



S.T.E.A.M. Board Update

Presenters:

Jody De St. Hubert, Director of Teaching and Learning
Dr. Randy Smasal, Assistant Superintendent
Mark Carlson, Curriculum Coordinator
Dr. Cara Rieckenberg, Highlands Elementary Principal
Allison Knoph and Laurie Holland, Concord Elementary Teachers

Overview

Mission/Vision, Strategic Initiatives

STEAM Design Elements

Implementation Plan



Edina Vision & Mission

For Each and Every Student to Discover their Possibilities and Thrive.

Edina Public Schools is a dynamic learning community delivering educational excellence and preparing all students to realize their full potential.

Through academics, activities, and opportunities, we encourage creativity, foster curiosity, and develop critical thinking skills. We support every student's educational journey by creating a caring and inclusive school culture that supports the whole student.



Edina Strategic Initiatives

Strategy A: Advance Academic Excellence, Growth and Readiness

1. Design and deliver curriculum, instruction and assessment focused on content rigor, critical thinking, student engagement and continuous improvement to assure academic achievement and student growth.
2. Provide a coherent and differentiated educational experience that effectively engages, appropriately challenges every student academically.



Edina Strategic Initiatives

Strategy B: Ensure an Equitable and Inclusive School Culture

2. Create a school culture that enhances learning and fosters a sense of belonging for all students through our values of Integrity, Compassion, Courage, Commitment, Appreciation and Responsibility.
3. Support equity by identifying and eliminating structural barriers to success.



Edina Strategic Initiatives

Strategy C: Foster Positive Learning Environment and Whole Student Support

4. Create environments that are conducive to learning and facilitate constructive student interaction.



Edina Strategic Initiatives

Strategy E: Engage Parents, Schools and Community

4. Leverage partnerships with community groups, businesses, local and state government agencies and individuals to strengthen and foster relationships with EPS.



STEAM Cornerstone Design Elements

These four research-supported design elements place students at the heart of solving real world problems, asking questions, designing solutions and learning from professionals in the field along the way.

- Inquiry
- Integration
- Authenticity
- Partnership



STEAM Cornerstone Design Elements

- Inquiry
 - Inquiry is an approach to learning that involves a process of exploring the natural or material world, asking questions, making discoveries, and testing those questions in the search for new understanding.
 - Incorporating inquiry into learning activities raises engagement through critical and creative thinking



STEAM Cornerstone Design Elements

- Integrated learning environments connect different areas of study or different topics in the same area of study by cutting across subject matter or topic matter silos. In Edina, integration promotes flexible and critical thinking while offering multiple methods for students to demonstrate knowledge, skills, and competencies.
- Integration key elements
 - Mystery Science as the base of integrated unit
 - 2 Cornerstone (Model Units) per grade level
 - Built, piloted, vetted
 - District wide/Equity
 - Integrated Teacher Teams: Classroom teacher, Media Specialist, Specialist (Art, Music, PE)



STEAM Cornerstone Design Elements

- Authentic learning means students are engaged in solving meaningful, real world issues and problems.
- Authenticity Examples
 - Student Spaceflight Experiment Challenge
 - Zoo STEM Challenge
 - Trout in the Classroom in partnership with DNR
 - Citizen Science; Journey North; GLOBE
 - Local, Regional and Global Issues





SSEP

Student Spaceflight Experiments Program

A program of the
National Center for Earth and Space Science Education (NCESE)
and the Arthur C. Clarke Institute for Space Education

[Home \(Program Summary\)](#) [More on SSEP](#) [Flight Opportunities](#) [Teacher Resources](#) [Contact](#) [Community Network Website](#) [SSEP Blog](#) [Conference](#)
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A Model U.S. National STEM Education Initiative for Grades 5-16
*to inspire the next generation
of America's scientists and engineers*





ZOOMS STEM Design Challenge

Join us for the 10th Anniversary of ZOOMS this school year!

The ZOOMS STEM Design Challenge presented by Flint Hills Resources offers students a chance to develop a solution to a 'real' problem faced by Zookeepers and staff at the Minnesota Zoo. From designing an enrichment, to building a model of a renovated animal exhibit, the problem will challenge students to use their science and math knowledge, creativity, problem solving, and research skills during the engineering design process in order to best solve the problem and present a solution. Selected students are invited to showcase their design challenge solution in the ZOOMS Design Exhibition in March at the Minnesota Zoo!



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Our Environmental Education Program

In our increasingly urban, developed, and technological society, many students don't have regular opportunities to connect with the outdoor world. "If we want children to flourish, we need to give them time to connect with nature. They need to love the Earth before we ask them to save it."

Trout in the Classroom does exactly this by providing consistent opportunities for students to connect with their natural environment through field days, classroom activities, and caring for their own trout from eggs to fingerlings from December to May. Their school year culminates with a field trip to release the trout into the wild that they have raised and learned so much from throughout the year.

Students engaging with TIC are immersed within a place-based environmental education program that allows them to establish empathy and a well-rounded understanding of aquatic ecosystems. This includes the essential role that trout and other organisms play in our watersheds. They also learn about their roles as environmental stewards and how their choices affect the natural world.



CITIZEN SCIENCE

Around the world ordinary people of all ages engage in citizen science—participating in projects in which volunteers and scientists work together to answer real-world questions. Much of this work is conducted close to home, sometimes in our own backyards or even in our living rooms and kitchens, with guidance from professional scientists and using established science protocols and tools. Regardless of the location and process, citizen science brings everyone into the important work of learning more about and protecting our planet.

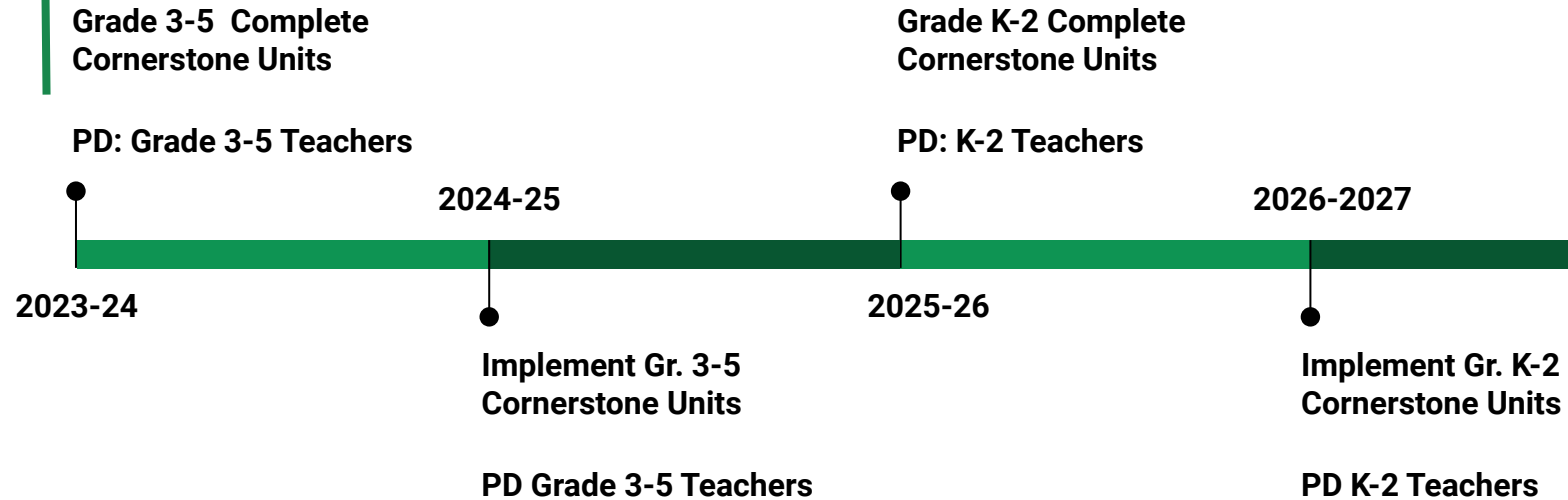
Consider also enrolling in National Geographic's free online course,

STEAM Cornerstone Design Elements

- Partnership includes district widespread collaborations and connections across schools, classrooms and subject areas with professionals in the field.
- Partnership
 - District, Community, Global
 - Scientists, Engineers, Artists, Technicians, Mathematicians
 - Content Expertise in the classroom through professionals in the field
 - Career Exposure



Implementation Map



STEAM Capacity Building

Professional Learning

- STEAM Institute: Inquiry, Questioning, Integration, Cornerstone Units
- 5 days
- Phase I: Grade 3-5 Teachers 2024-25
- Phase II: Grade K-2 Teachers 2026-27

Partnership Development and Maintenance



Sample Cornerstone Unit

Unit Title: Earthstory

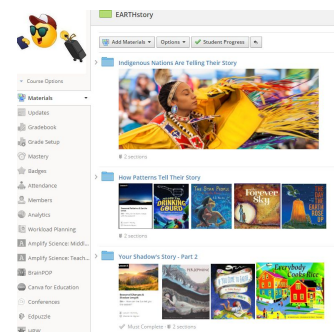
Designers: Allison Knoph, Laurie Holland

Themes: Patterns/Telling My Story

- Built out in Google Slides and Schoology

Theme: Patterns

Science	Patterns in the sky: Spaceship Earth Unit
Writing	<u>Building Words: Morphemes</u> <u>Building Words: Letter Patterns</u>
Math	Place Value Rounding
Reading	Patterns that helps us figure out who we are as readers. Patterns that help us strengthen our reading skills.



What questions do you have?

