

PROGRAM EVALUATION

Southern Boone County R-1 Schools

Program Evaluated: Science

Date Submitted to the Board of Education: April 19, 2021

Person(s) Responsible:

Science Vertical Team Members

Primary: Kristen Lines and Ashley Porting

Elementary: Michelle Dooley, Lauren Huntebrinker, Andrea Wikle, Shelby Albin,
Cassandra Beaty

Middle School: Grace Schauer, Lee Bradley, Joe Brown, Jamie Metcalf

High School: Matt Boldt, Ericca Thornhill, Katy Golightly, Andrew Meyers

What data/evaluation criteria illustrates the effectiveness of this area?

Primary School

Science curriculum data at the primary school is collected through formative and informal assessment such as class discussions following lessons, student work, teacher observation, and experiments. Our reading curriculum's design incorporates science standards into the nonfiction units. There are no summative or formal assessments given at the K-2 level.

Elementary

Data collections through formative and informal assessments such as experiments, class discussions, quizzes, teacher observation, and post-assessments. We incorporate NGSS science standards throughout the curriculum. We take summative assessments at the end of each science unit to assess student growth and understanding.

Middle School

New standardized science tests corresponding to the adopted NGSS science standards were developed and piloted two years ago. Last year, standardized tests were not administered. As a result of adopting new standards and state assessments, as well as a lack of testing last year, no normalized statewide data is available at this time for

comparison. Grade level teachers continue to data share and analyze student performance corresponding to priority standards.

High School

Traditionally, the three main indicators of effectiveness at the high school level are statewide End-of-Course exams, ACT scores in science, and department observations of student engagement and academic success. Two years ago a new Science EOC exam was piloted as one of the final stages of state adoption of the Next Generation Science Standards in the Missouri Learning Standards. This test was administered to all Sophomore Biology students in 2019 but no analysis of the test results were shared by the state. Last year there were no EOC exams given. The department continues to use a model that entails specific courses being taught by two or more different teachers. This fosters natural and effective curriculum development, collaboration and data sharing.

What has changed since the last program evaluation?

Primary School

There have been no changes since the last evaluation.

Elementary

Since last time, we have used a mix of curriculums such as Mosa Mack, Mystery Science, Generation Genius and Elevate Science. We have identified new Power Standards and updated our standards based on NGSS Standards. We have also implemented the use of chromebooks more through the use of vocabulary and different testing. We have adopted new power standards to align with NGSS and vertically align with 4th and 5th grade power standards. Our units teach these standards. We updated our curriculum to include more hands-on learning experiences.

Middle School

Since the last science program evaluation, Lee Bradley has been added to the science department teaching 6th and 7th grade classes. Due to the use of the Google platform utilized in the Middle School, it was a relatively seamless transition adding another teacher to those grade level collaborative teams. With the addition of Bradley, the middle school science department added a supplemental ½ science teacher. This increase in science staff has resulted in slightly smaller science classes.

High School

There has been a turnover of 2 teachers in our department of 4 since the last evaluation. One of the leaving teachers took another position within our district and another moved for family reasons. With the guidance of Dr. Roth and Mr. Johnson, we have completed updated curricula for our Freshmen Physics 9 course and Sophomore Biology course. We continue to implement STEM content in the department. Examples of this include the use of 3D printers in our Engineering course (PLTW), interactive virtual lab activities in Chemistry and Biology, and electronic data collection and analysis in Physics.

What next steps would better serve our students?

Primary School

Access to kits with enough class sets and individuals to plan lessons matching standards for each grade level.

Elementary

Being able to have access to the textbook program online just for teachers (Elevate Science), or finding one curriculum where we could supplement with Mosa Mack and Mystery Science if need be. Having enough supplies for all students to use during exploratory activities would be beneficial. We could use supplies for the hands-on activities and experiments which are prevalent throughout the Next Generation Science Standards (NGSS) and project based learning. 3rd grade is still using textbooks that are old and designed for the old GLE's, not the new NGSS. Due to 4th grade not having a textbook or curriculum teachers use a wide variety of resources when planning to meet standards. Science needs to become more of a priority in the elementary classrooms. It seems as though science is always the subject that is interrupted throughout the week for various reasons and always limited on time. We need more instructional time for science and we need the resources to provide quality instruction.

Middle School

Primary importance should be placed on appropriately equipping the new science labs being created with the new Middle School construction. Due to classes of each grade level being taught at the same time, resources have been spread too thin and appropriate equipment has been lacking. The Middle School Science Department would additionally benefit from a common plan period to facilitate more effective collaboration and data sharing. Also of benefit would be continuing professional development regarding the use of technology and online tools appropriate in the science classroom.

High School

We would like to increase the amount of vertical alignment we have with the middle school. In the past such meetings have been very helpful for both buildings. Continuing budget support for materials and resources that support STEM instruction. We would benefit from an increase in storage space for science equipment.

