



Missouri University of Science and Technology

The Kummer Center for STEM Education

MARE / MO K-8 Fall Conference 2025
October 22, 2025

Welcome!



Justin Sanders

- ▶ Program Director for K-12 District Engagement

Suzy Otto

- ▶ STEM Mobile Coordinator
- ▶ Inventory and Lending Library



Kummer Center for STEM Education

- Founded in July 2021 as one of three pillars of the Fred and June Kummer \$300 million gift

Mission

Expand the community of young people engaged in STEM through strategic partnerships and meaningful support



Courtney Jones

Director
Kummer Center for STEM Education

573-341-4550 | stemcenter@mst.edu

Nearly everything that the
Kummer STEM Center offers is
FREE for you!



- Primary funding from generous donors and grants
- Summer camps charge fees, but we offered \$125k in need-based scholarships to offset those fees in 2025

STEM Center Business Support Team



Len Freeman

Business Support Specialist
Miners in the Making Administrator

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Cyndi Kinder

Business Support Specialist
Kummer Center for STEM Education

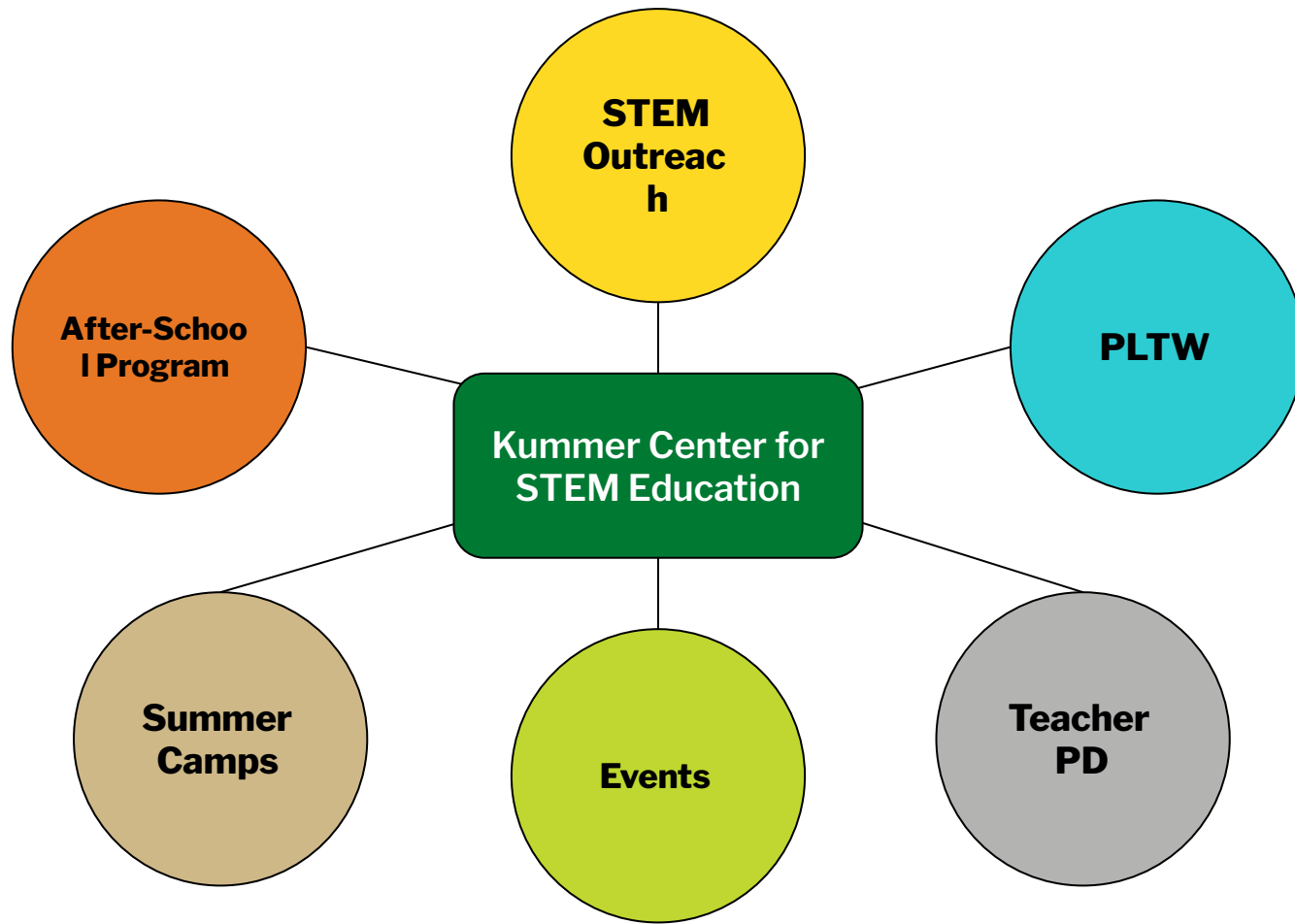
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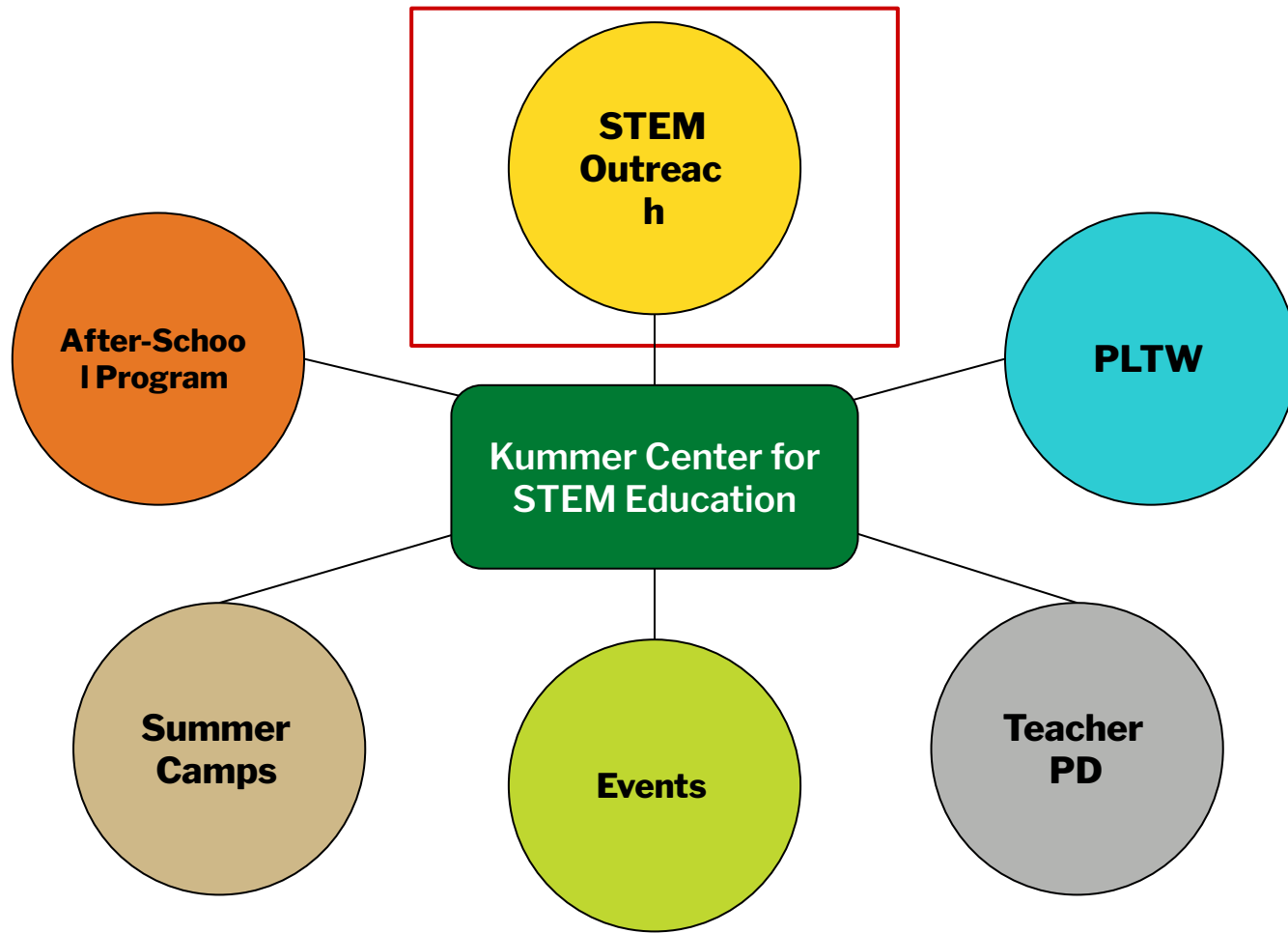


Avery Thomas-Shanchez

Office Support Specialist
Kummer Center for STEM Education

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STEM Mobile

Allows the Kummer STEM Center to bring equipment, programming, and expertise to you!

- ▶ Whole-school Programs
- ▶ School STEM Nights
- ▶ Community STEM Events
- ▶ After School and Club Programs



Suzanne Otto

STEM Mobile Coordinator
Kummer Center for STEM Education

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What Does a STEM Mobile Experience Look Like?

Some options:

- ▶ Portable Planetarium
- ▶ VR headsets
- ▶ Robots & Coding
 - Sphero, VEX, LEGO
- ▶ Drones
- ▶ Circuits
- ▶ STEM Craft Projects
- ▶ Engineering Challenges

Request an experience on
the website linked here:



Equipment Lending Library

Provides teachers with equipment and instructional resources to support hands-on, extended classroom learning experiences.



Sphero BOLT+ Power Pack #1

[Availability](#) [More details](#)



Sphero RVR+ #01

[Availability](#) [More details](#)



SPIKE Prime Robotics Kit #01

[Availability](#) [More details](#)



Pitsco Tremor Table Earthquake Simulator

[Availability](#) [More details](#)



Vernier Motion Detector #1

Go Direct

[Availability](#) [More details](#)



EDVOTEK Edge Electrophoresis #1

EDGE

[Availability](#) [More details](#)

Location
STEM Lending Library

Category
Robotics Equipment

0 items in cart

Description

Instructions



From the LEGO Education website:

LEGO® Education SPIKE™ Essential, part of the LEGO® Learning System, is the cross-curricular STEAM solution for elementary education. SPIKE Essential engages students in hands-on investigation of STEAM concepts while contributing to literacy, math, and social-emotional development. Standards-aligned STEAM learning units use everyday themes, relatable Minifigures with different personalities and familiar LEGO® building elements to solve problems through storytelling.

SPIKE Essential consists of a main elementary classroom brick set with a wide variety of LEGO® elements and intelligent hardware, along with the intuitive SPIKE™ App, all of which is accompanied by a selection of unit plans and comprehensive online and in-app support.

SPIKE Essential excites students and delivers strong STEAM learning outcomes for elementary classrooms, developing their STEAM knowledge and practices, and 21st century skills.

SPIKE Essential lessons are aligned to NGSS, ISTE, and CSTA standards with the extensions aligned to CCSS.

Go To Date
< >

Items

☐ Current item

LEGO SPIKE Essentials Kit #1

LEGO SPIKE Essentials Kit #2

LEGO SPIKE Essentials Kit #3

We 16

Th 17

Fr 18

Sa 19

Su 20

Mo 21

Tu 22

We 23

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Mo 28

Tu 29

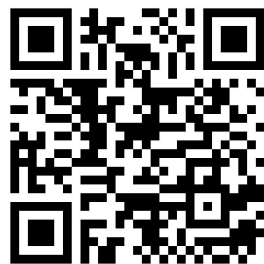
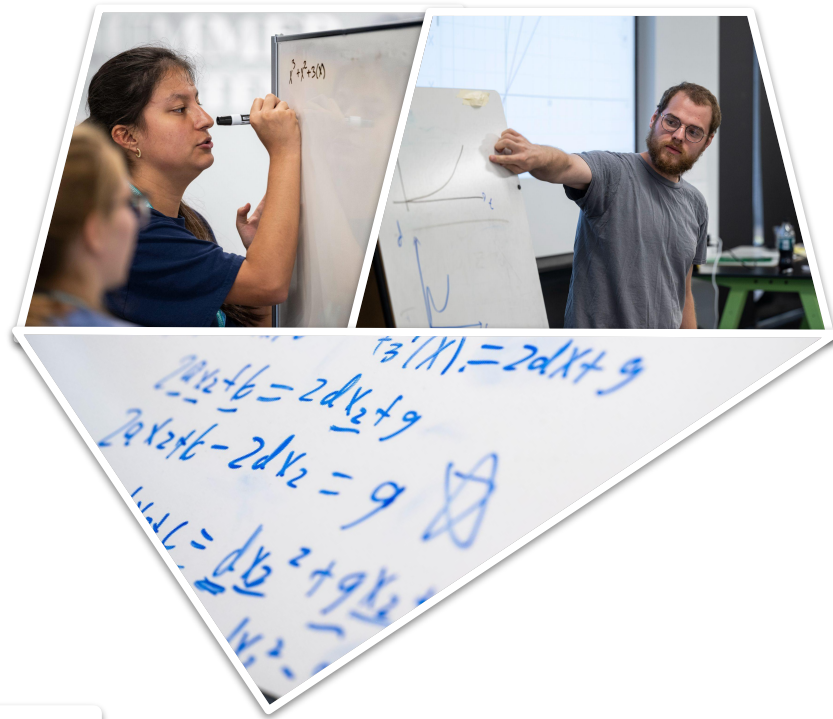
We 30

Th 31

Fr 1

Online K-12 Tutoring

- K12 Tutoring in all subjects
- One-on-one tutoring sessions with current S&T students
- Flexible schedules to match student availability
- Limited to 1 hour per subject per week up to 3 subjects



Program Director for K-12 District Engagement



Justin Sanders

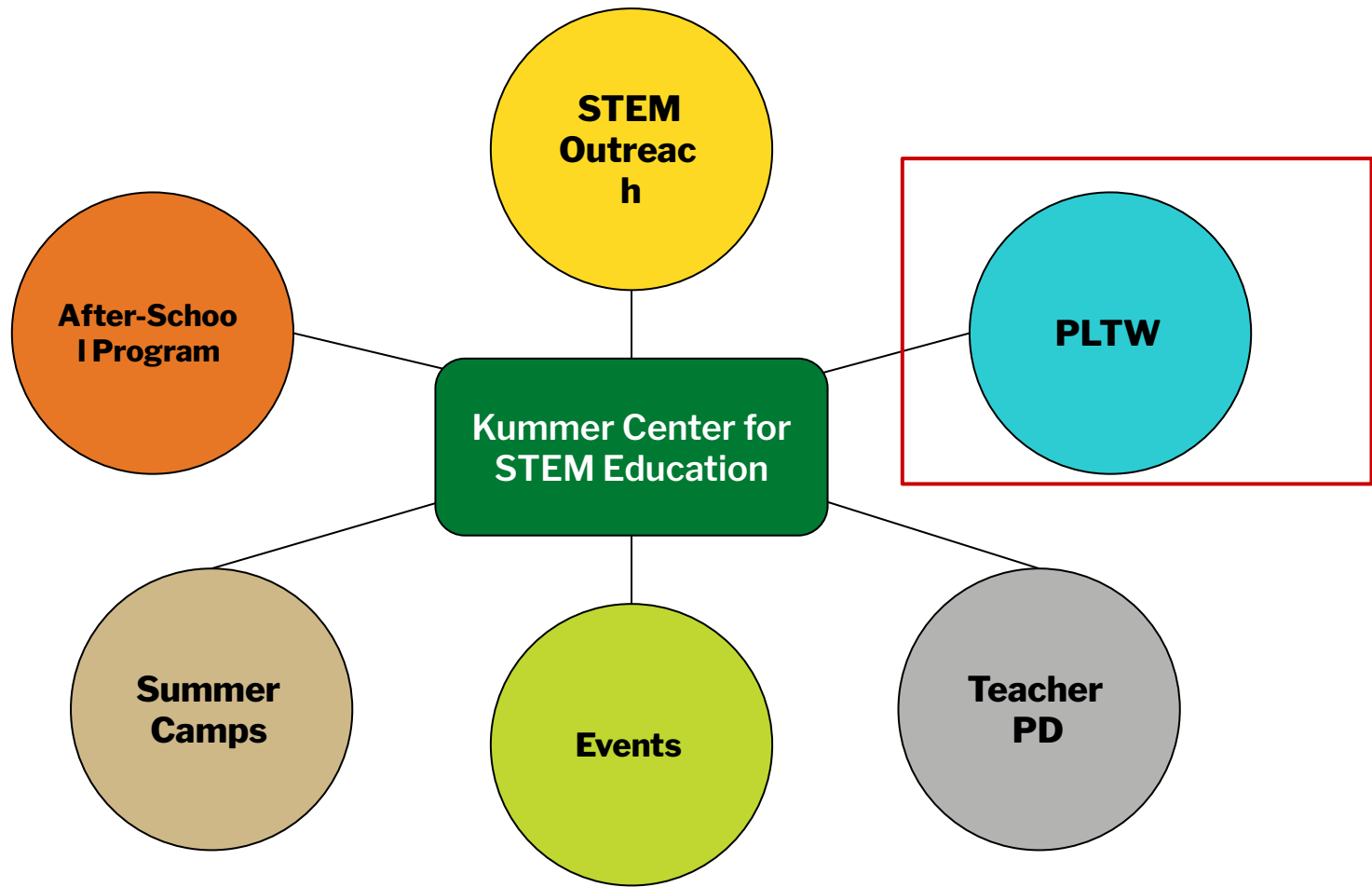
Program Director for K-12 District Engagement
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- Support the enhancement and expansion of quality STEM learning experiences through:
 - Curriculum Resource Development
 - Classroom Visits
 - Extracurricular Activity Support
- Major focus on high school juniors and seniors



Curriculum Support Request Form



Project Lead The Way (PLTW)

- College credits for Biomedical, Engineering, & Computer Science
- PLTW Scholarships
- Annual Showcase & Innovation Competition



Marty Pickney

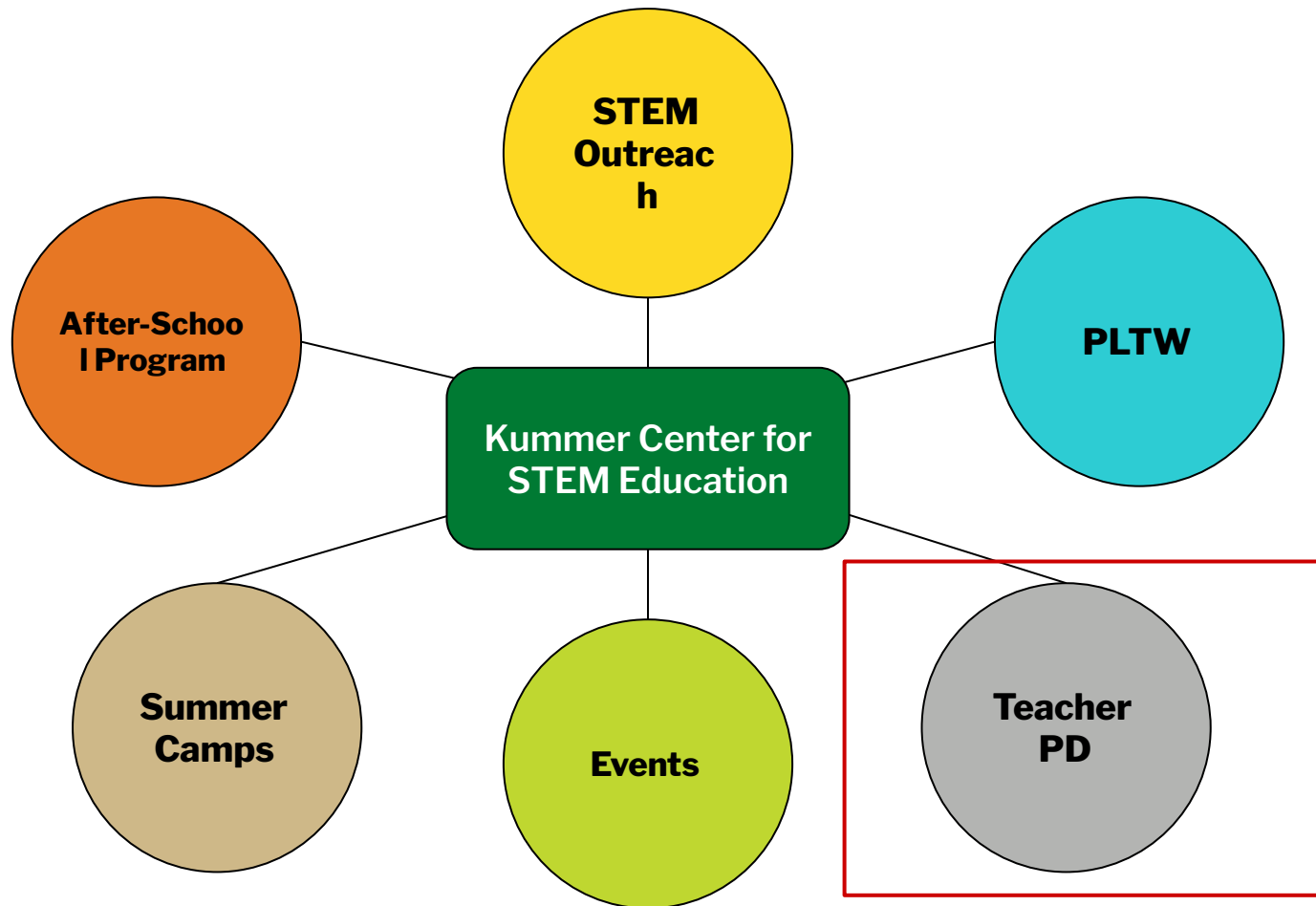
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For Districts/Schools/Teachers

- Grants Available: SOAR Counties and PLTW Organization
- PLTW equipment lending library
- Teacher PD Opportunities



Regional STEM Educators Conference

4th Annual Conference in July 2026

2-day, FREE conference for anyone interested in K-12 STEM Education.

- Workshops
- Hands-on activities
- Great keynote speakers
- Giveaways
- Networking





Rigorous Curriculum Cohorts

Cohort teachers collaborate to develop standards-based, student-centered curriculum.

- For teachers, by teachers
- Participant stipends

Multiple Focus Areas:

- MS Science - PUBLISHED!
- Biology
- Physical Science
- 3rd - 5th Science
- MS Math *NEW in 2026*



Courtney Jones

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Missouri Middle School Manufacturing Academy



Donna Luechtefeld

Senior Program/Project Support Grant Implementor
Kummer Center for STEM Education

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Goals

- Highlight defining characteristics of the manufacturing industry in Missouri
- Create greater understanding and appreciation for manufacturing
- Reshape perceptions / dispel misperceptions of careers in manufacturing
- Introduce exciting career opportunities and spark interest

Missouri Middle School Manufacturing Academy

About the Academy

- Piloted in 2023
- Program is offered free of charge to in-school, after-school, and homeschool educators
 - Careers class
- Two-part curriculum
 - Part One: 7 lessons
 - Part Two: 8 lessons, plus additional sessions for 3D printing activities
 - Each part can be covered over the course of one semester or the entire school year (two years total)
- Minimal cost for supplies

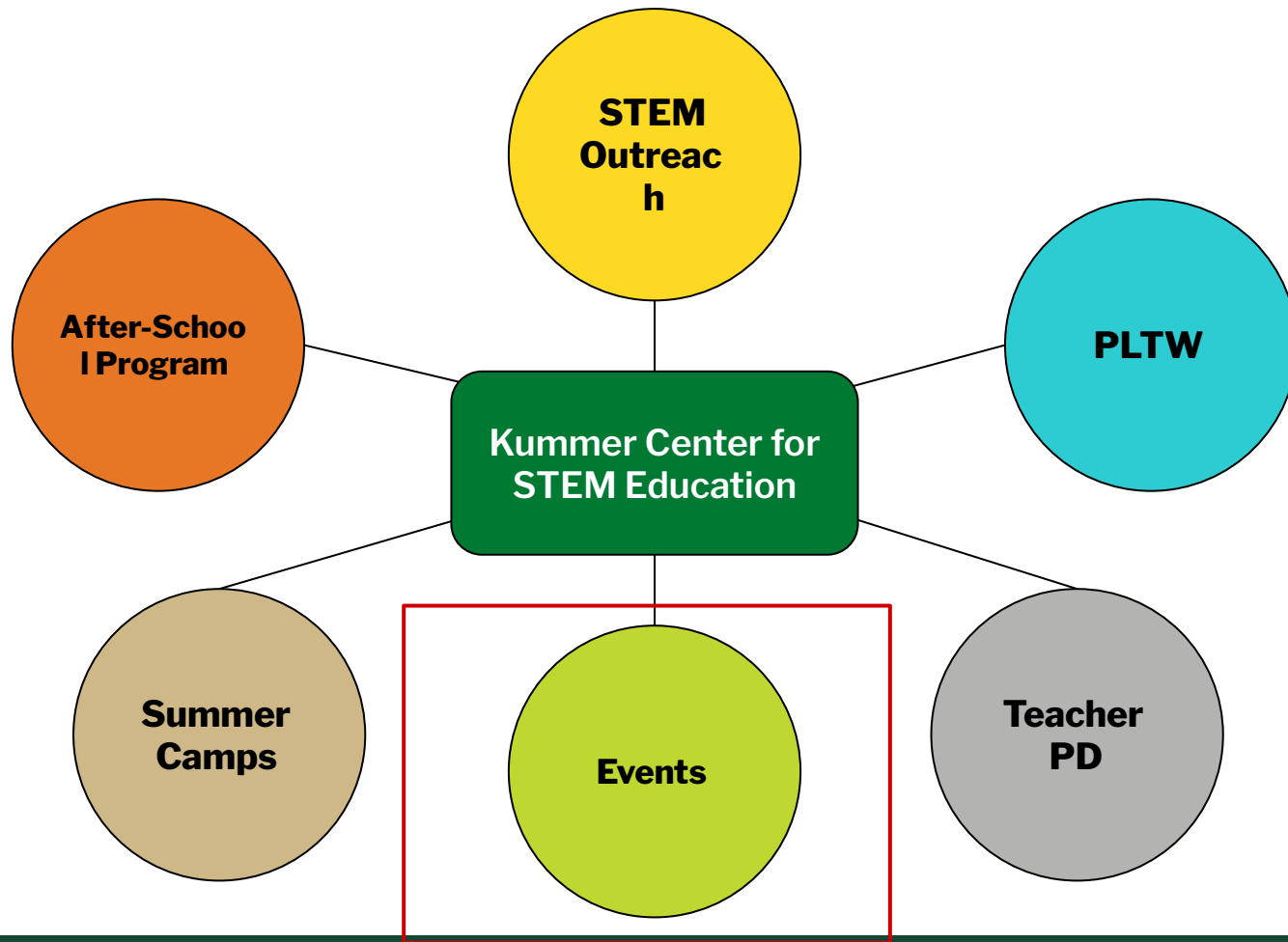
Missouri Middle School Manufacturing Academy

Participant Expectations

- ▶ Provide the space, participants, and an instructor
- ▶ Deliver instructional material to students
- ▶ Administer pre and post surveys to the students
- ▶ Complete a memorandum of understanding (MOU)

How to Get Started

- ▶ Complete information request form at mfgacademy.mst.edu



Events

On-Campus Field Trips

- STEM Day (MS/HS) – November 5
- Engineering Day (MS/HS) – February 26, 2026
- STEM Exploration Day (Elem.) - May 6, 2026

Community Events

- Merit Badge University
- Future Cities
- Science Olympiad
- FIRST Robotics
- STEM Day at the Capital
- Celebration of Nations
- Missouri State Fair



Roxanne Hanna

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Elementary STEM Day



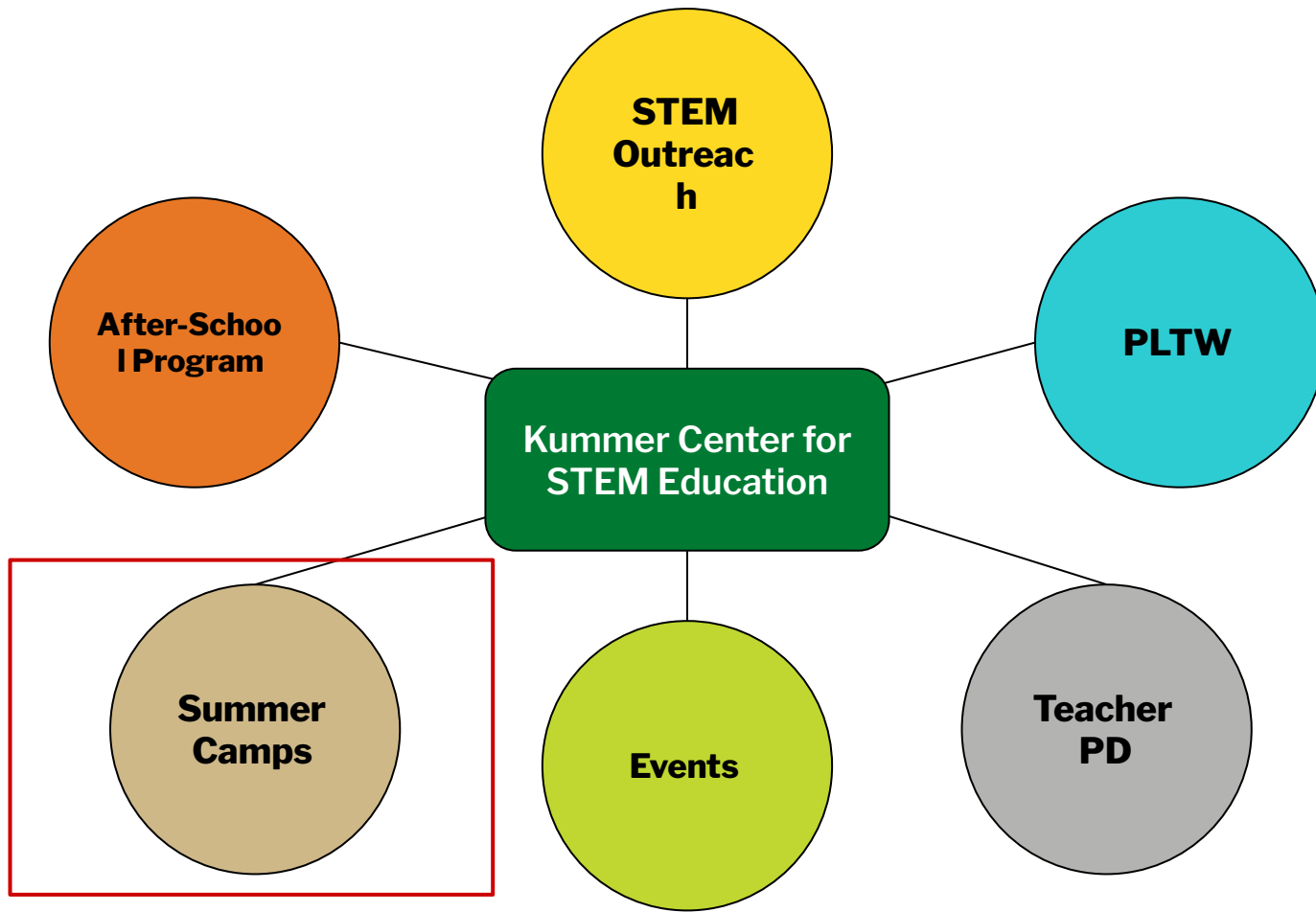
Quest Days

- Expanded Discover Days where students explore various academic departments
- On-Site application assistance
- Explore various academic departments, labs, and degree programs
- Bus transportation costs will be covered!

Stay tuned for more details!

Dates

- November 10, 12, 21
- December 1, 5, 8
- January 23
- February 12
- March 11
- April 14



Summer Camps

- Thirty-six summer camps anticipated for the summer 2026
- Camps are mostly residential, with a couple day/evening camps.
- Camps available for Kindergarten through 12th grade!
- Registration will go live on December 15, 2025 at summer.mst.edu
- 2024 need-based scholarships totaled \$125,000

Joy Mentink

Assistant Director of Summer Camp
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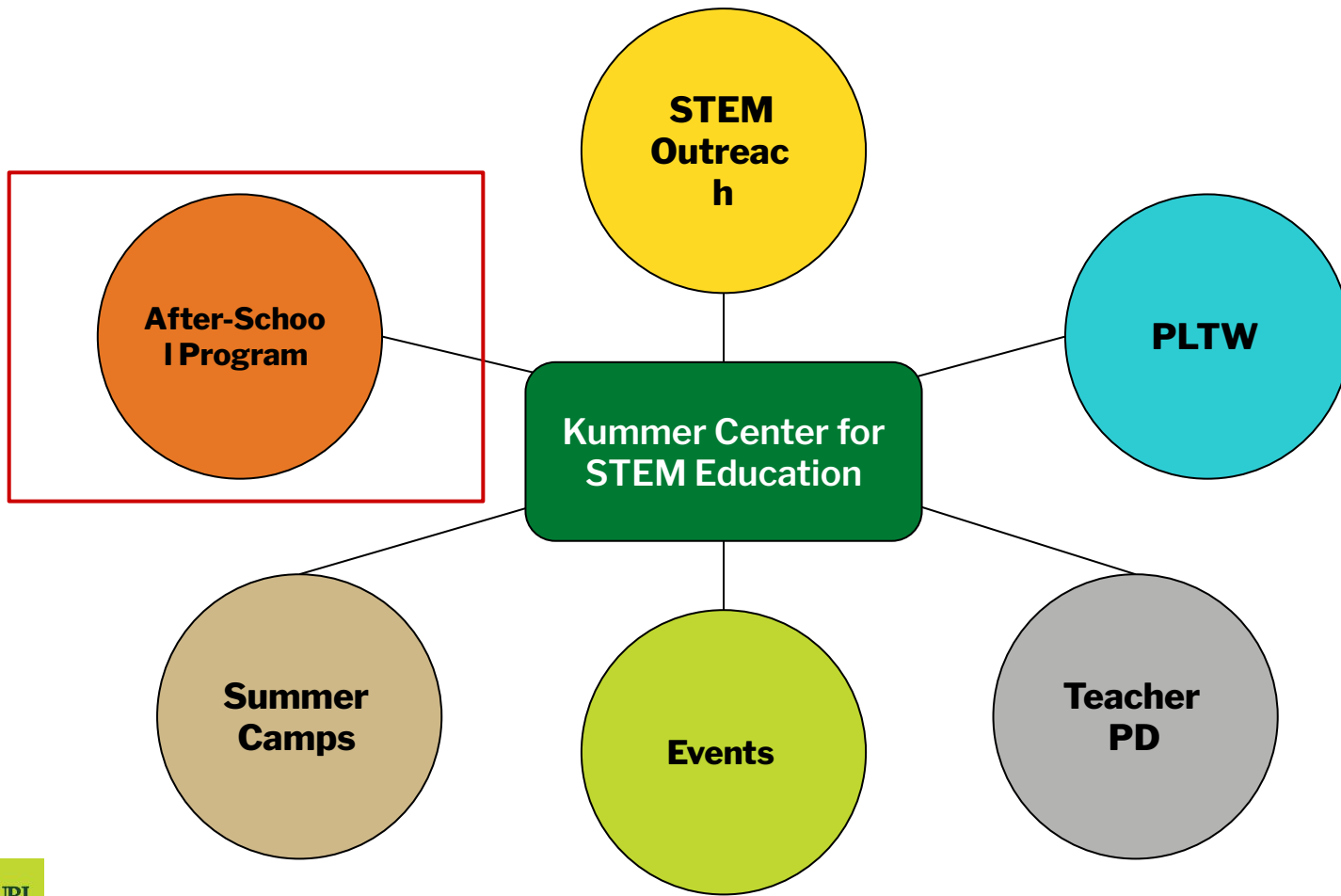


Valenda Curtis

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Miners in the Making

A STEM Afterschool Program for K-12 students in Phelps County, August-May, 3:00-6:00 pm.

- MOCAL grant funded
- On the campus of Missouri S&T
- Licensed for 100 students
- Schools Served:
Rolla, Newburg, Phelps Co. R-III,
St. Patrick, Homeschool



Susan Reisner

Director of Miners in the Making
Kummer Center for STEM Education

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Miners in the Making

- Academic Enrichment
 - Goal Setting, Homework,
 - High Impact Tutoring
- Hands-on STEM Activities
 - Art, Science, Technology, Engineering, Math
 - Activities with Professors and Clubs,
- Broad Array Activities
 - Games, Team Challenges, Movement



Scan to complete
an Interest Form



How can the STEM Center support your school?

- What STEM equipment would you like access to?
- How could you utilize our campus experts and resources?
- What resources would your teachers like?

Stop by our table!

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High School Needs Survey



**What questions do you
have about the Kummer
Center for STEM
Education?**

Thank You!

stemcenter.mst.edu

pltw.mst.edu

Join our mailing list:

