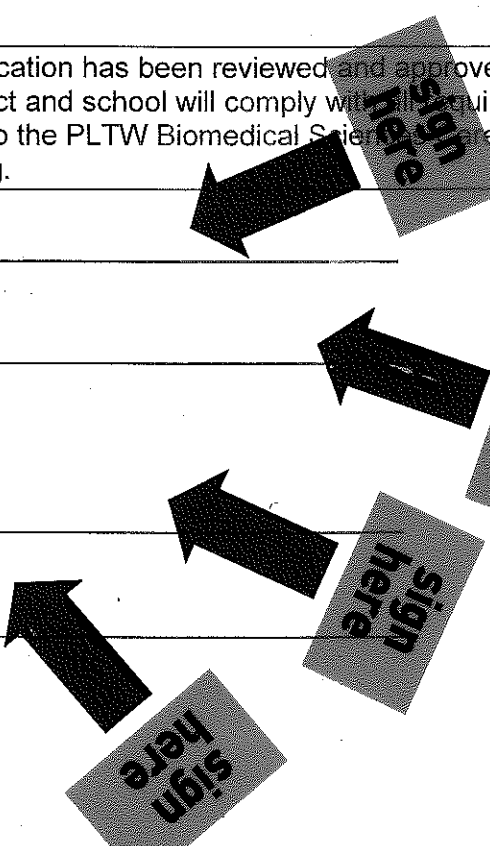
Superintendent _____

Date _____

Notary Public _____

My commission expires _____

Notary seal _____



Student Recruitment: All students in the district's one middle school take three PLTW courses: Energy and Environment in sixth grade, Medical Detectives in seventh grade (starting next school year), and Design and Modeling in eighth grade. This ensures that students of all races, ethnicities, and genders have access to the PLTW classes.

Recruiting for high school PLTW biomedical classes begins in middle school. Each year, the high school guidance counselor and biomedical instructor visit the middle school to speak about the benefits of the PLTW biomedical courses, and they encourage all students to apply for spots in the classes. Additionally, letters go to the homes of all eighth-grade students specifically to inform parents about the program.

See the **Student Progress** section below for information on the guidance and advising provided to PLTW students. For growth, one goal of the program is to increase the number of PLTW biomedical enrollees by 10% each year.

Biomedical Sciences Career Pathway Plan: Middle school students in grades six through eight begin the formal PLTW curriculum with the Gateway to Technology. As stated in the section above, all students in the middle school take three of the PLTW Gateway to Technology classes. Medical Detectives is being added next school year to boost interest in and lay groundwork for the high school biomedical pathway.

The biomedical pathway has proven to be popular with the district's students. Thirty-seven students took the first course, Principles of Biomedical Science, last school year. This year, the number of students in the first biomedical course has increased by 12%.

The high school will add its third PLTW biomedical class next school year. Once students reach the fourth PLTW biomedical course in the 2015-2016 school year, PLTW seniors will be given priority for industry co-op positions in the community, which include

positions at local pharmacies, hospitals, nursing homes (for students with CNA certifications), and veterinary clinics.

Since the high school is rolling out its third PLTW class next school year, the district has contacted a local community college to see about establishing dual credit and course articulations for students who complete the fourth biomedical course during the 2015-2016 school year.

Student Progress: The school district utilizes a full-time College and Career Readiness Counselor who meets with all high school students who are in PLTW classes. The counselor meets with students to track their progress, help them set goals, and plan their future steps based on the classes that they have taken. Additionally, the counselor works with students to set goals for standardized assessments, such as the EOC, so that students can earn certifications, show mastery, and move toward being College and Career Ready.

In addition to working with the students, the College and Career Readiness Counselor also communicates with parents in order to keep them informed about their student's progress.

Industry Partnership Team: The district's PLTW program originated with local industry need as well as with regional demand for workers with advanced training in the biomedical sciences. In terms of implementation and finances, local industries have donated \$185,000 to date for PLTW expenses, with \$10,000 more already pledged. These industries have been generous with their employees' time, helping to mentor and guide students along the PLTW pathways.

The local industries have shown their commitment to increasing the caliber of their workers through their support of the PLTW pipeline. The *Northern Kentucky Vision 2015* shows Health Care and Social Assistance among the top industries for projected growth in the region. In order for the county to stay competitive, local industries have recognized the need for initiatives like the PLTW biomedical sciences program.

Sustainability: The bulk of the program's investment and capital expenses have already been paid by the school district and by local businesses and industries. Moving forward, upkeep and expansion will be the only financial needs.

As mentioned in the **Industry Partnership Team** section above, local industries have already donated \$185,000 to the PLTW program in the district. Just this year, representatives from a donor organization performed an on-site visit of the district's PLTW facilities during normal classroom instructional time. The visitors were so impressed that they donated an additional \$50,000 for PLTW instruction and equipment.

Additionally, the school district is committed to ongoing support and expansion of the PLTW biomedical pathway, and the school board has not hesitated to approve the continued expansion of the program. This has involved shifting resources, personnel, and space so that instructors have optimum time and resources for required activities.

Furthermore, the middle school is undergoing a renovation, and the PLTW middle school area has been included in the plans specifically for the purpose of expanding the opportunities for PLTW in the future. The middle school PLTW space will encompass a two-level section of the building with an adjacent technology café and study lounge. Sliding doors outside the classroom have been designed to give visibility to the program, allowing activities to "spill out" into the corridor so that students who are

walking by can see PLTW projects as they happen. Moving forward, PLTW will continue to be a priority in funding and physical plant expansions.

The PLTW biomedical curriculum is part of the fabric of achievement in the school district. To help with the state-wide push for College and Career Readiness, students who complete the third year of the PLTW biomedical course will be eligible to sit for the X-ray technician certification.

Evaluation: The goals for the PLTW program dovetail with the larger goals of the school district, which include increasing the number of graduates who pursue STEM careers and training so that they can eventually work in high-growth areas like healthcare and medical research. To achieve this larger goal, the PLTW biomedical program seeks to do the following:

Goal 1 – To teach science and math in a problem-based environment.	
Objectives for Goal #1	
1	Increase number of students who are taking PLTW biomedical courses by 10% each year, determined by enrollment figures.
Outcomes for Goal #1	
1	With more students taking PLTW biomedical courses, more students will be exposed to math and science in a problem-based environment, which will increase interest and achievement.
Goal 2 – To encourage more students to pursue STEM careers and technical training after high school graduation.	
Objectives for Goal #2	
2	Increase percentage of students who pursue STEM degrees and training by 5% each year, determined by surveys and data of graduates.
Outcomes for Goal #2	
2	With more of the district’s students pursuing STEM degrees and training, the district will continue to shift its focus toward technical and scientific preparation for students.
Goal 3 – To encourage more male students to consider careers in healthcare and medical research.	
Objectives for Goal #3	
3	Increase percentage of male PLTW biomedical students by 10% each year until parity is reached, determined by enrollment figures.
Outcomes for Goal #3	
3	Increasing the percentage of male PLTW students in the biomedical classes will encourage more of the district’s male students to explore advanced training in healthcare and medical research.

Timeline of Pathway to Biomedical Sciences Activities

Summer 2014: Purchase supplies for the following classes:

- Medical Interventions
- Medical Detectives

Summer 2014: Teachers will attend the following core training sessions:

- Medical Interventions
- Medical Detectives

Summer 2014: Purchase and incorporate Inspiration software.

Proposed Budget Summary Form

Explanation of Expenditures	Grant Amount	Match (In Kind) Amount
(HS) = High School Expense (MS) = Middle School Expense		
Computer software required by PLTW Biomedical Sciences – Inspiration (80 Licenses)	2,560 (HS)	
Travel expenses and registration fees for teachers to attend the required PLTW Core Training(s). <ul style="list-style-type: none"> • Teacher attending Medical Interventions (HS) • Teacher attending Medical Detectives (MS) 	4,380 (HS) 2,190 (MS)	
Biomedical Sciences related instructional materials and equipment <ul style="list-style-type: none"> • Medical Interventions - \$6,000 • Medical Detectives - \$6,000 	6,000 (HS) 6,000 (MS)	
Tables, Trays, and Chairs for Biomedical Sciences		7,310
Vernier Sensor, Monitor, Temp Probe		11,365
Core PLTW Training for Biomedical Sciences Teacher		6,100
Total Amount Requested	\$12,940 (HS) \$8,190 (MS)	\$24,775

***Estimated Costs based on 2013-2014 Purchase Manual attached as a reference for purchases.**

***Teacher salaries are not an allowable expense; yet, a stipend for attendance at summer Core Training for Teachers is an allowable expense using the munis code 0113.**

Budget Narrative

A. Computer software required by PLTW Biomedical Sciences –Inspiration (80 Licenses) - \$2,560

Inspiration Software: \$2,560

Software for 80 student workstations to run Inspiration software.

B. Travel expenses and registration fees for Core Training(s) - \$6,570

Core Training for High School PLTW Biomedical Instructor: \$4,380

The core training registration fee is \$2,400 for the two-week Medical Interventions course in Lexington, KY. Lodging costs \$1,400 for the two week period. Board policy dictates \$40 per day for all overnight trips, which comes to \$400. Two round-trips to Lexington comes to \$180.

Core Training for Middle School PLTW Biomedical Instructor: \$2,190

The core training registration fee is \$1,200 for the one-week Medical Detectives course in Lexington, KY. Lodging costs \$700 for the one-week period. Board policy dictates \$40 per day for all overnight trips, which comes to \$200. One round-trip to Lexington comes to \$90.

C. Biomedical sciences instructional materials and equipment. - \$12,000

Medical Interventions: \$6,000

Estimated supplies for twenty students.

Medical Detectives: \$6,000

Estimated supplies for twenty students.

NOTE: ALL MATCHING, IN-KIND FUNDS ARE FROM CORPORATE DONATIONS THAT HAVE BEEN USED FOR THE EQUIPMENT LISTED BELOW. THE DISTRICT HAS ENOUGH IN-KIND FUNDS TO COVER THE GRANT AMOUNT FROM TEACHER SALARIES BUT HAS NOT LISTED THEM PER KDE'S INSTRUCTIONS.

D. Tables, Trays, and Chairs for Biomedical Sciences. \$7,310 – MATCH

E. Vernier Sensors, Monitors, Temp Probes. \$11,365 – MATCH

F. Core PLTW Training for Biomedical Sciences Teacher. \$6,100 – MATCH

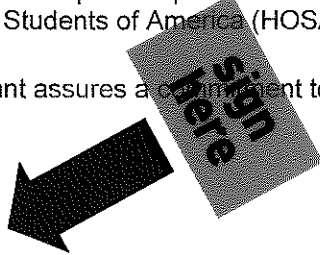
Training to send a PLTW biomedical teacher to core training.

**KENTUCKY DEPARTMENT OF EDUCATION
BRANCH OF COLLEGE AND CAREER READINESS
ASSURANCES FOR PLTW/Biomedical Sciences CAREER PATHWAY
SUSTAINABILITY GRANT AWARD**

The applicant agrees that if funds are made available through the PLTW Biomedical Sciences Career Pathway Grant Award Program:

1. Instructional space for high school laboratory should be a minimum of 1700 square feet.
2. Schools will provide annual student information through PLTW's systemic evaluation process.
3. School will use all PLTW End-Of-Course assessments.
4. Fiscal and property management control, and fund accounting procedures are in place and operational with the Accountability Report to KDE on or before June 30.
5. Prior to the close of the fiscal year of the grant award, a report will be forwarded to the Department describing the accomplishments made toward the implementation of the plan.
6. All equipment purchases must be physically located in the instructional area approved in the grant application unless explicit approval is obtained under Department regulations regarding equipment disposition.
7. All grant funds must be incurred and expended prior to June 30, 2014.
8. That an affiliated Health Science Students of America (HOSA) chapter is made available for students.

By submitting this application, the applicant assures a commitment to implement the improvements described in the attached grant proposal.



Principal

Date

Superintendent

Date

