



# Recruiting and Retaining Girls into STEM Careers

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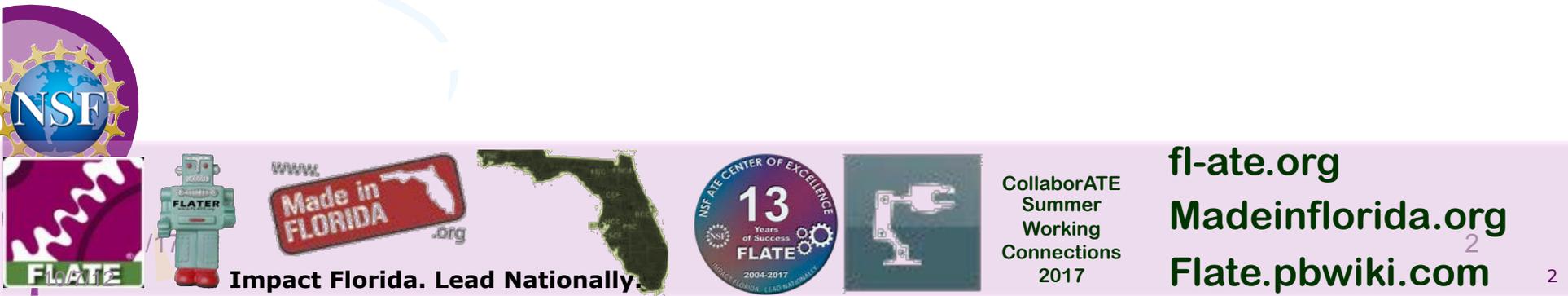
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# NSF Advanced Technological Education



*Partners with Industry for a new American Workforce*



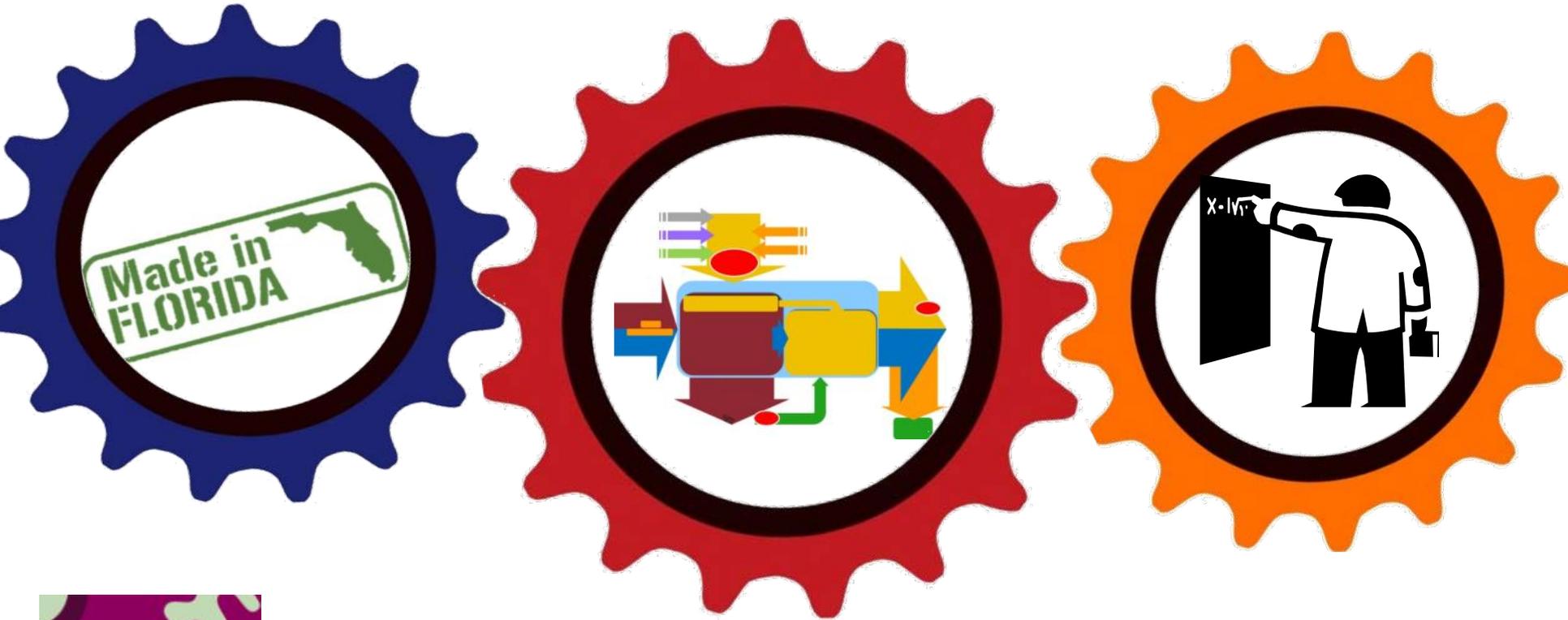


# FLATE VISION

FLATE will be Florida's leading resource for education and training expertise, leadership, projects, and services to promote and support the workforce in the high performance production and manufacturing community.

**Impact locally. Lead nationally.**

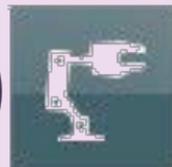
# FLATE Goals



Outreach ♦ Curriculum Reform ♦ Professional Development

# Quiz!!!

1. Boys are “naturally” /biologically driven to excel in mathematics demanding disciplines?
2. Female and male faculty were equally likely to exhibit bias against the female student.
3. Women fill over half of all jobs in the U.S. economy but have less than 25% of STEM jobs.
4. Women hold a disproportionately low share of STEM undergraduate degrees, particularly in engineering.



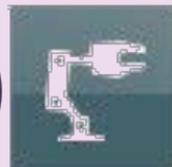
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# Persisting gender barriers

Gender barriers persist!

- About half of all girls feel that STEM **is not** a typical career path for themselves.
- **57%** of girls say that if they went into a STEM career, they'd have to work harder than a man just to be taken seriously.

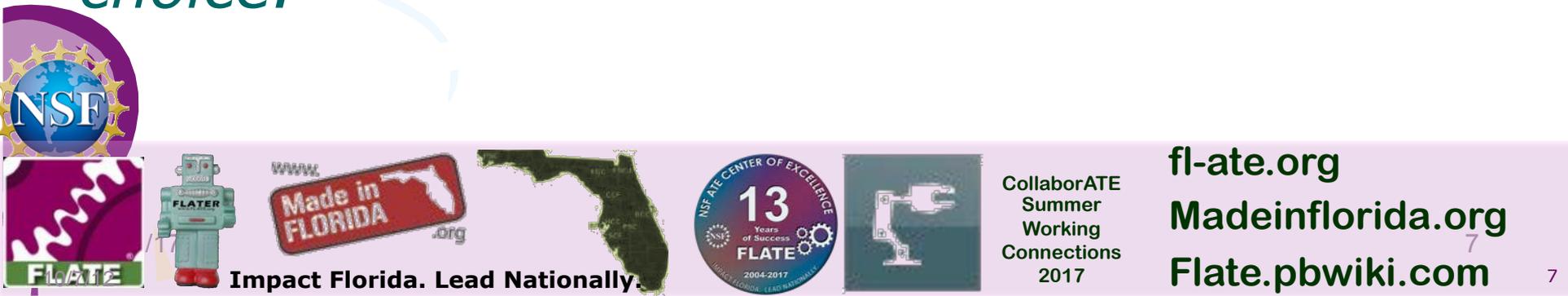


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# Persisting gender barriers

- Girls want a career that they love; want to help people and want to make a difference in the world.
- **81%** of STEM girls are interested in pursuing STEM career, but only 13% say it is their first choice.



# More Facts

## From the National Science Foundation (NSF):

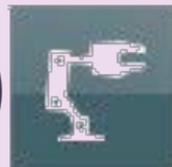
- In **1966** women earned fewer than 5% of all bachelor's degrees in physics; in 2006 they earned more than 20% of them.
- Women earning engineering degrees grew from .4% to more than 19%.
- In chemistry, the leap was from 18% to more than 50%.

## From the Department for Professional Employees:

- Women account for more than 57% of the workforce, but only 47% of science professionals, 25% percent of computer and math professionals, and about 14% of architectural and engineering professionals.
- Women are very well represented in medical sciences, where they are actually in the majority, at 54% plus; in the biological sciences, they represent a healthy 48% of all workers.
- Men continue to **outearn** women in STEM fields by about 20%.

## From the Economics and Statistics Administration:

- Women in STEM jobs earn about **33% more** than women in non-STEM jobs.



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PROBLEM: THERE ARE DISPROPORTIONATELY FEW WOMEN IN MATHEMATICS

CAN WE TRY TO REMOVE THE STIGMA OF MATH AS UNFEMININE?



CAN WE MAKE MATH *PINK*?



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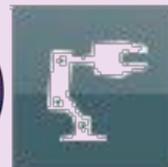
SENSIBLE SOLUTION

CAN WE TRY TO REMOVE THE STIGMA OF MATH AS UNFEMININE?



COMMON IDEA

CAN WE MAKE MATH *PINK*?



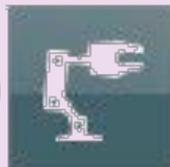
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# Recruiting/Retaining Best Practices

- Emphasize attributes of STEM career

🎈 Creative 🎈 Helping 🎈 “Green” 🎈 “Hands On”

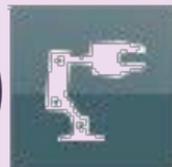
- Use appropriate messaging & imaging

🎈 *role models* 🎈 *mentors* 🎈 *visuals*

- Confirm capabilities & strengths

- Encourage them to follow **their** dreams

“Do what you ❤️”

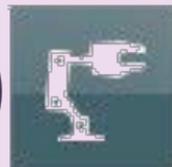


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# Recruiting/Retaining Best Practices

- Build community among girls
- Provide role models
- Teach parents, teachers & staff
- Revisit curriculum, materials & teaching style
- Include service-based projects
- Emphasize social relevance
- Highlight historically significant women
- Put equipment in girls' hands
- Supplement speed and competitiveness with thoughtful deliberation and cooperative work



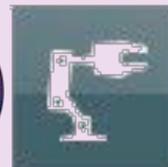
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# Resources



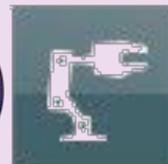
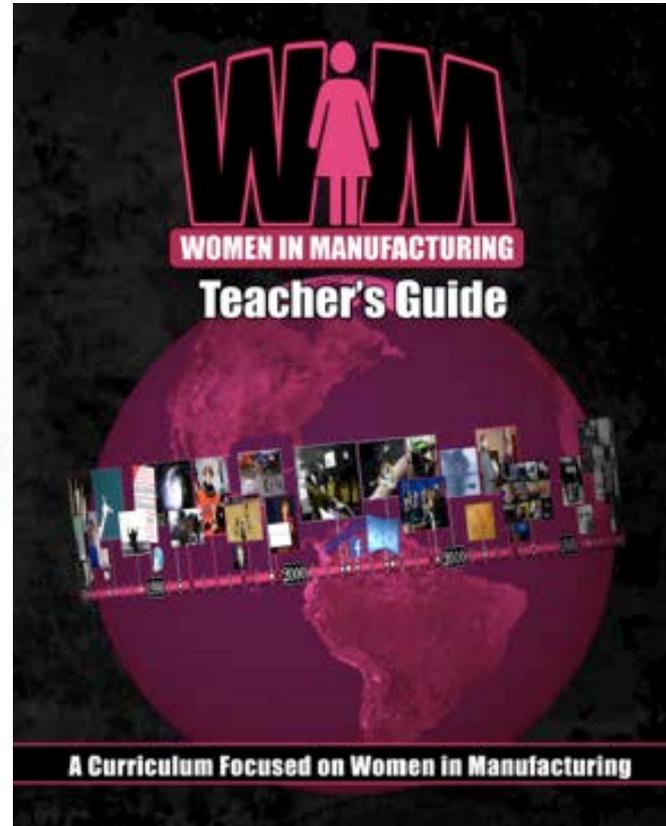
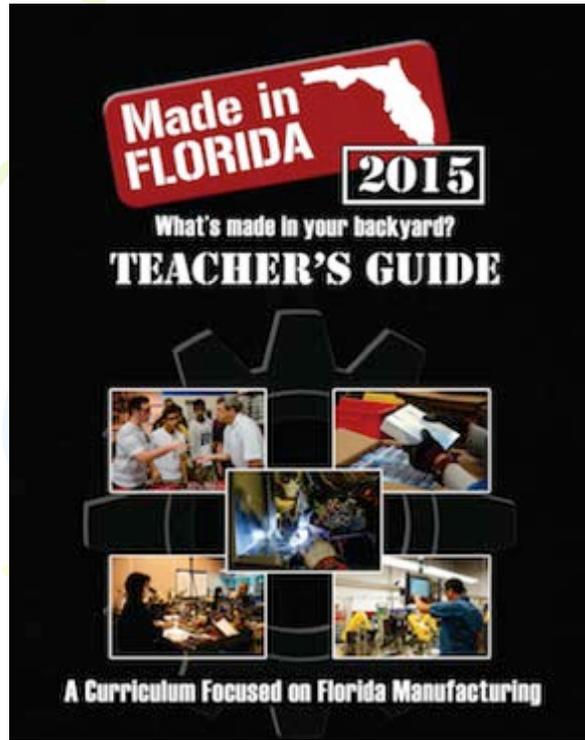
## Top 10 Resources Encouraging Girls In STEM



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# Resources

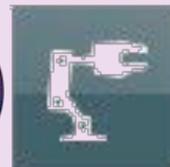


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# EXPLORE

Do what you LOVE



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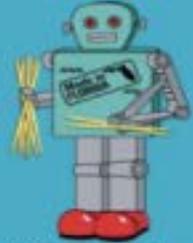
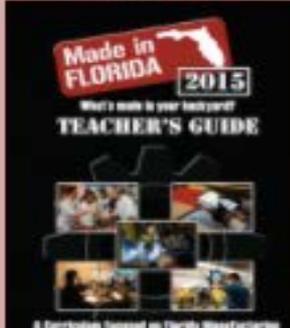
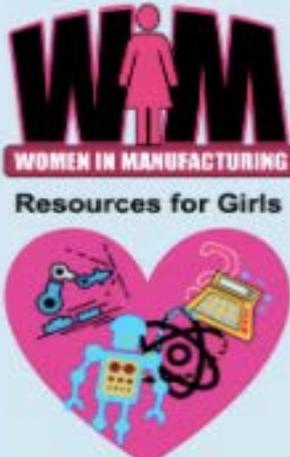
# FLATE's wiki

...full of great FREE RESOURCES for you!



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(CLICK ON IMAGES BELOW)

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|--|--|--|--|--|
| <p><b>Made in Florida STEM Lesson Plans</b></p>  <p>For Elementary, Middle &amp; High School Educators</p>  | <p><b>Career Education Resources</b></p>                      | <p><b>Modules for Advanced Technological Education</b></p>   | <p><b>The Toothpick Factory</b></p>  <p>A Simulating Game for Soft Skills</p> | <p><b>Student Activity Sheets</b></p>   |
| <p><b>Industry Tour Resources</b></p>  <p><b>MFG DAY FLORIDA!</b><br/>10.06.17</p> <p>Find pre-tour lessons, post-tour surveys and many resources for all your <i>Made in Florida</i> tours!</p> | <p><b>WM WOMEN IN MANUFACTURING Resources for Girls</b></p>  | <p><b>FLATE Presentations, Publications, Meetings &amp; Webinars</b></p>  <p><b>FORUM</b> on Engineering Technology <b>IAG</b></p> | <p><b>Professional Development Opportunities for all Educators</b></p>      | <p><b>Camp Resources</b></p>  <p><b>STEM Summer Camps</b></p> <p>Robotics &amp; Energy Camp Resources for everyone.</p> |

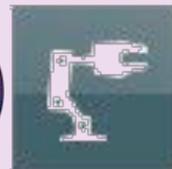
Read FLATE's

FLDOE Career

Learn more about

Florida Association for

# Our hope & future



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# Thank you!

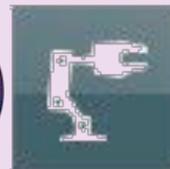
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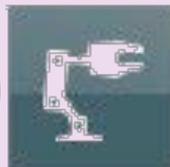
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# Role models & mentors

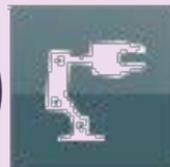
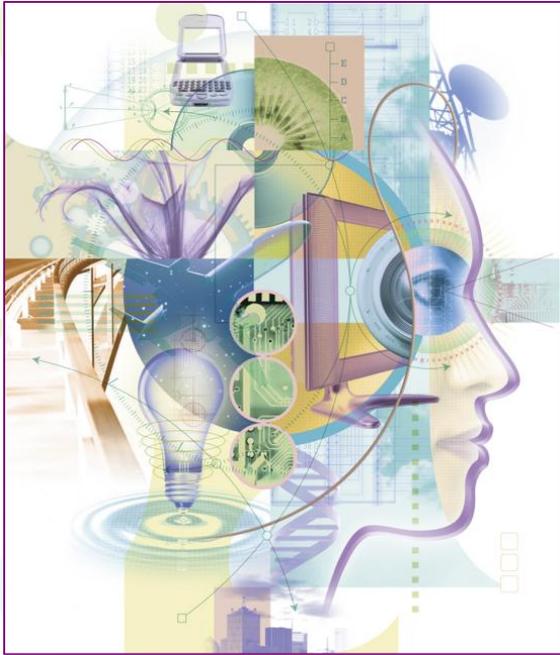


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