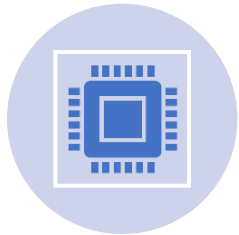# Module 1, Period 1: Exploring STEM

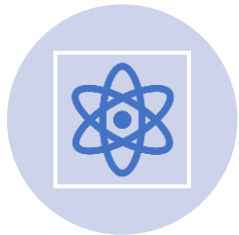**Topic:** Overview of STEM, Its Applications, and Components

What is STEM?

STEM stands for **Science, Technology, Engineering, and Mathematics**.

It is an **interdisciplinary approach** to problem-solving.

STEM careers drive **innovation and technological advancement**.

Question for Students: Where have you seen STEM in real life?

Why is STEM Important?

STEM is used in **everyday life** (smartphones, medicine, transportation).

STEM careers are **in high demand** and **well-paying**.

STEM skills help **solve global challenges** like climate change and healthcare.

Think-Pair-Share: How do you think STEM has changed the world?

The Four Fields of STEM

Science: Understanding the natural world (Physics, Chemistry, Biology).
Technology: Using scientific knowledge to create new tools.
Engineering: Designing solutions to real-world problems.
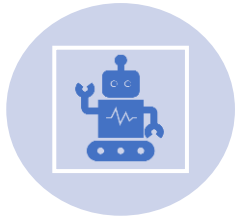**Mathematics:** The foundation of logic, measurement, and data.

Activity: Think of an example where all four fields work together!

Real-World Applications of STEM

Home Cleaning Robots: Have you seen a robot vacuum cleaner at home? A cleaning robot. And yes, it's STEM in action too!

Artificial Intelligence (AI): Self-driving cars, smart assistants like Siri.

Space Exploration: NASA & ISRO's Mars Rover missions.

Medical Technology: Robotic surgeries, prosthetics, vaccines.

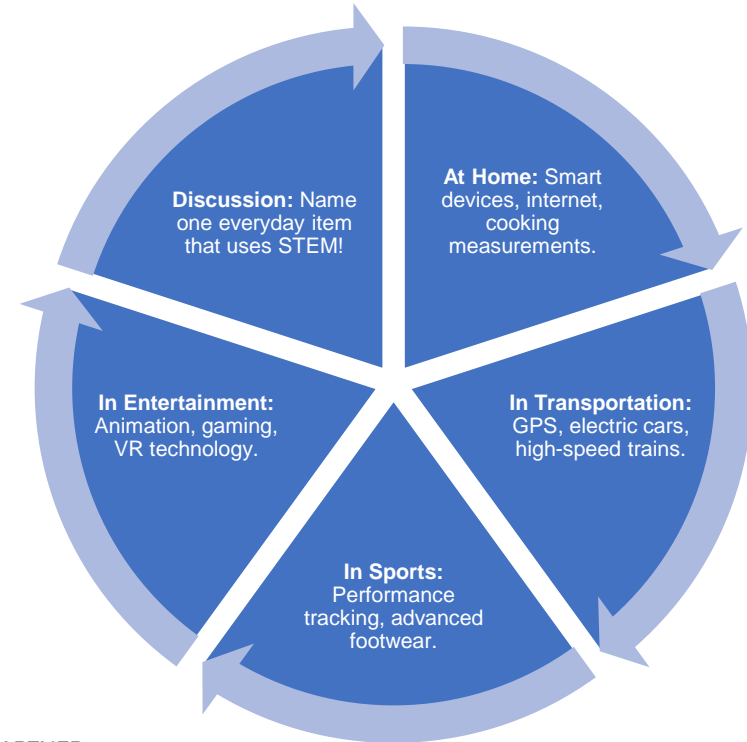**Environmental Science:** Solar energy, climate change research.

Question: Which of these interests you the most? Why?

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Where Do We Use STEM?

Discussion: Name one everyday item that uses STEM!

At Home: Smart devices, internet, cooking measurements.

In Transportation: GPS, electric cars, high-speed trains.

In Sports: Performance tracking, advanced footwear.

In Entertainment: Animation, gaming, VR technology.

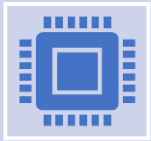LMS PARTNER

What's Next in STEM?

- **Space Tourism & Mars Colonization**
- **AI and Robotics in Daily Life**
- **Sustainable Energy & Green Technology**
- **Advancements in Genetic Engineering**

Debate Question: Will AI take over human jobs? Why or why not?

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What Did We Learn Today?

STEM stands for **Science, Technology, Engineering, and Mathematics**.
It is **used in almost every aspect of life** – from healthcare to AI.
STEM careers are the **future** – from robotics to space exploration.
You **use STEM every day**, even without realizing it!

Question for Students: What's one new thing you learned today?

What's Next?

In our **next lesson**, we will explore:
- **How robotics fits into STEM**
- **What makes a robot 'intelligent'**
- **Building a simple robot!**

Be ready for hands-on activities in the next class!

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Thank You!

Any Questions?