



McHenry School District 15
Preparing Our Students For The Future...

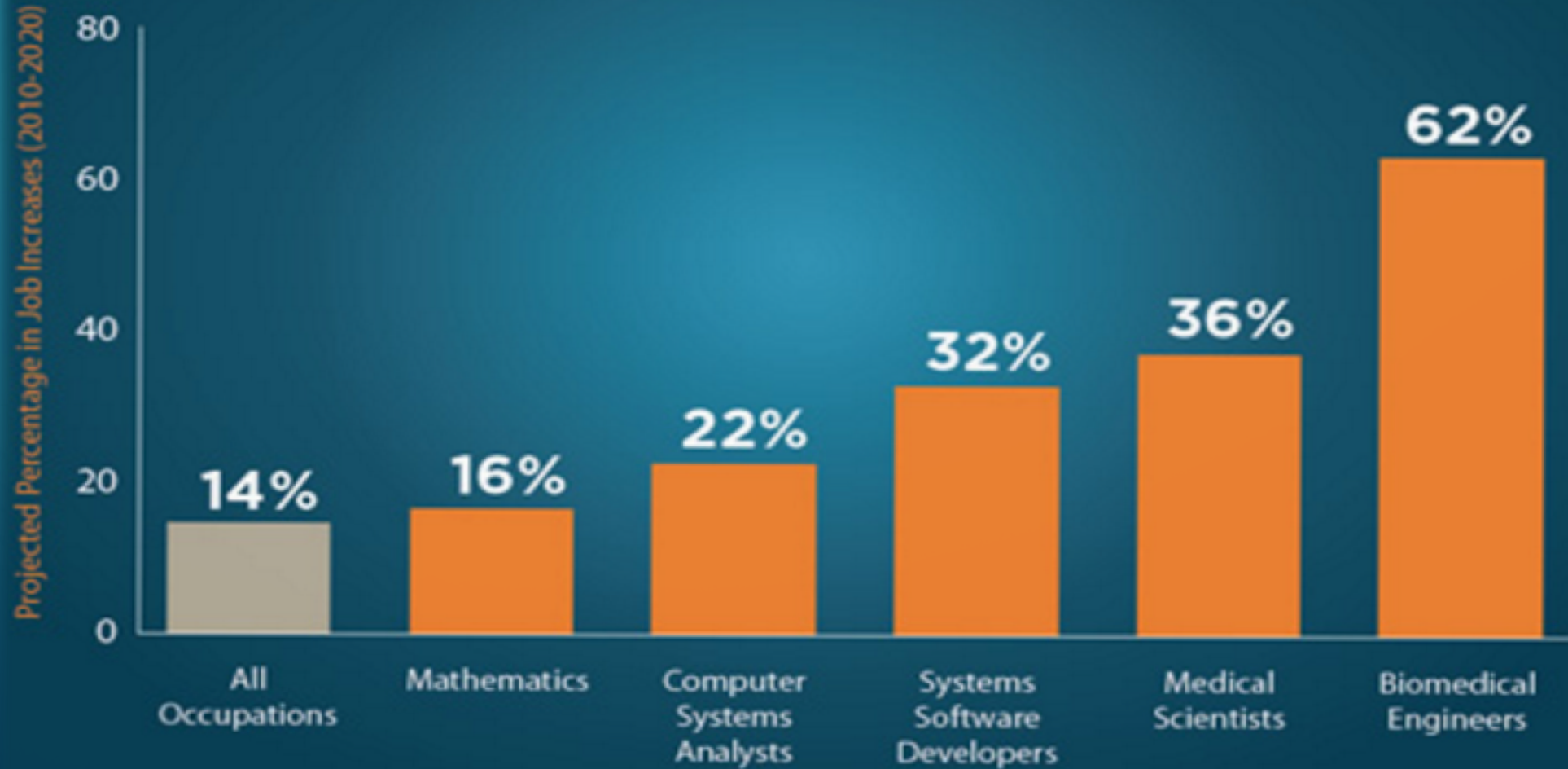
STEM EDUCATION

- ***SCIENCE***
- ***TECHNOLOGY***
- ***ENGINEERING***
- ***MATHEMATICS***



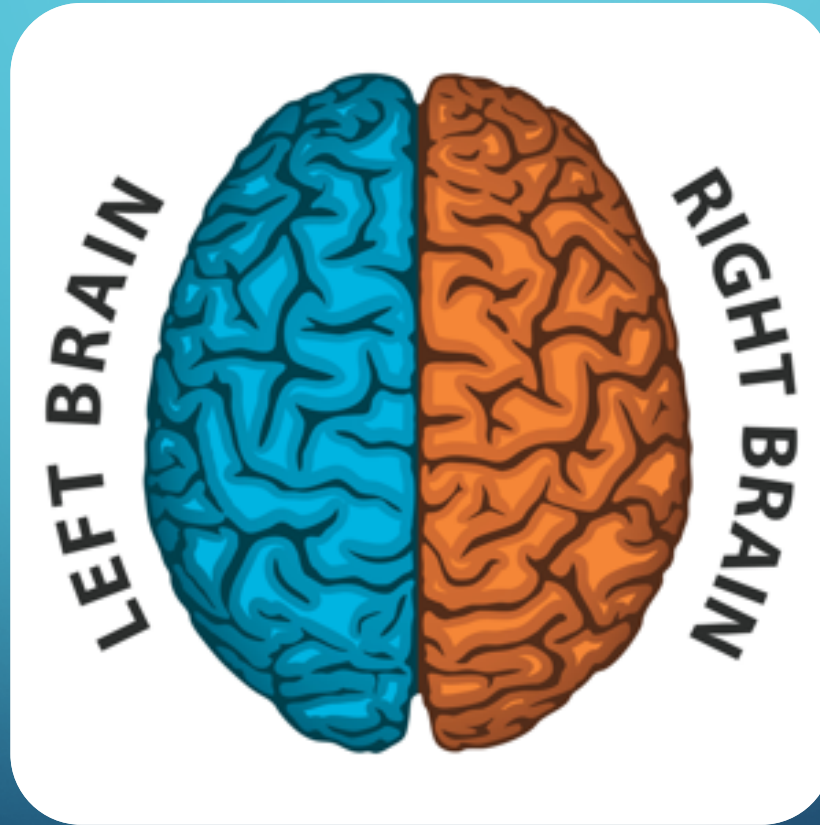
We will focus on these areas together not only because the skills and knowledge in each discipline are essential for student success, but also because these fields are deeply intertwined in the real world and in how students learn most effectively.

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

PLANNING FOR THE FUTURE

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

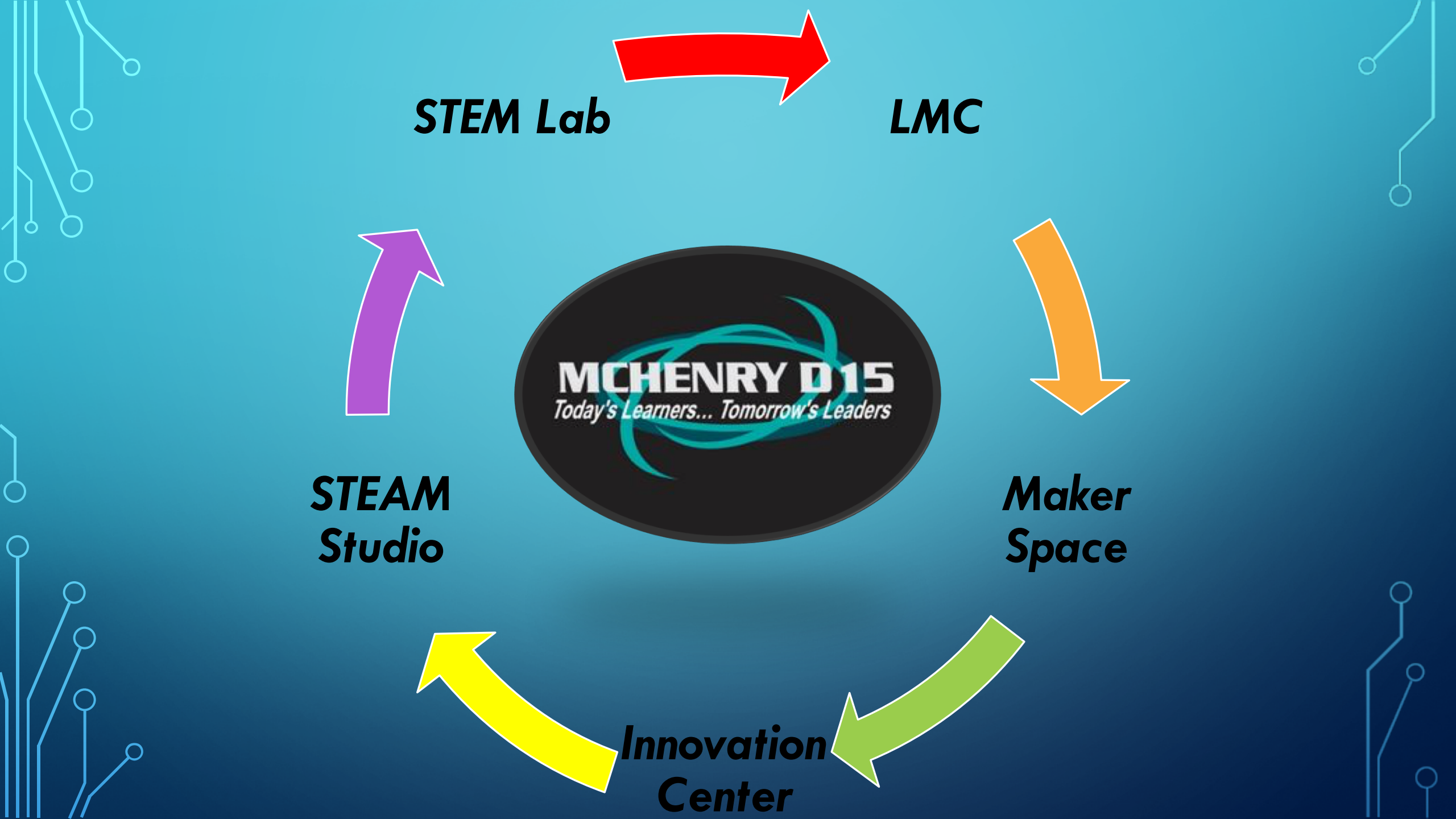
LMC

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**

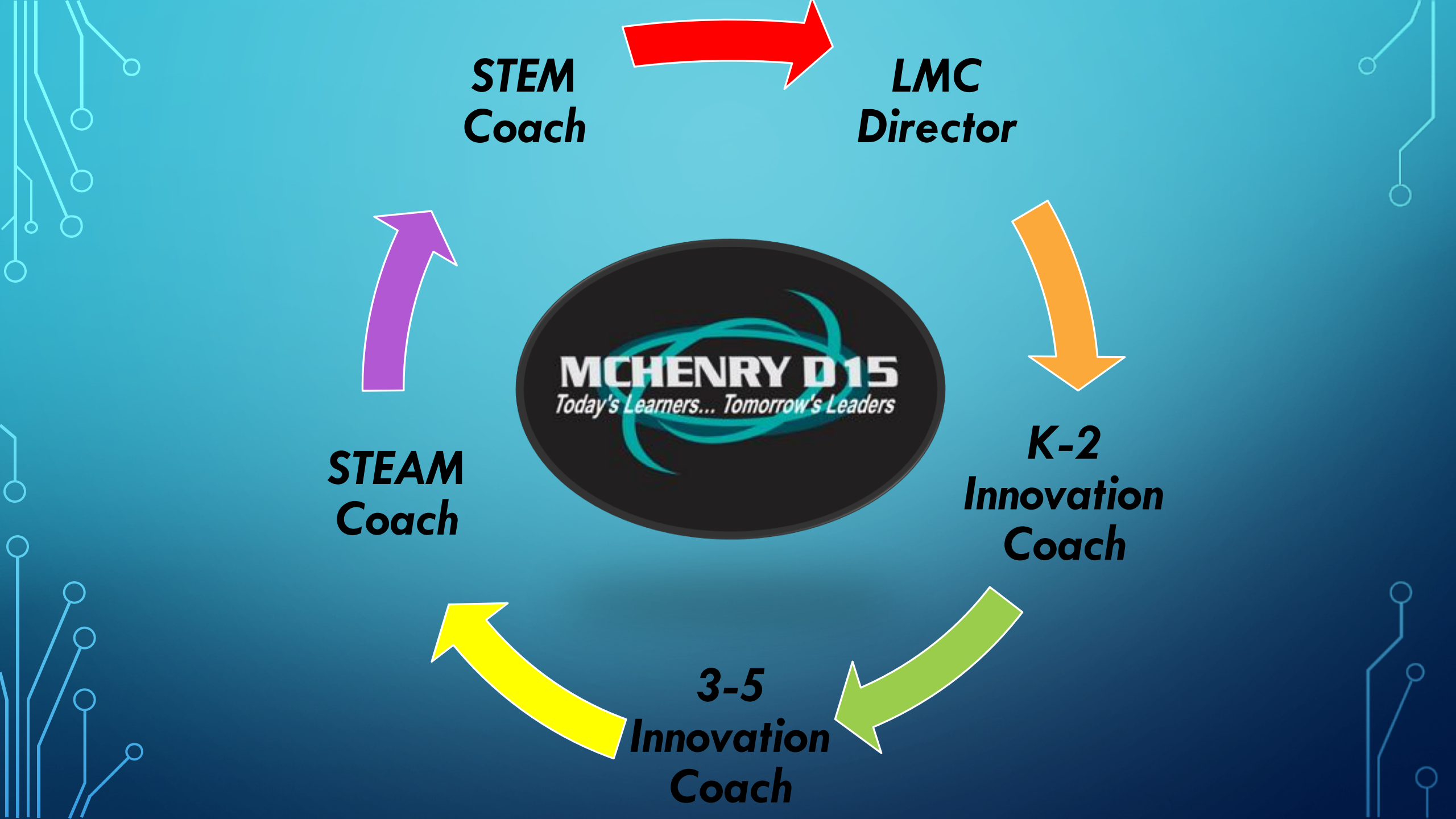
**LMC
Director**

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Today's Learners... Tomorrow's Leaders

**K-2
Innovation
Coach**

**3-5
Innovation
Coach**

**STEAM
Coach**



CURRICULAR EVOLUTION IN NEW SPACES...

K – 3 *Maker Space*

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*

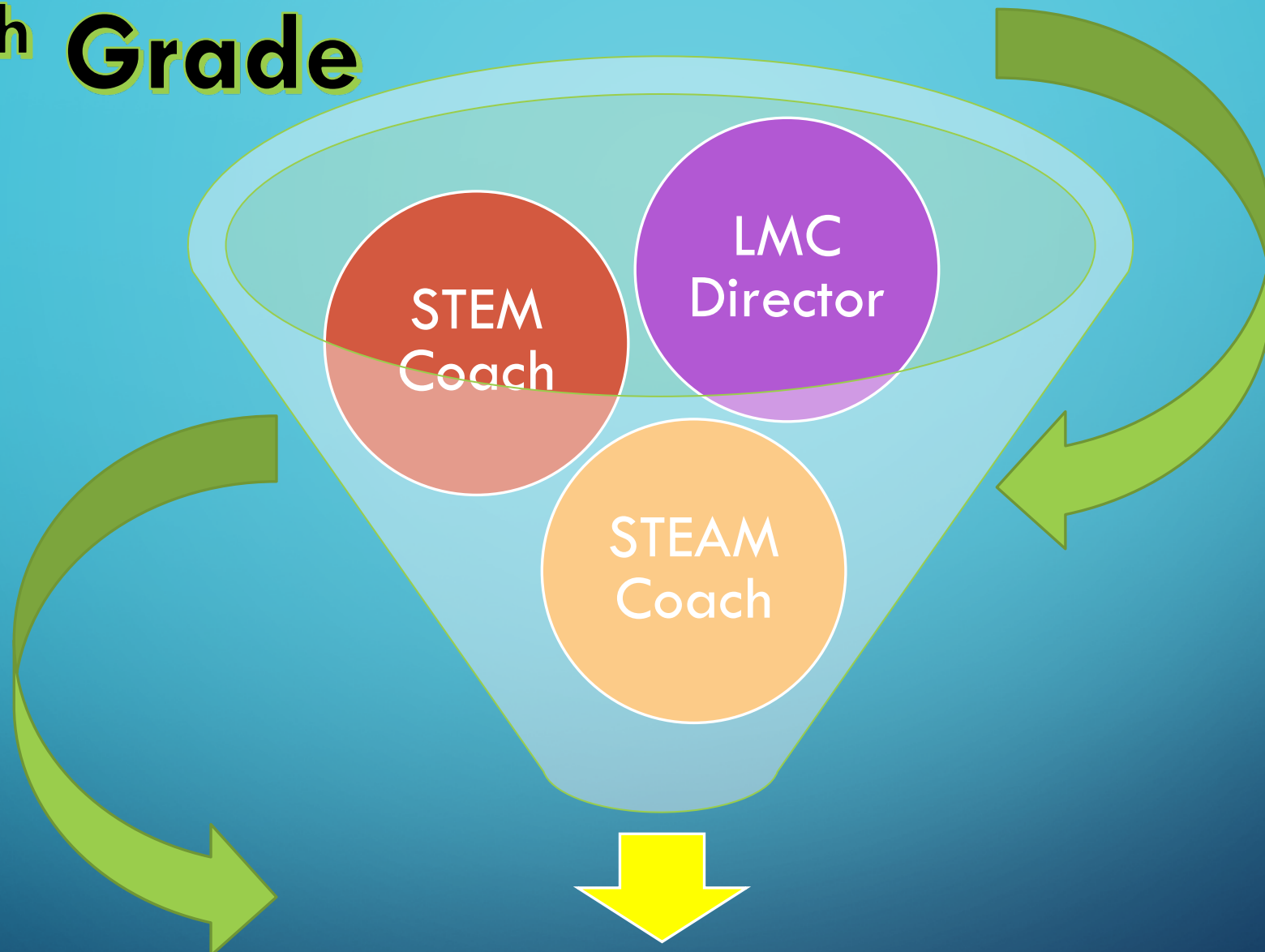
21st Century Library, Research Based, Collaborative,
Staff Development Center, Technology Driven

(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	Maker Space connected to LMC
Hilltop Elementary School	Maker Space connected to LMC

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



Kindergarten – 5th Grade

Classroom Teacher



LMC Director

Innovation Coach

Elementary School College and Career Readiness
Supplemental and Embedded Curriculum

ELEMENTARY SCHOOL STAFF

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



STEM READINESS PLAN

TECHNOLOGY ENRICHED FOR CONSISTENCY

Maker Space – Mobile Technologies including iPads and Chromebooks

Innovation Center – Technology Independent Supporting ALL devices;
equipped with Mac Books for supplemental / embedded curriculum

STEM Lab – STEM Curriculum / Mac Work Stations

STEAM Studio – STEAM Curriculum / Mobile Technologies including iPads and
Chromebooks



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



Maker Space

Innovation Center

STEM Lab

STEAM Studio



Thank You

