Welcome!!!

BRIDGING DIGITAL LITERACY AND INFORMATION LITERACY

ENGAGING STUDENTS IN HANDS ON, MINDS ON LEARNING!!!

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ICE 2018

#ICE18 LEARNING STRANDS

- Leadership
- **Library Media and Learning Spaces**
- Professional Learning and Coaching
- Special Education and ESL/ELL
- Teaching and Learning

ICE
Illinois Computing Educators

McHenry School District 15

Preparing Our Students For The Future...

https://padlet.com/flaudadio/qjcmjs2s46u8

or

https://tinyurl.com/yd3jnqmt

Chicago, IL

Innovation in Education…

Reflection

Flexibility

Coaching

Leadership

Capacity Building

Awareness

Curriculum

Process

Collaborative

Resources

Inspiration

Community

Assessment

Relationships

Involvement

Change

Culture

Digital

Communication

Instruction

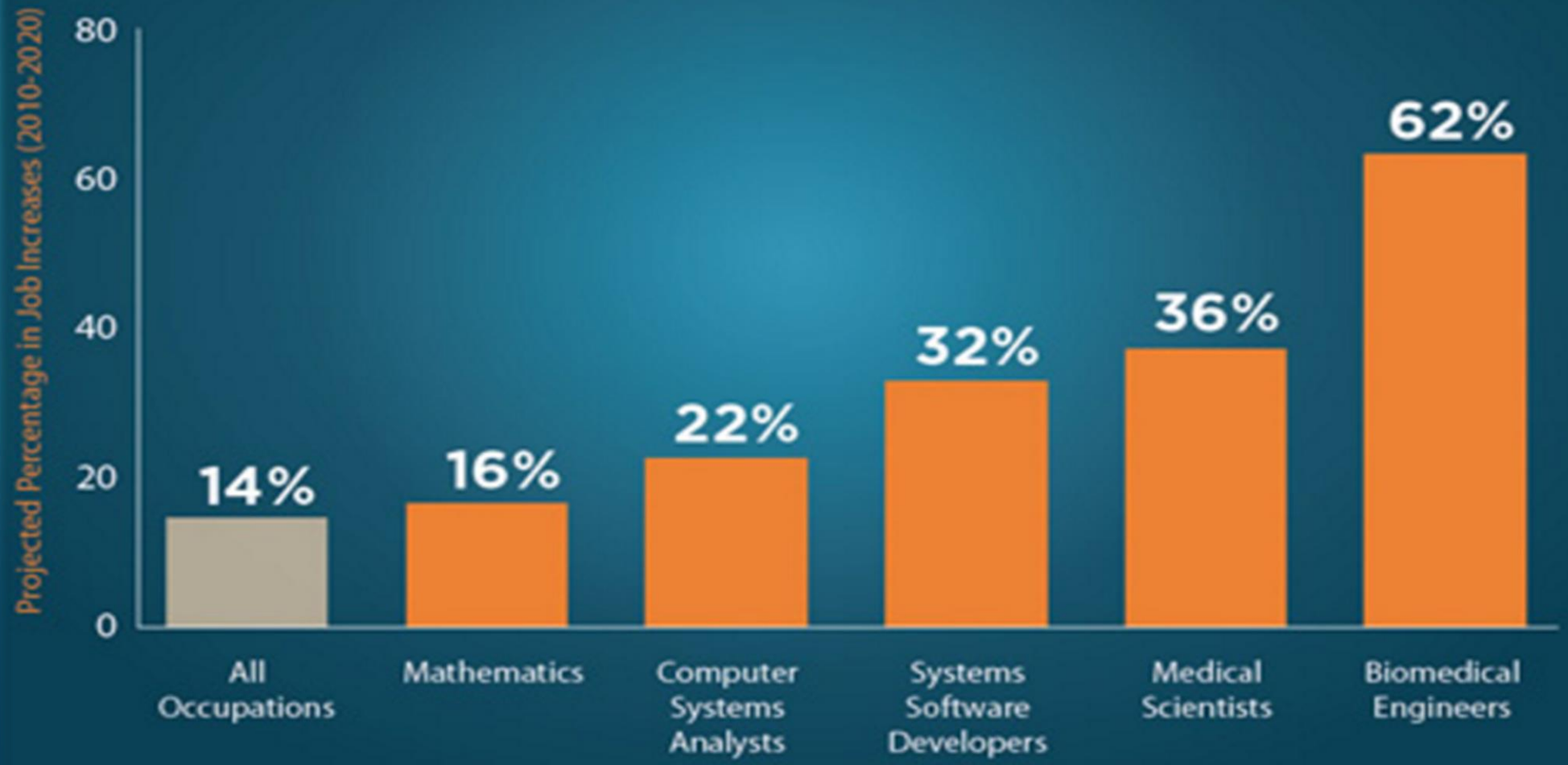
Standards

STEM EDUCATION

- SCIENCE
- TECHNOLOGY
- ENGINEERING
- MATHEMATICS

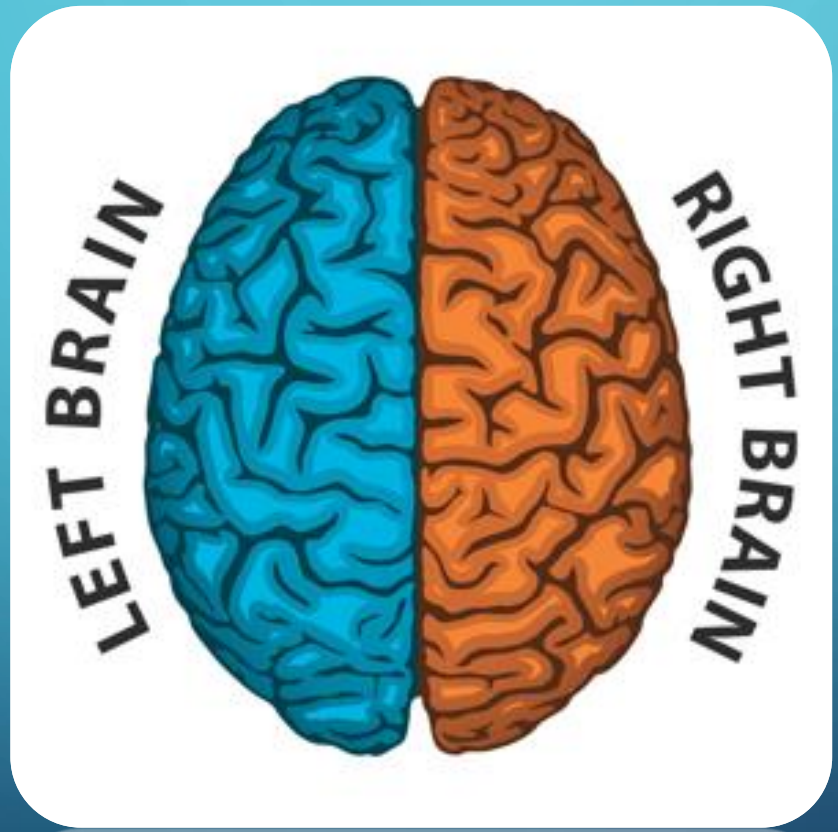
We will focus on these areas together not only because the skills and knowledge in each discipline are essential for student success, but also because these fields are deeply intertwined in the real world and in how students learn most effectively.

PROJECTED PERCENTAGE INCREASES IN STEM JOBS: 2010–2020



CHALLENGING THE WHOLE CHILD HAS CHANGED

Logic
Analysis
Numbers
Systems
Sequential



Colors / Art
3D / Design
Imagination
Rhythm / Music
Creativity

STEAM EDUCATION

- SCIENCE
- TECHNOLOGY
- ENGINEERING
- ART
- MATHEMATICS

STEAM represents a paradigm shift from traditional education philosophy, based on standardized test scores, to a modern ideal which focuses on valuing the learning process as much as the results. In essence, we dare our students to be wrong, to try multiple ideas, listen to alternate opinions and create a knowledge base that is applicable to real life as opposed to simply an exam.

In the real world, content knowledge is interwoven, layered and sophisticated, not experienced in isolation such as in traditional education settings (separate math time, separate science time, etc.). STEM and STEAM skills are vital for success in the 21st century and critical to our collective future.

STEAM EVOLVES AND CAN BE EMPOWERED WITH STEM

STEAM provides the underpinnings for every child to be successful in college, work, and life. STEM graduates are problem solvers, innovators, inventors, and logical thinkers. They are able to immediately take advantage of opportunities through post-secondary institutions and businesses.

The "Critical C's" of Collaboration, Cooperation and Communication are emphasized through project-based learning, usually through interdisciplinary (across subjects) activities.

MOVING FORWARD

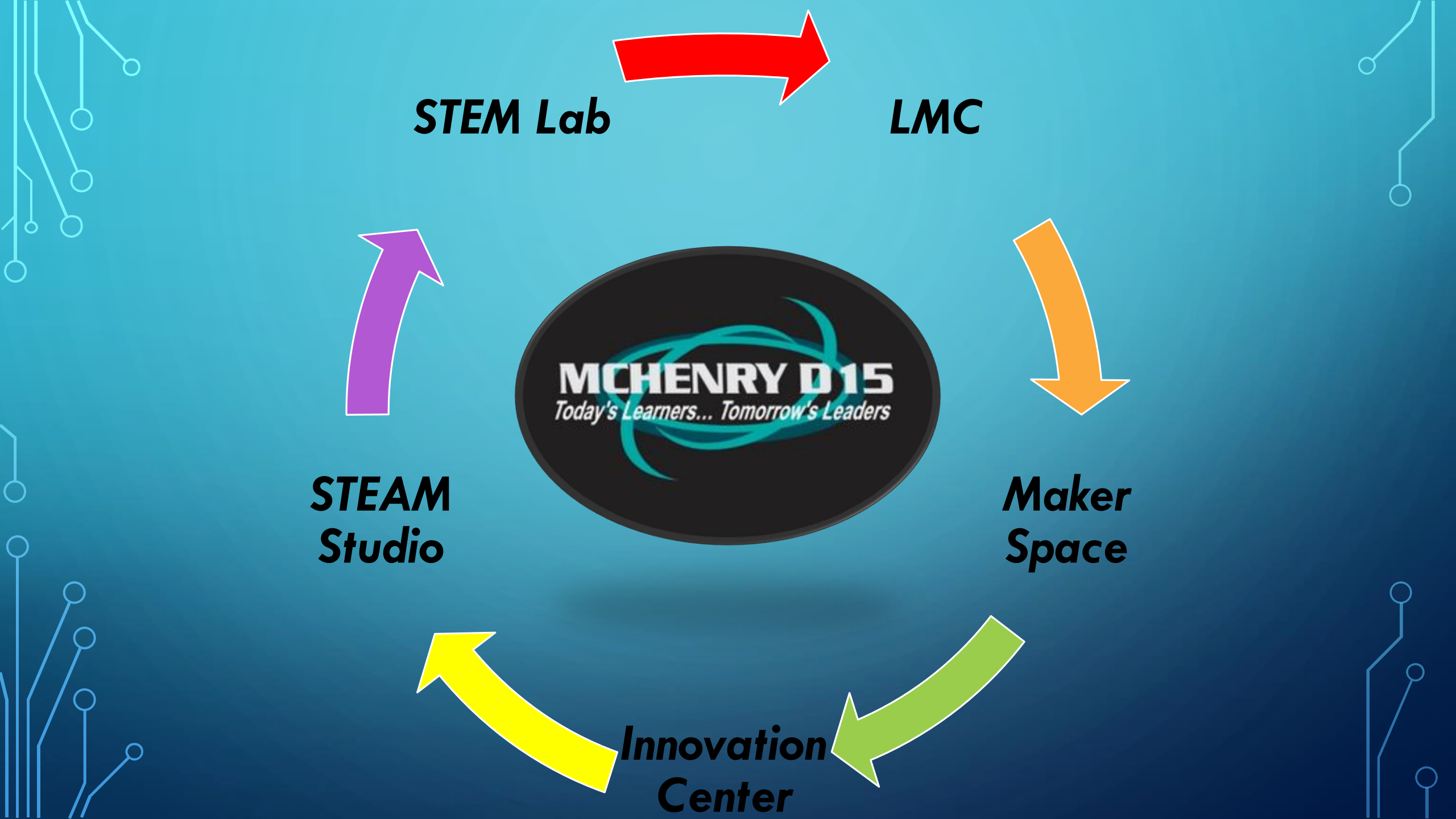
WRITING A STORY TO BE INNOVATIVE…

ENGAGEMENT PROCESS

Stakeholders	Collaborative Work
Teachers / Staff	Strategic Plan Process Staff Meetings Survey Data
Parents / Community	Evening Meetings Newsletters Survey Data
City Council	Meetings with Mayor / Administration Small Group Meetings Zoning Hearings Council Hearings
Board of Education	Strategic Plan Process Committee Meetings Board of Education Meetings Bidding Process
School Districts	Local County Regional State

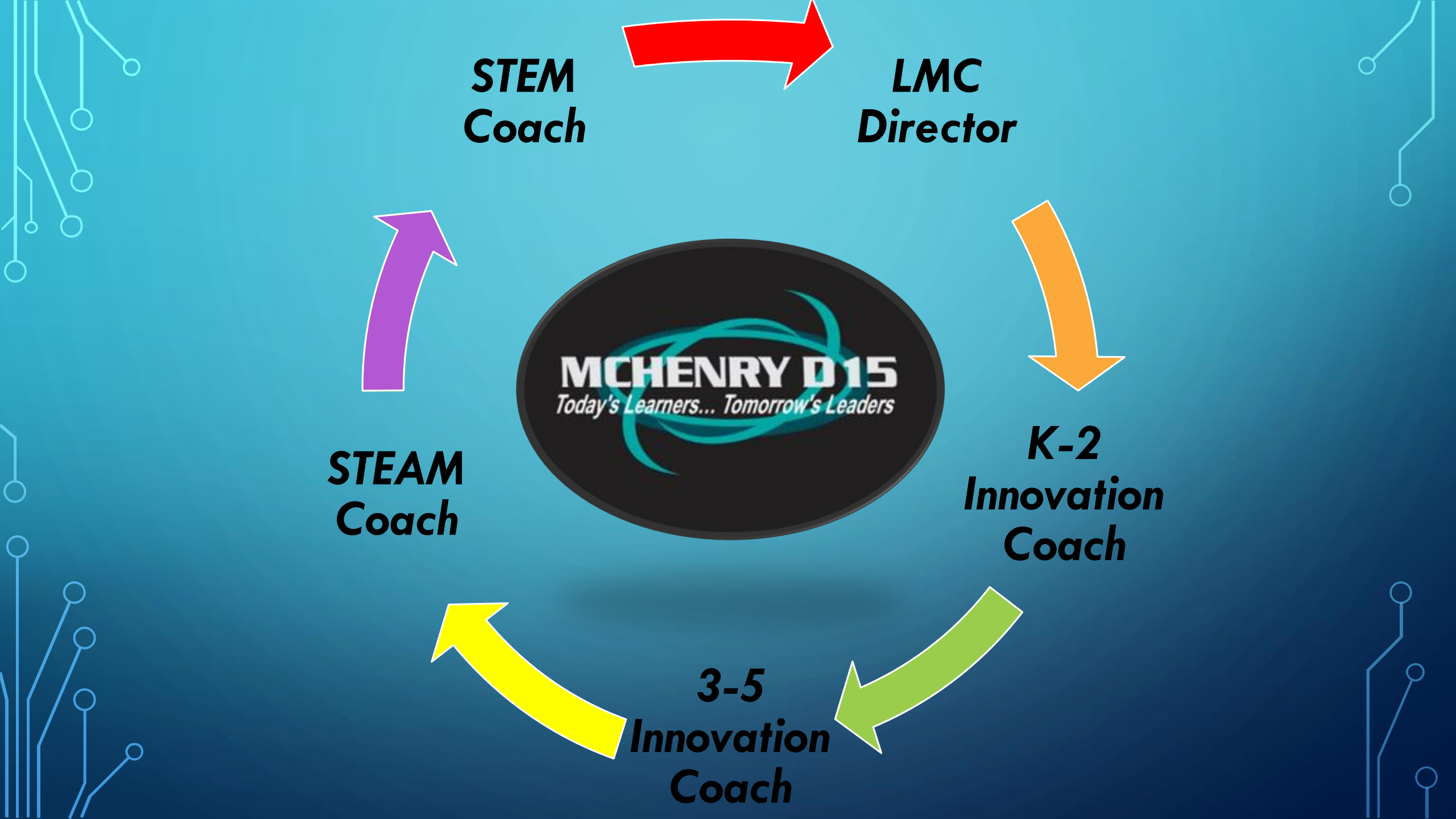
RECONSTRUCTING THE SPACES…

Technology (6-8)	→	*STEM Lab*
Problem Based Learning (6-8)	→	*STEAM Studio*
Learning Centers (K-8)	→	*Learning Media Centers*
Intermediate Level Technology (4-5)	→	*Innovation Centers*
Primary Level Technology (K-3)	→	*Maker Spaces*


STEM Lab
LMC
MCHENRY D15
Today's Learners... Tomorrow's Leaders
STEAM Studio
Maker Space
Innovation Center

REDEFINING OUR ROLES AND RESPONSIBILITIES…

Technology Teacher (6-8)		*STEM Coach*
Problem Based Learning Teacher (6-8)		*STEAM Coach*
Learning Center Director (K-8)		*Learning Media Center Director*
Intermediate Level Technology Teacher(4-5)		*Innovation Coach*
Primary Level Technology Teacher(K-3)		*Innovation Coach*


STEM Coach
LMC Director
K-2 Innovation Coach
3-5 Innovation Coach
STEAM Coach
MCHENRY D15
Today's Learners... Tomorrow's Leaders

CURRICULAR EVOLUTION IN NEW SPACES…

K – 3	*Innovation Center*	Literature, Research, Inquiry, Discovery
4 – 5	*Innovation Center*	Inquiry, Project Based, STEM / STEAM Readiness

(Supplemental and Embedded)

6 – 8	*STEM Lab*	Science, Technology, Engineering, Math
6 – 8	***STEAM Studio***	Multi Media, Design, Real World PBL, Presentation

(Exploratory Programming)

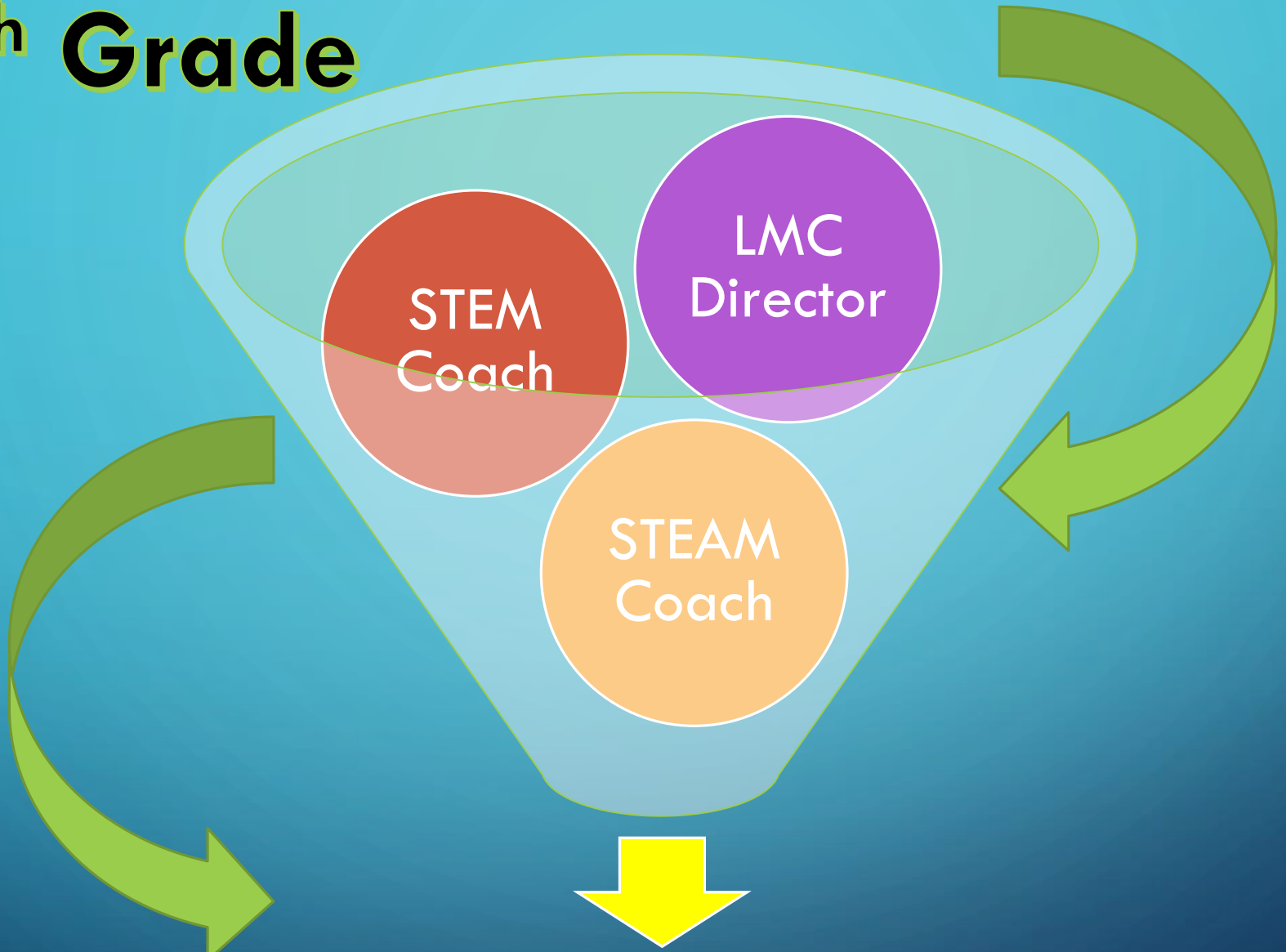
K – 8	***Learning Media Centers***	21st Century Library, Research Based, Collaborative, Staff Development Center, Technology Driven

(Standards Based / Shared Ownership)

SPACE CONFIGURATION

School	Space
McHenry Middle School	STEM Lab / STEAM Studio connected to LMC
Parkland Middle School	STEM Lab / STEAM Studio connected to LMC
Riverwood Elementary School	Innovation Center connected to LMC
Duker Elementary School	Innovation Center connected to LMC
Valley View Elementary School	Innovation Center connected to LMC
Edgebrook Elementary School	Innovation Center connected to LMC
Hilltop Elementary School	Innovation Center connected to LMC
Landmark Elementary School	Innovation Center and LMC combined

6th – 8th Grade



Middle School College and Career Readiness

Core Curricular Sequence through Exploratory Programming and Supports

MIDDLE SCHOOL STAFF / PLAN

- *6 FTEs*
  - *2 LMC Directors*
  - *2 STEM Coaches*
  - *2 STEAM Coaches*
  - *2 Part Time Assistants*
- *Core Curricular Support*
- *Adopted / Defined Curriculum*
- *Technology Enriched*

- Alternative & Renewable Energy
- Circuitry
- Computer Graphics
- Digital Communications
- Mechanics & Structures
- Robotics & Control Technology
- Scientific Data & Analysis
- Software Engineering

Kindergarten – 5th Grade

Classroom Teacher

Innovation Coach

LMC Director

Elementary School College and Career Readiness

Supplemental and Embedded Curriculum

ELEMENTARY SCHOOL STAFF

- 8 FTEs
  - 6 LMC Directors
  - 5 Innovation Coaches
  - 6 Part Time Assistants
- Core Curricular Support
- Supplemental / Embedded Curriculum Design
- Technology Enriched

STEM READINESS PLAN
TECHNOLOGY ENRICHED FOR CONSISTENCY

Innovation Center – Technology Independent Supporting ALL devices (Mobile Technologies including iPads and Chromebooks); equipped with Mac Books for supplemental / embedded curriculum, 3D Printers, and Lego Education

STEM Lab – STEM Curriculum / Mac Work Stations; partnered with Creative Learning core curricular sequence

STEAM Studio – STEAM Curriculum (PBL) / Technology Independent (Mobile Technologies including iPads and Chromebooks); equipped with Mac Books for supplemental / embedded curriculum, 3D Printers, supplemental support with Creative Learning core curricular sequence

DISTRICT WIDE TECHNOLOGY SEQUENCE

Kindergarten: *Technology Ready*

1st – 2nd Grade: *Assessment Ready*

3rd – 5th Grade: *Inquiry / Project Based Learning, Classroom Fused*

6th – 8th Grade: *STEM, Media & Design, College and Career Ready*

Innovation Center

STEM Lab

STEAM Studio

FINANCING

- *Defer Bonds*
- *Couple with Existing Projects*
- *Money Transfers*
- *Summer Projects Budget*
- *Bid for Best Price*
- *Utilize Grant Monies*

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