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CAREER READINESS CONFERENCE

Session #3
10:30—11:25

From STEM Pathways to Career Readiness: Building Durable Skills Through Career-Connected Systems

Dana Meyer & Du Bui

Our Agenda

1. Intros & Agenda
2. Goals
3. Framing the Need
4. KPS Story - 5 Systems Levers
5. Pathway Mapping
6. Takeaways & Next Steps

https://tinyurl.com/STEMPathwaysCCL

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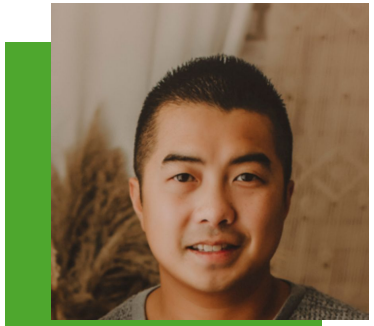
Introductions



Du Bui
Kent ISD
STEM Consultant

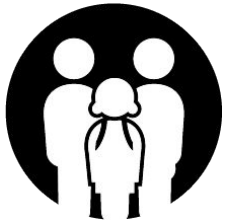
Dana Meyer
Kentwood Public Schools
STEM Teacher

Who do we have in the room with us today?

Session Goals

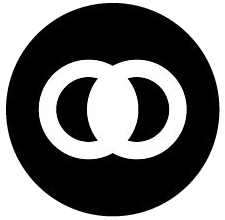
STEM as a Talent Pipeline

Analyze how K-12 STEM pathways can function as a structural framework for a district-wide talent pipeline and career-connected learning system.



Durable Skills

Explore how Kentwood Public Schools is working to intentionally integrate and progress "durable skills" across all grade levels to ensure students are prepared for high-demand, high-wage careers.



Actionable Systems Levers

Evaluate specific system-level structures, including STEM Advisory Committees and instructional coherence, to identify scalable levers for strengthening career readiness and education-industry alignment in your own context.

- **The median annual wage for all STEM occupations is $101,650** compared with $46,680 for non-STEM jobs.
- **The U.S. will need to fill about 3.5 million jobs by 2026**; yet as many as 2 million may go unfilled due to the skills gap.
- **Women remain underrepresented in STEM occupations**, 65% of those employed in STEM occupations were men and about 35% were women between 2011-2021.
- Minorities also remain underrepresented. **Black minorities represent 11% of all jobs and 9% of STEM jobs. Hispanics represent 17% of all jobs and only 8% of STEM jobs.**
- **STEM jobs are projected to grow 10.4%** between 2023 and 2033, compared to **3.6% in non-STEM jobs**.

Bureau of Labor Statistics, 2023, Emerson, 2018, Society of Women Engineers, 2023,

National Science Foundation, 2023, Bureau of Labor Statistics, 202

The law mandates that all Michigan K-12 school districts incorporate career development into their curriculum starting with the 2019-2020 school year for K-12 education. It was revised again in Dec. 24

“While nearly 8 in 10 Gen Zers (79%) agree they have a great future ahead of them, about half (51%) agree that they feel prepared for that future.”

- Gallup Poll 2024

- Gen Z will make up 27% of the workforce in 2025.
- 74% of hiring managers say they're concerned about Gen Z's interpersonal skills.
- 70% of hiring managers think Gen Z is not ready for work

Forbes 2025

- MCDM Reference Guide

9 out of 17 clusters are STEAM

- MCDM Reference Guide

- MCDM Reference Guide

Know Yourself

- Interests
- Strengths
- Values

Explore Options

- Career Pathways
- Labor Market Trends
- Postsecondary

Make Choices

- Plan
- Goal Setting
- Decision Making

Take Action

- Increase Knowledge and Skills
- Market Self
- Employment

Adapted from the Kansas Career Development Cycle

- MCDM Reference Guide

- Know Yourself, Explore Options(K-5) : Introducing students to various careers and the world of work.
  - Design challenges and some learning about different careers in the Michigan Career Cluster

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- Make Choices(6-8): Encouraging students to explore different career options and assess their interests and skills.
  - You may even use open ended project based learning that allows them to step into the role of a profession in a career cluster.

- MCDM Reference Guide

- Know Yourself, Explore Options(K-5) : Introducing students to various careers and the world of work.
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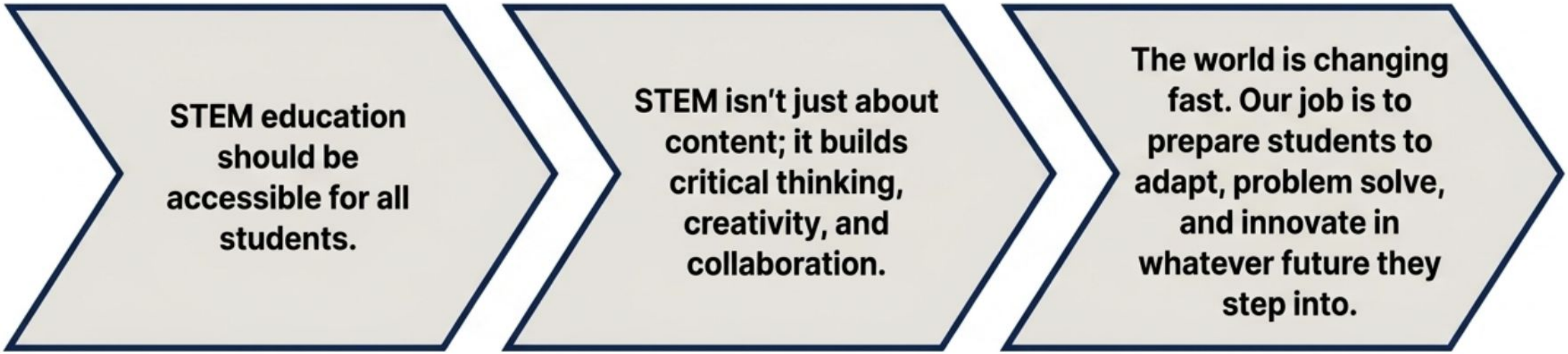
- Make Choices(6-8): Encouraging students to explore different career options and assess their interests and skills.
  - You may even use open ended project based learning that allows them to step into the role of a profession in a career cluster.

- Take Action(9-12): Providing students with hands-on experiences, industry connections, and postsecondary planning.
  - Partnering and participating in programs with local business and community partners is a start but consider other means of work based learning.

- MCDM Reference Guide

Kentwood Public Schools' Story

Our Why


STEM education should be accessible for all students.
STEM isn't just about content; it builds critical thinking, creativity, and collaboration.
The world is changing fast. Our job is to prepare students to adapt, problem solve, and innovate in whatever future they step into.

Centering on KPS Student Vision Statements

Student Vision Statements

- I am cared for, supported, and heard.
- I am empowered to influence my community.
- I am motivated to learn and achieve challenging and new ideas.
- I see myself and others in my learning.
- I know we all belong and are valued.

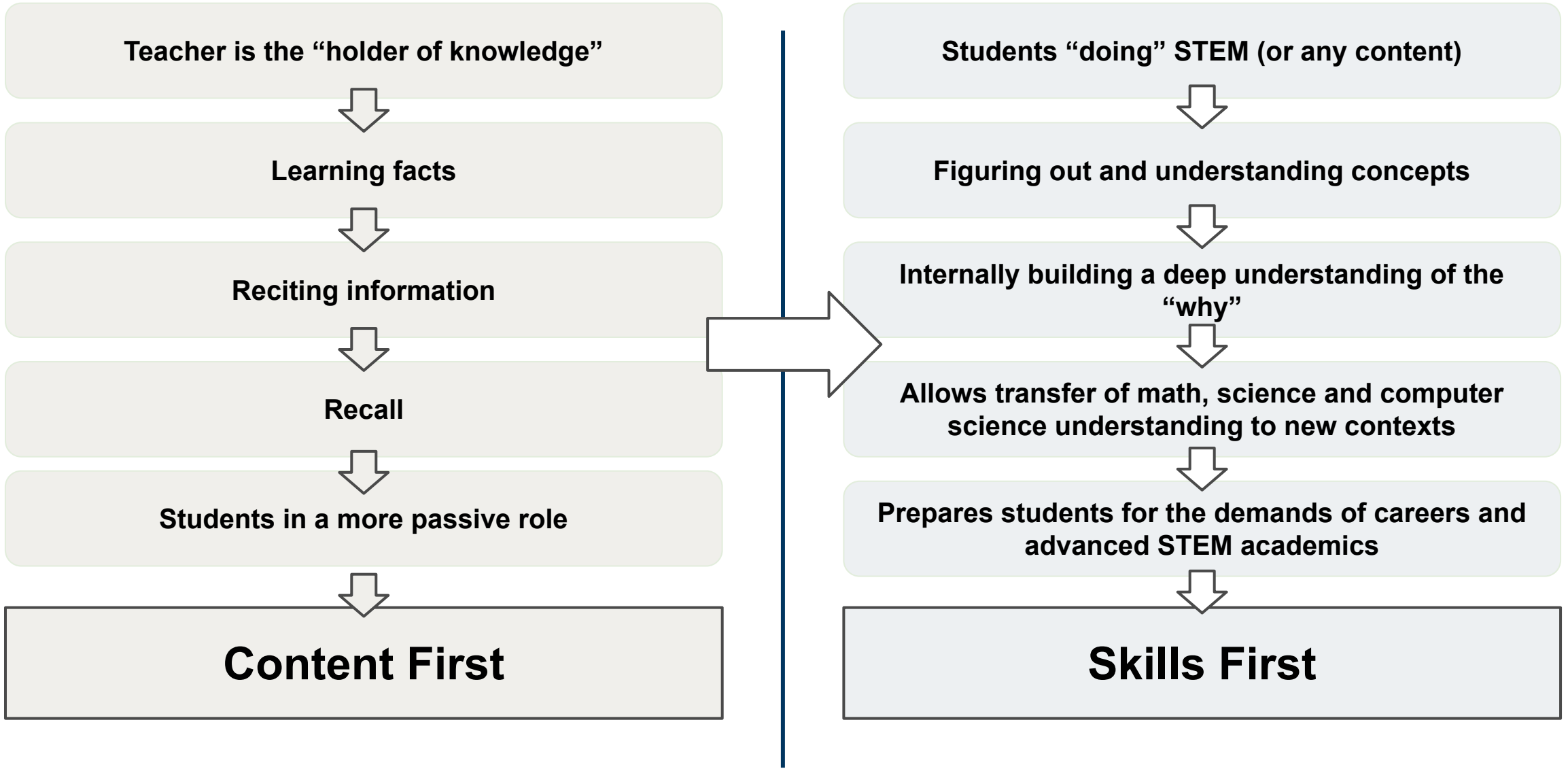
STRATEGIC PLAN
FOR EXCELLENCE AND EQUITY IN EDUCATION

Cross-Cutting Themes

Cross-Cutting Themes: These themes surfaced repeatedly during input from various stakeholder groups. Their importance cuts across all goal areas and plays a role in work we do across the board. The themes are present in the thinking and planning for all decisions we make to positively impact our students.

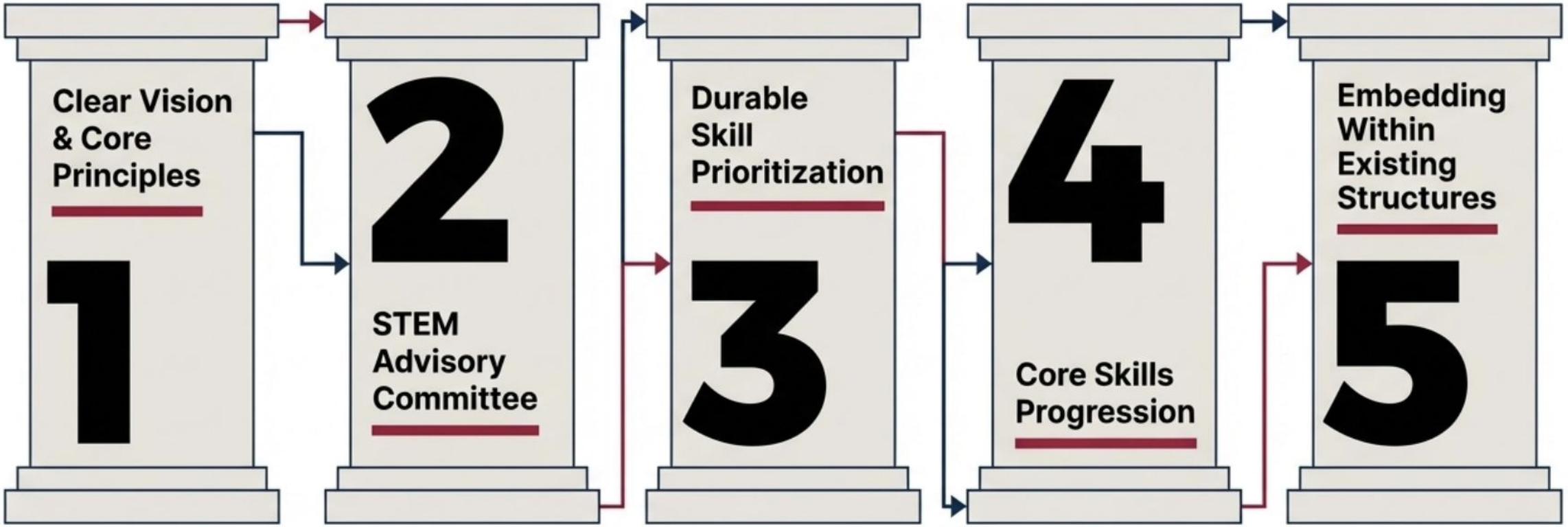
- **Meaningful Learning**
  - Make learning meaningful and accessible for all students through innovation and "real world" experiences.
- **Communications and Engagement**
  - Ensure students, families, and staff benefit from effective communication, ongoing outreach, and engagement opportunities.

Making a Shift



Five strategic levers for building a career-connected system

To turn our skills-first vision into a district-wide reality, we utilized five highly actionable system levers:



Lever 1: Clear Vision & Core Principles

We aligned our work to the following principles and frameworks to ensure a strong foundation and consistency across schools.

Identify Core Principles

- Promote Critical Thinking & Problem Solving
- Encourage Teamwork & Collaboration
- Spark Curiosity
- Foster Creativity

Standards & Practices

- Science & Engineering Practices (SEPs)
- Michigan CS Standards
- ISTE/MiTEC Standards

Computational Thinking

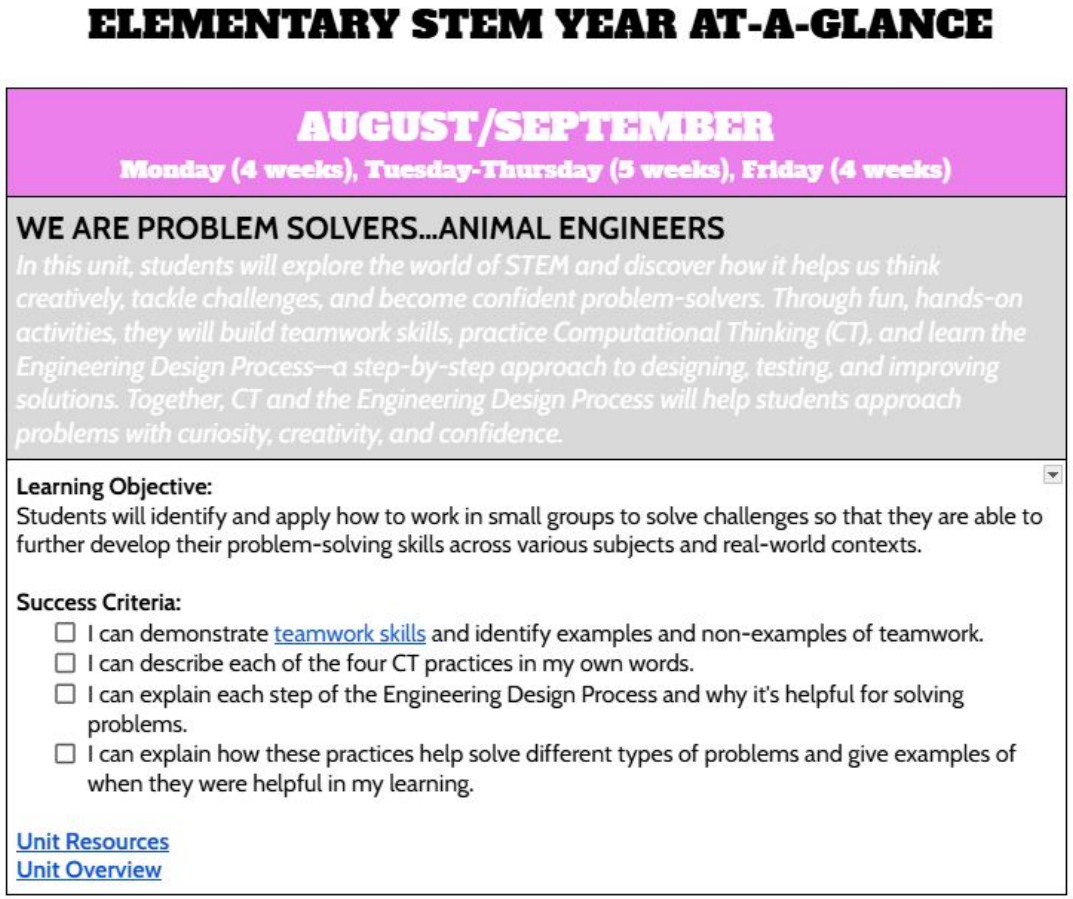
- Decomposition
- Abstraction
- Patterns
- Debugging

Engineering Design Process

- Engineering Design Process (EDP)
- Design Thinking Process

Year At-A-Glance

- EDP & CT - STEM Challenges
- Digital Citizenship
- Foundations of Computer Science
- Robotics
- Digital Media
- 3D Printing



ELEMENTARY STEM YEAR AT-A-GLANCE

AUGUST/SEPTEMBER
Monday (4 weeks), Tuesday-Thursday (5 weeks), Friday (4 weeks)

WE ARE PROBLEM SOLVERS...ANIMAL ENGINEERS

In this unit, students will explore the world of STEM and discover how it helps us think creatively, tackle challenges, and become confident problem-solvers. Through fun, hands-on activities, they will build teamwork skills, practice Computational Thinking (CT), and learn the Engineering Design Process—a step-by-step approach to designing, testing, and improving solutions. Together, CT and the Engineering Design Process will help students approach problems with curiosity, creativity, and confidence.

Learning Objective:
Students will identify and apply how to work in small groups to solve challenges so that they are able to further develop their problem-solving skills across various subjects and real-world contexts.

Success Criteria:

- ☐ I can demonstrate teamwork skills and identify examples and non-examples of teamwork.
- ☐ I can describe each of the four CT practices in my own words.
- ☐ I can explain each step of the Engineering Design Process and why it's helpful for solving problems.
- ☐ I can explain how these practices help solve different types of problems and give examples of when they were helpful in my learning.

Unit Resources
Unit Overview

Lever 2: STEM Advisory Committee

Lever 2: STEM Advisory Committee

TNTP Partnership

Focus on creating consistency across buildings by developing grade-level and grade-band learning objectives, defining success criteria, and integrating career-connected learning

1.

Integrate the voice of community and industry partners in the creation of STEM programs.

2.

Determine the employability (durable) skills our students need most to succeed upon graduation.

3.

Increase elementary students' exposure to and exploration of STEM careers.

KENTWOOD PUBLIC SCHOOLS

Freedom . Engineering . Creative . Building . Team/Partner .

"It's [STEM Class] different because instead of just being told what to do, you get to choose what you want to make or how you want to do it."

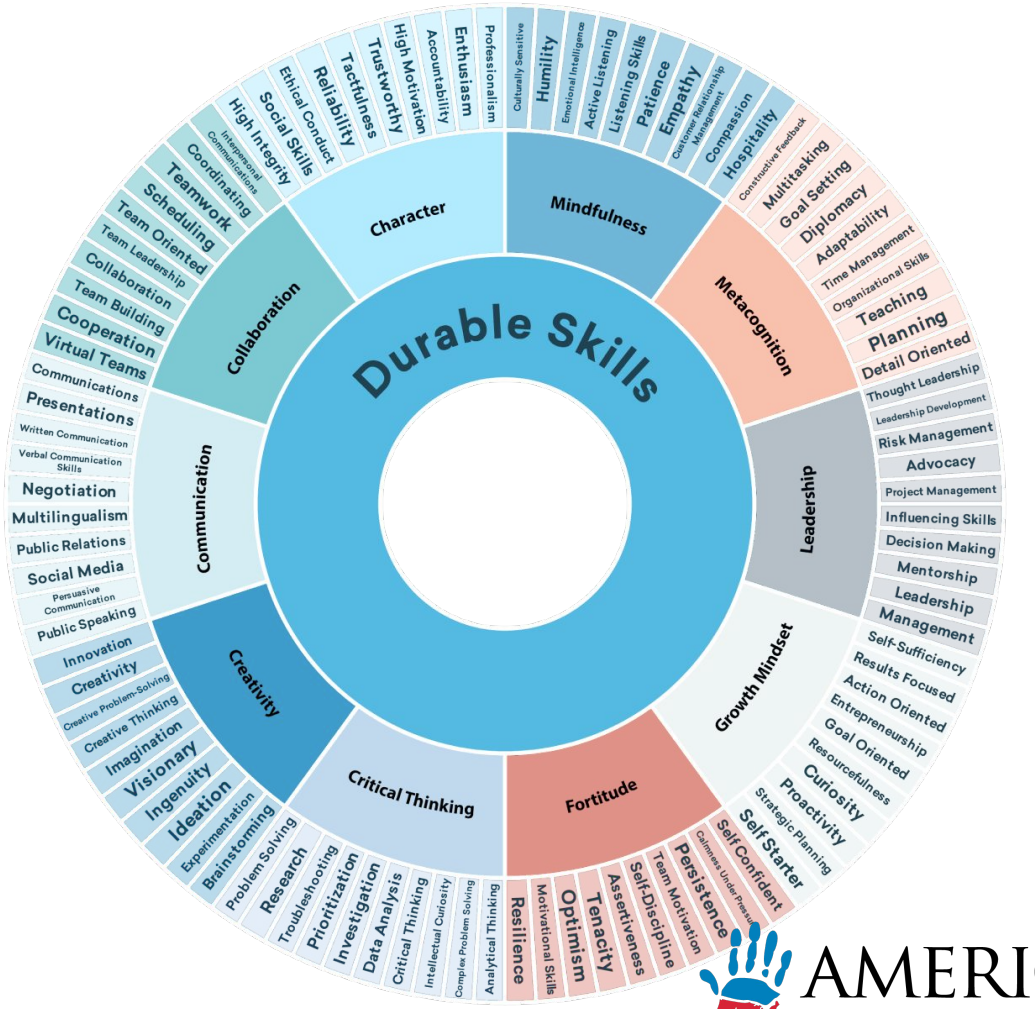
In our fall 2024 STEM Snapshot, all but one of the ~25 participating students said they knew about STEM jobs and careers through family connections.

- Gen Z will make up 27% of the workforce in 2025.
- 74% of hiring managers say they're concerned about Gen Z's interpersonal skills.
- 70% of hiring managers think Gen Z is not ready for work

Forbes 2025

Lever 2: STEM Advisory Committee

Our Approach to Career Connected Learning

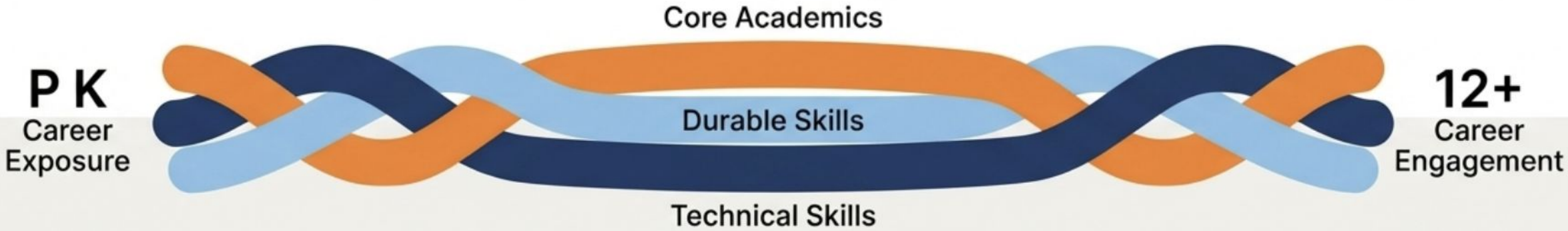


America Succeeds analyzed more than 80 million job postings for the top 100 related keyword terms grouped into ten Durable Skills competencies. The findings were compelling, confirming the critical role Durable Skills play in shaping the workforce landscape.

AMERICA SUCCEEDS

Lever 3: Prioritizing Durable Skills

After reviewing high demand, high wage jobs, and majority STEM fields, we asked what skills were required for these jobs? More importantly, our next question was, what do we want all students graduating KPS being able to do for the jobs of the future?



Critical Thinking	Empathy	Communication
Collaboration	Resilience (Perseverance)	Mindfulness
Creativity	Curiosity	Ideate
Teamwork	Leadership (Influencing)	Vision
Problem-Solving	Communication	
Metacognition (Diplomacy)	Mindfulness	

Lever 4: Core Skills Progression

DS + Standards + STEM Principles
=
KPS Core Skills Progression

How do these skills live in our KPS STEM Core Principles? How are we intentionally ensuring these skills develop?

Encourage Teamwork & Collaboration

Standards Alignment to Focus Skills	Beginning	Basic	Clear	In-Depth
	K-2		3-5	
Collaboration: The ability to work harmoniously with others, leveraging diverse strengths and ideas to achieve common goals and contribute positively to the team and outcomes. *Students use processes and digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.*	Gaining awareness on working independently and with a partner on learning tasks/challenges. Contributes to structured partner or team sharing facilitated by the teacher.	Gaining awareness on working with a partner or small group (3) on learning tasks/challenges. Recognize the importance of working with others and what effective collaboration looks like.	Able to effectively work in a randomized partner or group of three. Understands and takes on the different roles within a team, and how each contributes to the overall goal.	Able to effectively work in various group numbers and dynamics. Reflects and shares feedback on experiences and uses strategies to refine work and challenges.
Leadership/Influence: The ability to motivate and guide a group of people toward achieving a common goal or objective. *Students will recognize and respond to others' emotions, support peers, take accountability, align team resources, manage their own emotions, and reflect on experiences to overcome challenges.*	Recognizes feelings that others may be experiencing. Develops clear, respectful, and active listening skills to ensure everyone's ideas and feelings are heard.	Able to guide and support others through tasks. Take accountability for your actions and decisions.	Use and align others' ideas and team resources to work towards. Uses strategies to handle disagreements and conflicts.	Able to recognize emotions in others and influence themselves Reflects on experiences and strategies to overcome challenges.
Teamwork: The ability to contribute to a team by clearly communicating one's work, advocating one's unique strengths, and being adaptable in the face of change to continue working towards the common goal. *Students will demonstrate effective teamwork by collaborating, respecting roles, sharing tasks, solving problems, managing conflicts, and taking responsibility, while continuously reflecting and improving.*	Supports the team, or partner, by taking turns and respecting other rules or manners. Works responsibly. Explains what teamwork is and why it's important.	Practice sharing tasks and working collaboratively to achieve common goals. Learn to value and respect each team member's contributions. Understands team roles.	Work together to find solutions, encouraging brainstorming and the sharing of different perspectives. Develop strategies to handle disagreements and conflicts constructively.	Take responsibility for individual tasks within the team. Understand how role impacts the team's success. Reflects on teamwork and gives/receives constructive feedback.
Communication: The ability to share information, thoughts, and ideas with others using verbal, written, and non-verbal means. *Students will engage in productive discourse, actively listen, respond respectfully, and use accountable talk stems, enhancing critical thinking, communication, collaboration, and interpretation of peers' needs and emotions.*	Uses modeled accountable talk stems like, "I think/wonder…I have an idea…I like…Can we try…" Develops clear, respectful, and active listening skills to ensure everyone's ideas and feelings are heard.	Uses modeled accountable talk stems like, "I noticed that…I think that…I see what you mean and…I have a question about…" Encourages participation and shares tasks with team or partner.	Uses modeled accountable talk stems like, "I agree/disagree with you because…What do you think about…How did you figure that out…This reminds me…What if we tried…"	Uses modeled accountable talk stems like, "Can you explain what you mean…In my opinion…I see your point, but…Why do you think…I think this because…How did you come to that conclusion?"
Instructional strategies *can include:*				

Lever 5: Embedding Into Existing Structures

Pathway Mapping: Connecting Exposure to Specialization

Elementary School (K-5)

Exposure & Curiosity

KPS STEM Core Principles & Durable Skills

Engineering Design Process

Computational Thinking and Problem Solving (unplugged and plugged)

STEM Career Awareness (books, videos, etc.)

Coding & Robotics

Digital Media

Middle School (6-8)

Exploration & Skill Building

Electives in design thinking and computer science

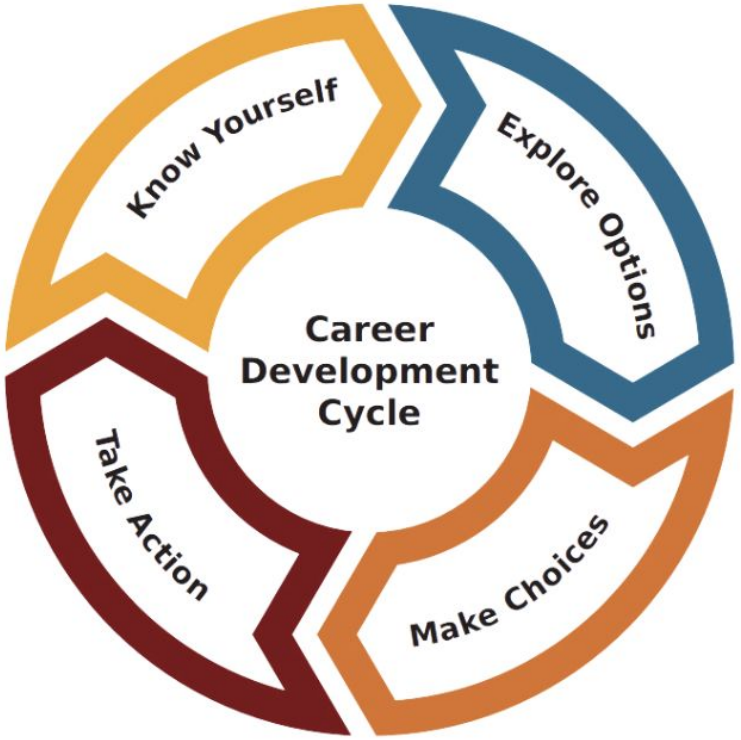
Computational Thinking

High School (9-12)

Pathways & Specialization

CS/STEM Courses

Career and Technical Education (CTE)



Year At-A-Glance

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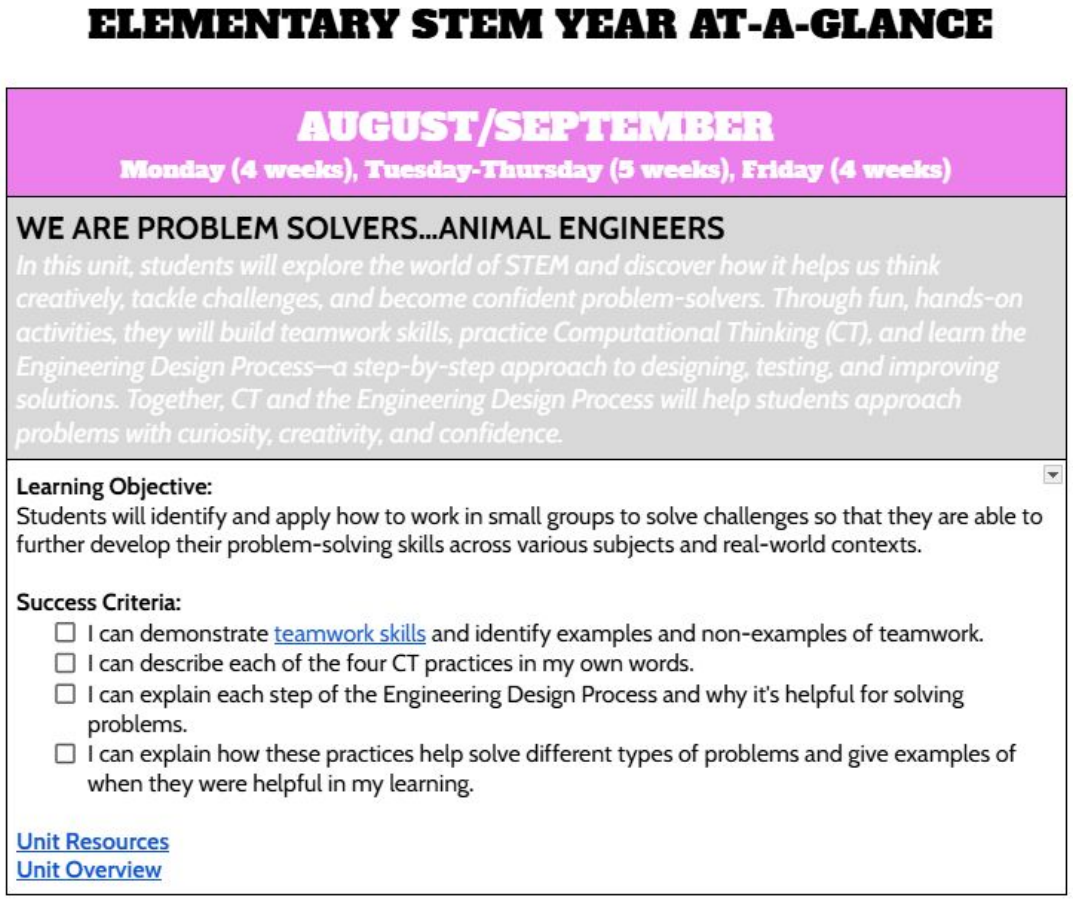

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Unit Resources
Unit Overview

STEAM Network Connect

Steelcase

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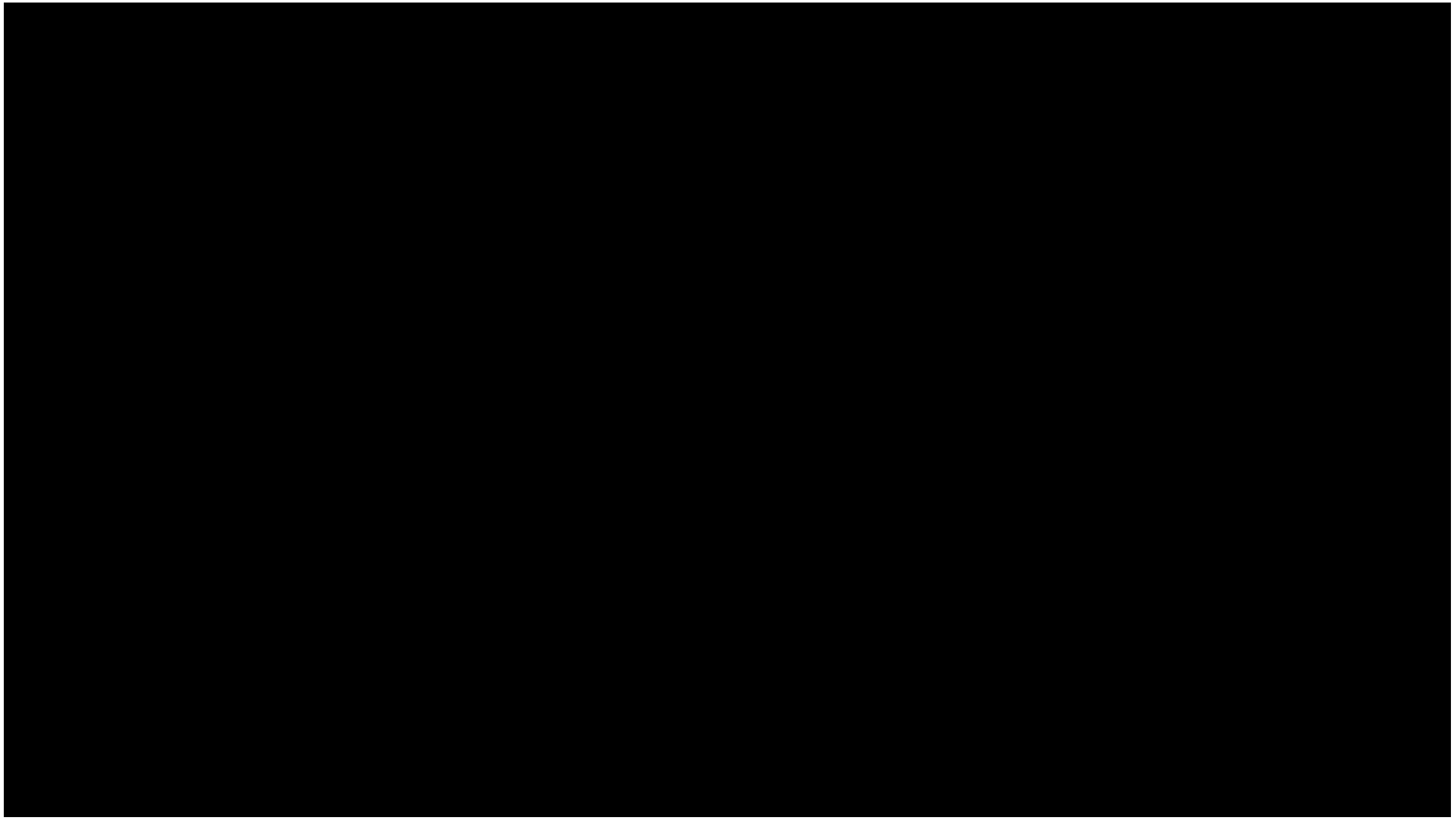
“I believe Project-Based Learning—especially when grounded in design thinking—is the most effective pedagogy for preparing individuals for the workforce.”

Thomas Cook

General Manager, Education at Steelcase



Application: Identify your highest-impact systems levers

Which of these levers represents a **High Impact/High Feasibility** starting point for your system?

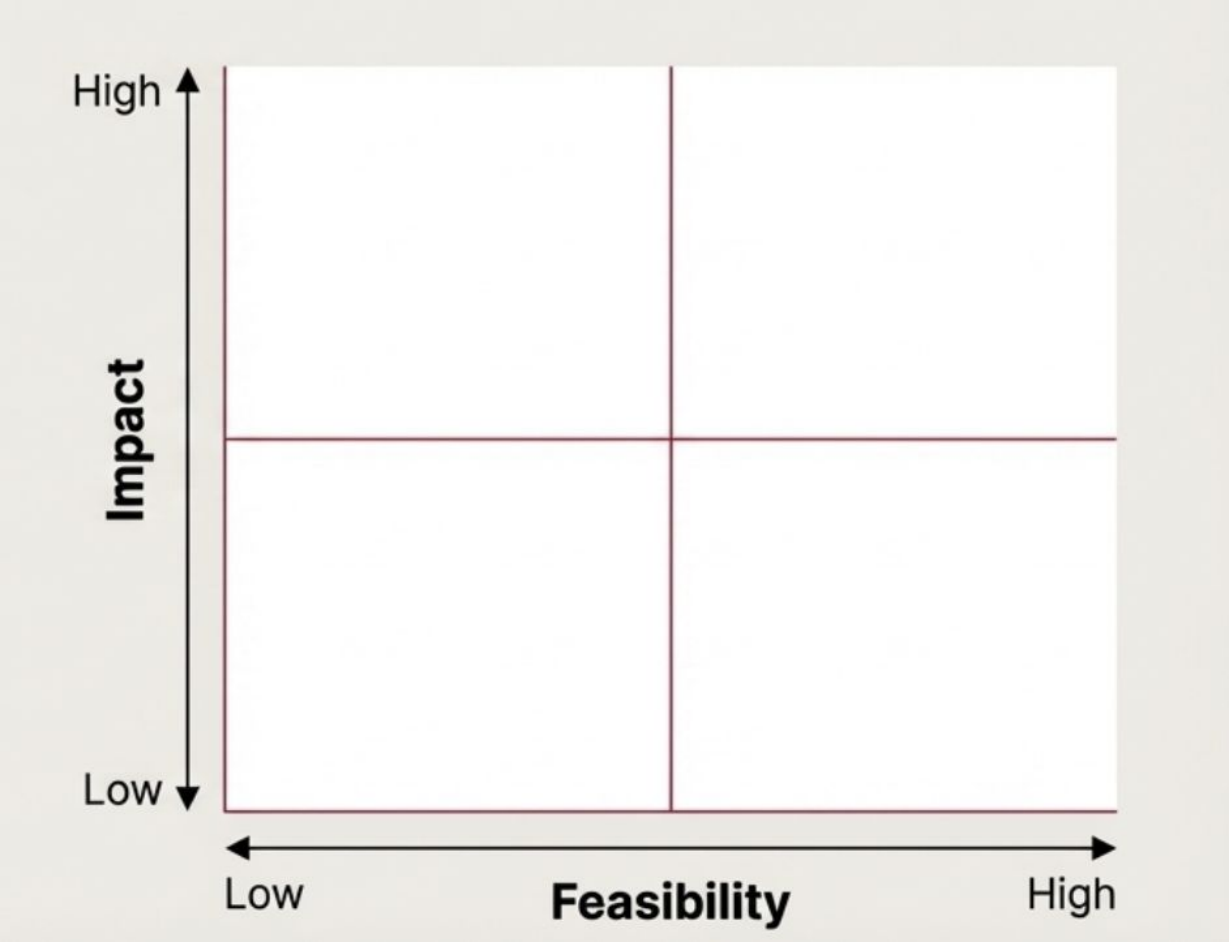
Lever 1: Vision and Core Principles

Lever 2: Advisory Committee

Lever 3: Durable Skills Prioritization

Lever 4: Core Skills Progression

Lever 5: Embedding in Existing Structures



Takeaways & Next Steps

Survey

Please take a moment to complete the survey.

https://tinyurl.com/STEMCCL

Contact Information

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Dana Meyer dana.meyer@kentwoodps.org

Thank You