STEAM

BY NADA BASHIR
AND
SAM ETTARO
EARL EDWARDS
ISRAEL ORELLANA
What is STEAM?

Science
Technology
Engineering
Art
Math
What is STEAM Education?

STEAM is an educational approach to learning that encourages students to think more broadly about real-world problems by integrating Science, Technology, Engineering, Art and Mathematics in one project-based curriculum where the teachers act as mentors or facilitators.
Comparison between old and new education...

<table>
<thead>
<tr>
<th>Traditional teaching:</th>
<th>New STEAM teaching:</th>
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<tr>
<td>➢ Curriculum is not integrated.</td>
<td>➢ Subjects are connected.</td>
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<td>➢ Students take many subjects.</td>
<td>➢ Teamwork.</td>
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<tr>
<td>➢ No connection between the subjects and no clear outcome.</td>
<td>➢ Perseverance.</td>
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<td>➢ Memorization.</td>
<td>➢ Use critical thinking.</td>
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<td>➢ Work individually.</td>
<td>➢ Result: Students are more engaged and eager to learn.</td>
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<tr>
<td>➢ Result: Students are bored.</td>
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Assessments

Old School:
Work follows a rigid curriculum.
Assessment is generally conducted through paperwork or standardized tests.
Assessments

New School:
Work is done through a Project-Based approach and assessment is conducted through review and revision of the project, which is done within the assigned time and with the given resources.
The Real World...

New School: 

This is how the “real world” works!

Search
Inquire
Integrate
Practice
Be Authentic
Review
Practice
Repeat
Why it works...

Video Production Model:
This is how the “real world” works!

- Search
- Inquire
- Integrate
- Practice
- Be Authentic
- Review
- Practice
- Repeat
Why it works...

Website Production Model:

This is how the “real world” works!

- Search
- Inquire
- Integrate
- Practice
- Be Authentic
- Review
- Practice
- Repeat
Why is it important to our society?

- STEAM is used to make progress in society.
- STEAM drastically improves quality of life.
- There are many great STEAM fields that are in demand and have lots of job growth.
- STEAM is fun!
Science

- Researcher
- Forensics
- Astrophysicist
- Environmental Protection
- Meteorologist

- Doctor
- Pharmacist
- Astronomer
- Psychologist
- Scientist
- Teacher/Professor
Technology

- Computer Scientist
- Programmer
- IT Careers
- App Developer
- Cybersecurity
- Nanotechnology
- Biotechnology
Engineering

- Mechanical Engineer
- Electrical Engineer
- Civil Engineer
- Software Engineer
- Biomedical Engineering
- Aerospace Engineer
- Agricultural Engineer
- Audio Engineering
Arts

- Graphic Design
- Animation
- Musician
- Photography
- Fashion Designer
- Interior Design
- Art Teacher/Professor
- Actor
Math

- Economist
- Investment Analyst
- Financial Planner
- Accountant
- Math Teacher/Professor
- Mathematician
- Cryptographer
Local Opportunities

- School Robotics Clubs
- The Maker Fair - George Mason
- TJ Techstravaganza
- When Doves Code
- Internships (NASA, Healthcare, Smithsonian)
- Science and Engineering Fair in Washington, DC
- Mathnasium
- Fair Oaks Children’s Science Center
- Museums (Air and Space, Natural History, National Gallery of Art)
- Hechathon