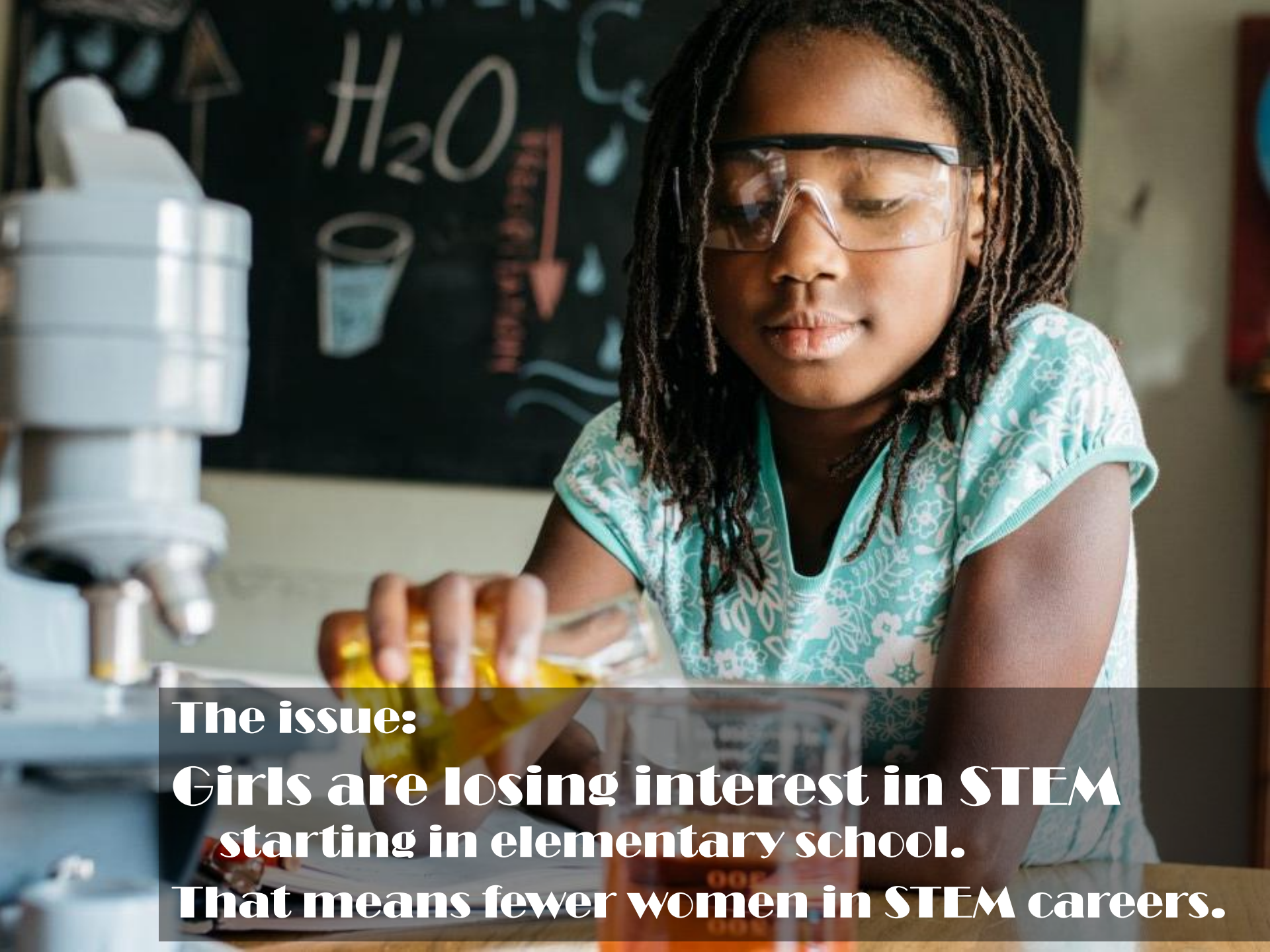




STEM and Girls

Re-writing our story



The issue:

Girls are losing interest in STEM starting in elementary school.

That means fewer women in STEM careers.

**Everything starts
with stories**

**The stories we tell
ourselves**

**WHEN I ASK MIDDLE SCHOOL KIDS
BOTH BOYS AND GIRLS**

**“WHAT DOES BEING A
SCIENTIST LOOK LIKE?”**

WHEN I ASK MIDDLE SCHOOL KIDS

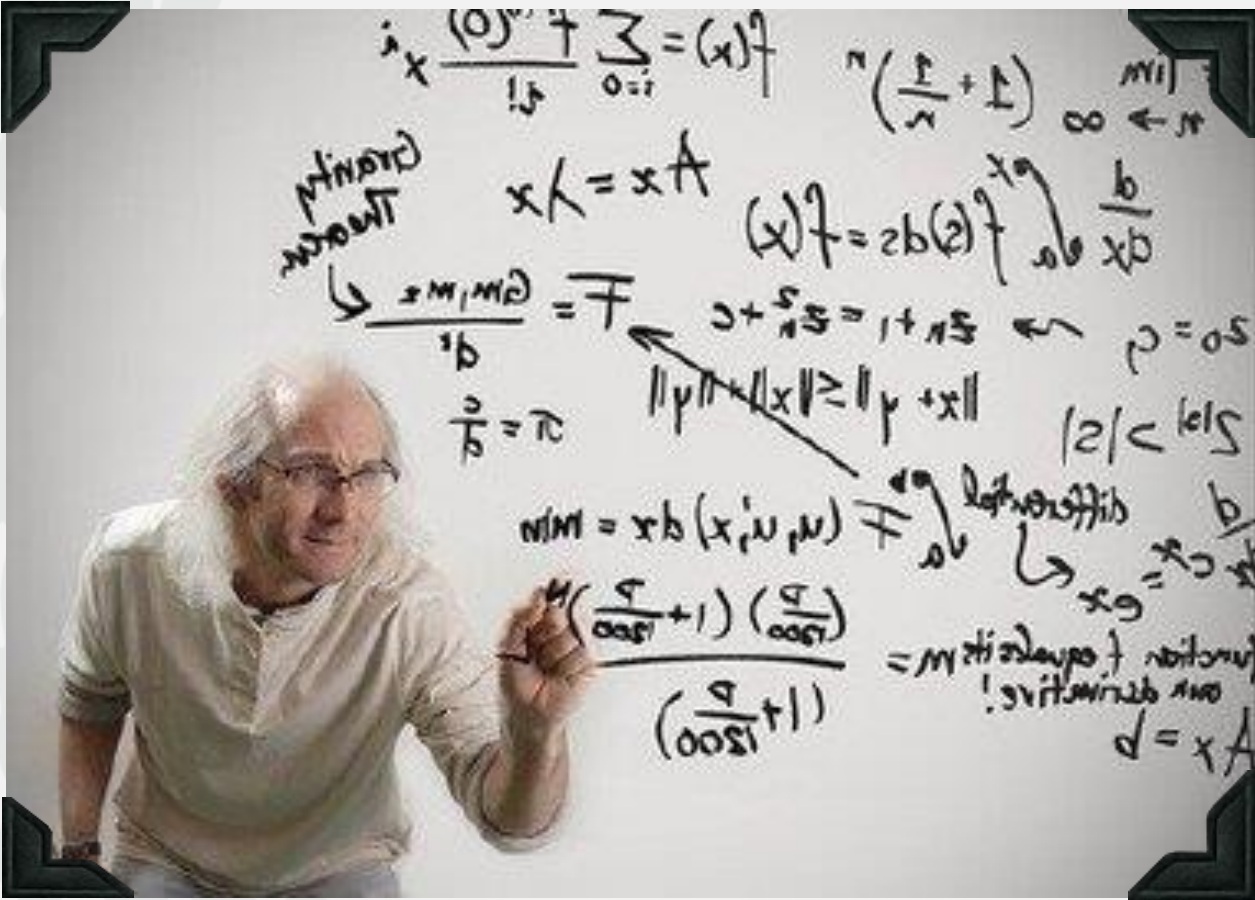
**“WHAT DOES SOMEONE IN
TECH LOOK LIKE?”**



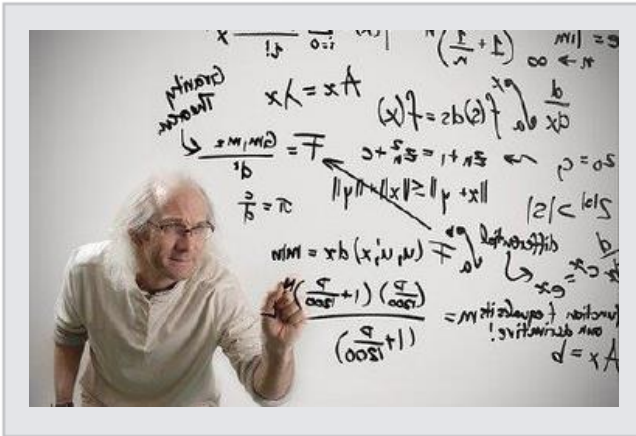
**THIS IS WHAT THEY TELL ME:
“GEEKY GUY WITH THICK
GLASSES.”**

**WHAT DOES A MATHEMATICIAN
LOOK LIKE?**

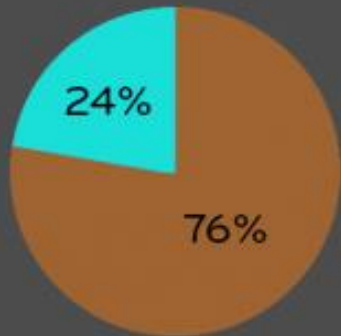
This is what they imagine



This is the story both boys and girls are telling themselves about STEM



Women in STEM



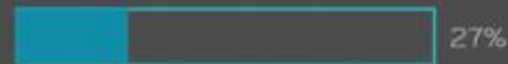
24% WOMEN IN STEM JOBS



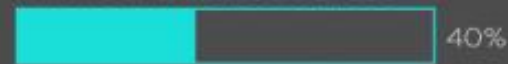
1 IN 7 ENGINEERS

JOBS

IN COMPUTER SCIENCE & MATH

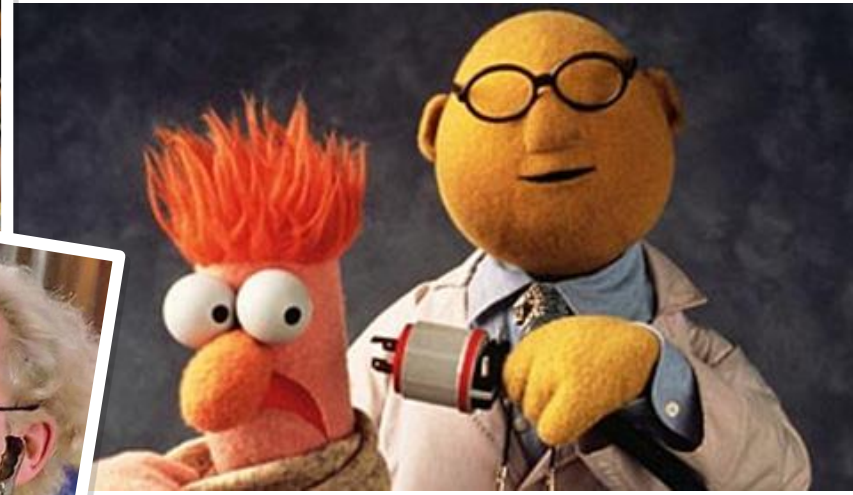
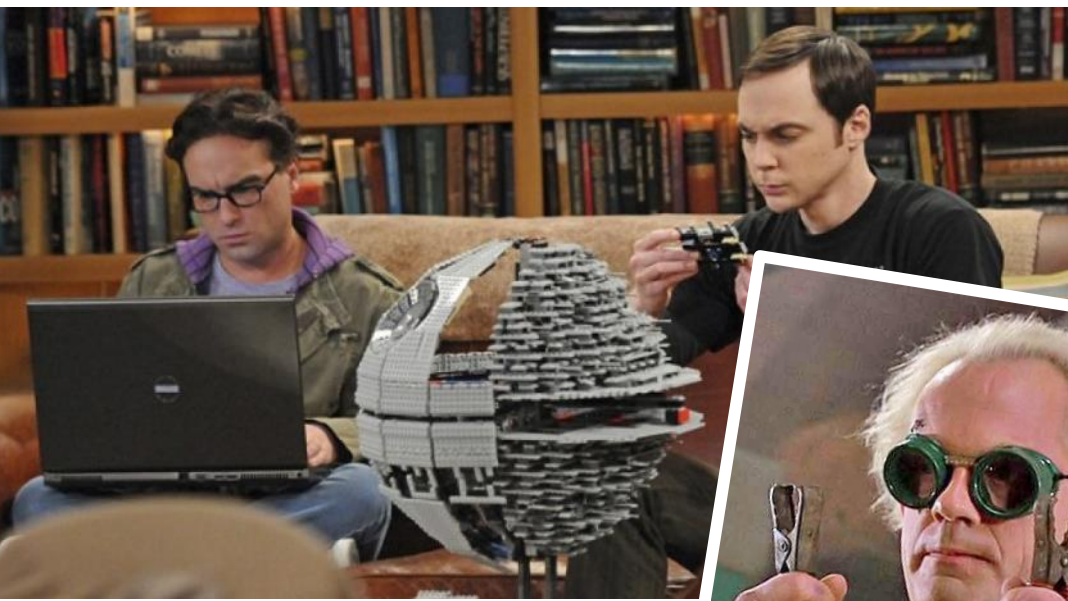


IN PHYSICAL & LIFE SCIENCES



DISPROPORTIONATELY LOW SHARE OF UNDERGRADUATE DEGREES

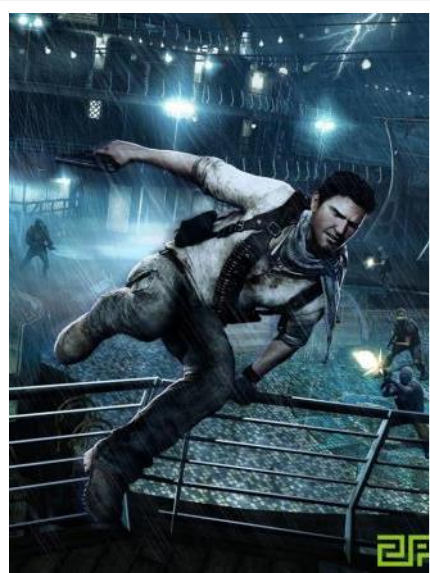
Girls don't see themselves in the picture



**When it comes to portrayals of STEM professionals,
men outpace women
14.25 to 1 in family films**

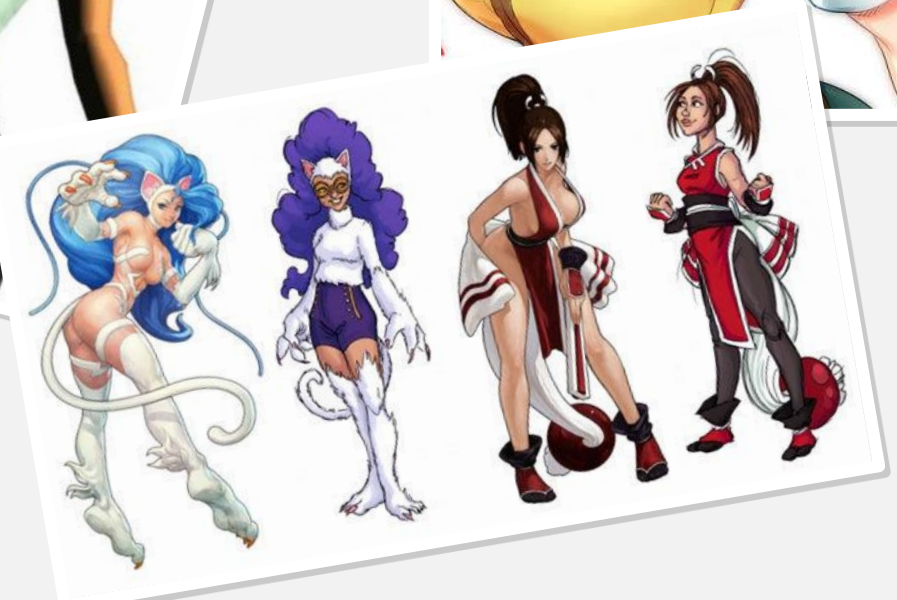
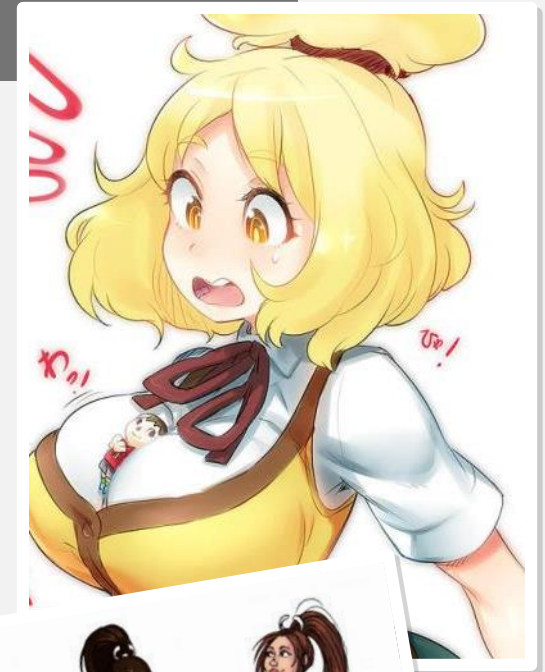
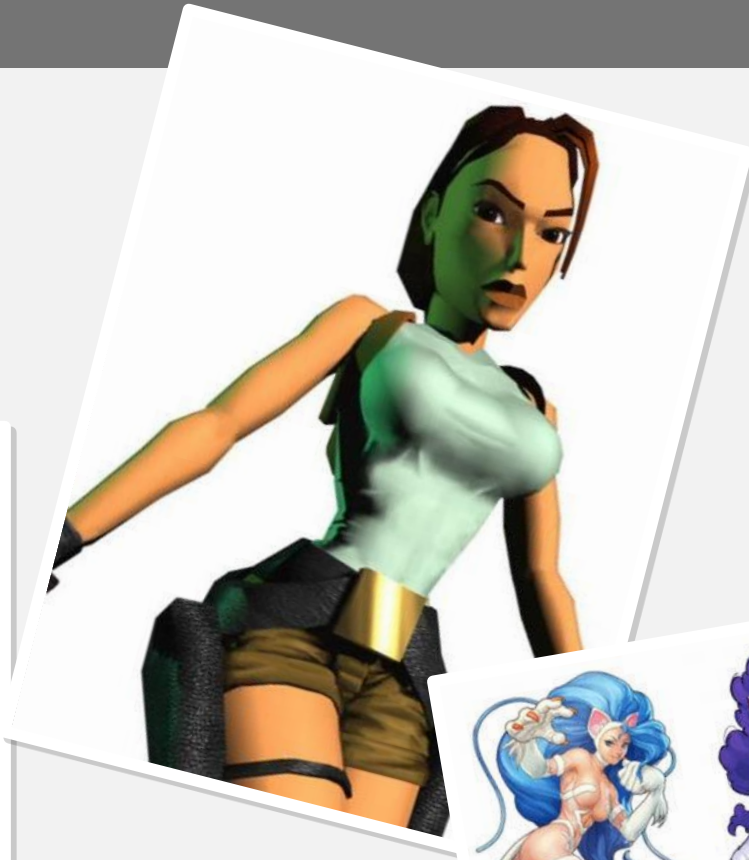


Girls lose interest in playing video games.



Video games—male characters available for boys to connect with.

Female characters available for girls to connect with are hypersexualized or silly





In middle school girls become focused on personal appearance, relationships and fitting in.



**They form opinions
about how they see
themselves and where they
fit in**



These stories we tell ourselves about women in STEM are reinforced through media:





Last Minute
DIY Nerd
Costume!



“The smartest girls in my school are not popular.”

—Addie age 13



“Science and math are hard and not fun. I want to grow up and do something fun and helpful.”

—Bella age 12

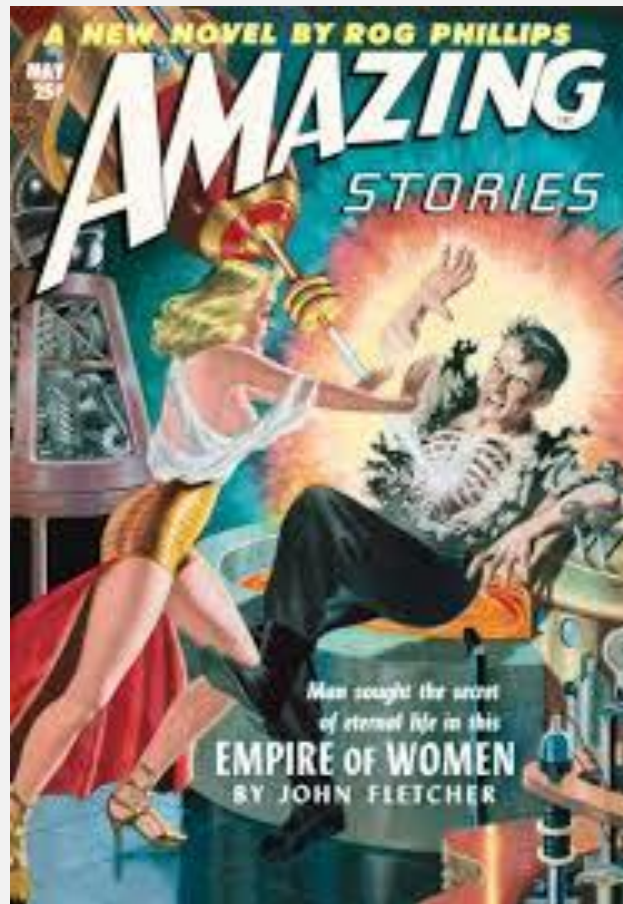


**Acceptance by
the popular
crowd is a
motivating
factor for
tweens**



**In an effort to conform, girls
“lose” interest in STEM**

**Whatever we say around boys
and girls—they're listening**





What can we do to rewrite the stories we tell ourselves?



We have to start early and make it fun!

STEM is all about wonder and discovery.



Who doesn't want to explode sidewalk chalk, dissolve eggshells, walk through an index card, make a marshmallow launcher, and create a lava lamp?

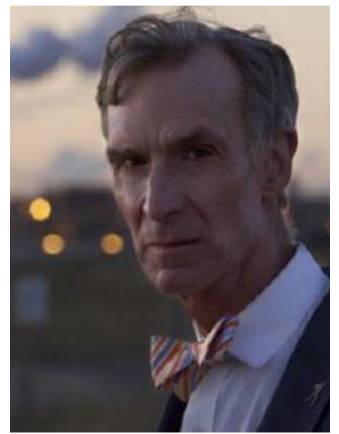
**My soapbox:
Science and math is
fun!**

Really!





Let's encourage discovery through play. It gives kids (and their grown-ups) a ticket to be dazzled by the universe and beyond.



Media has the power to provide information and role models that can inspire kids.



**Connect
STEM:
Show real
world
purpose**



**We need the talent and contribution of all thinkers and
problem solvers.**

We can't leave our girls behind.

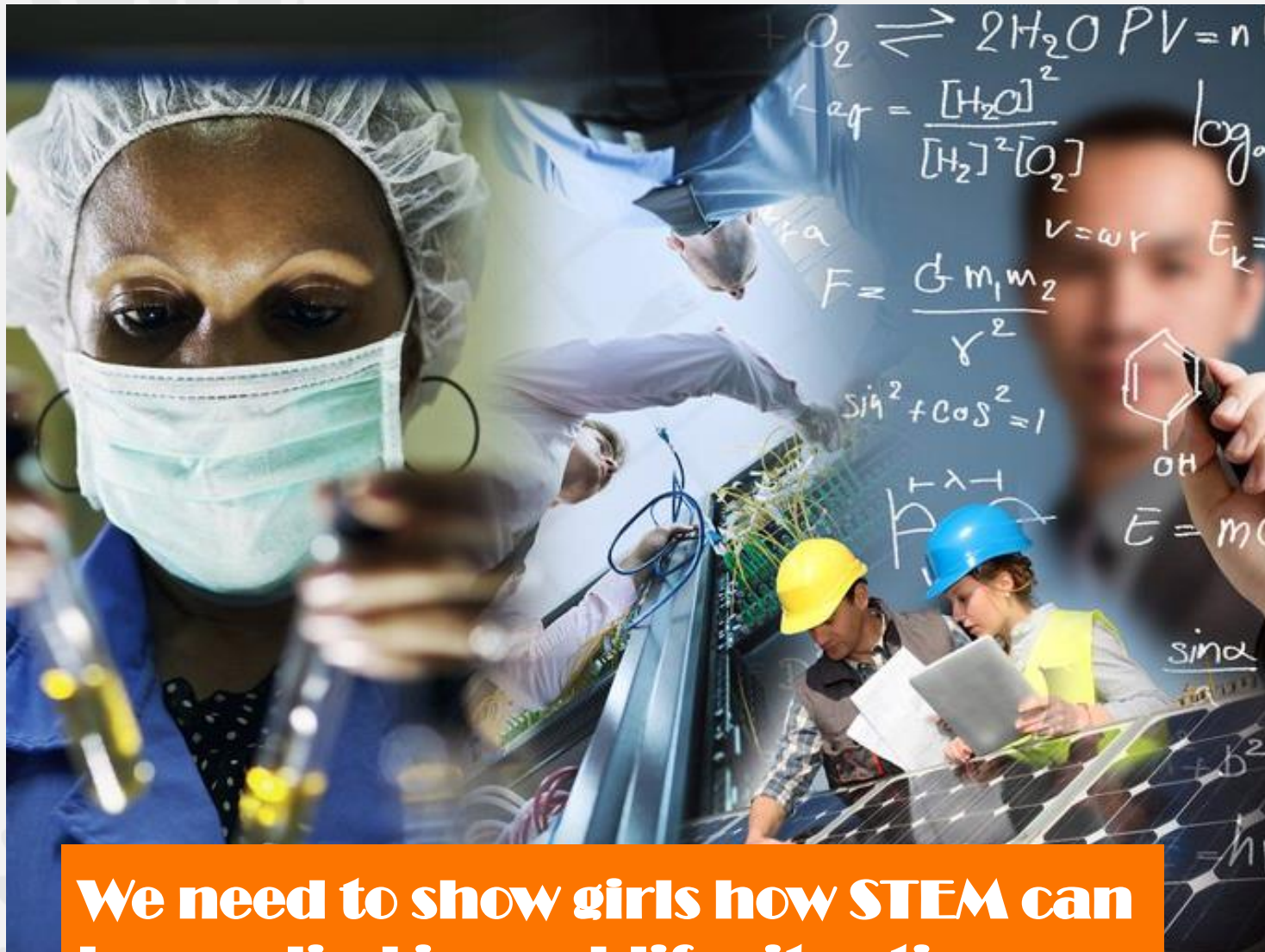
**Promote female role models
in STEM subjects:**

**It's much easier for girls to
imagine a career in STEM
subjects if they see successful
examples.**





**We need to Think like girls:
Understand what girls value and
appeal to these values academically**



We need to show girls how STEM can be applied in real-life situations, giving the topics more relevance in their lives.



**Make “do-overs”
the new
standard.**



**Make it safe for kids to make
mistakes—problem
solving is a process.**



Strong smart role models

role models



USA SCIENCE FESTIVAL ENGINEERING


"I was captured for life by chemistry and by crystals."
 - Noted British chemist Dorothy Crowfoot Hodgkin who perfected the technique of X-ray Crystallography to determine the structures of penicillin, Vitamin B12, and insulin.

WWW.USASCIENCEFESTIVAL.ORG



USA SCIENCE FESTIVAL ENGINEERING

If you are a serious movie buff of old Hollywood films, you are sure to remember this actress. But what you may not realize is that Hedy Lamarr has become more known for her technological invention of more than 70 years ago than for her movies. Discover how her science-based creation - now called "spread-spectrum radio technology" - was born from her desire to help the U.S. Navy thwart Nazi submarine attacks during World War II.



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"If you want to make a difference in the world—and have fun doing it—a great place to start is as an engineer or scientist!"
 - Stephanie C. Hill, computer engineer and Vice President and General Manager, Lockheed Martin's Information Systems & Global Solutions Civil Line of Business


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USA SCIENCE FESTIVAL ENGINEERING

"Our goal was not only to uncover the truth and the historical record [about the cause of death], but also allow the bodies to 'talk' in the courtroom, and get those bodies back to their families."
 - Forensic anthropologist Clea Koff, describing her work with the United Nations in investigating mass graves from genocide killings in war-torn countries - Rwanda, Bosnia, Serbia & Kosovo

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USA SCIENCE FESTIVAL ENGINEERING

When you look at the stars and the galaxy, you feel that you are not just from any particular piece of land, but from the solar system itself."
 - Aerospace engineer Kalpana Chawla, the first Indian-born woman in space, commenting on her historic mission in 1997

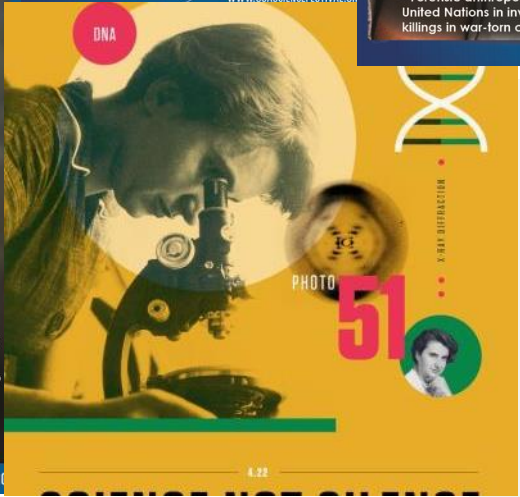
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USA SCIENCE FESTIVAL ENGINEERING

"As a 9-year-old kid growing up on a farm in Iowa, I was inspired by the men who walked on the moon. When they picked the first set of female astronauts, I think that was when I decided I really wanted to become an astronaut."
 - Peggy Whitson, noted NASA astronaut and biochemistry researcher and the first female commander of the International Space Station

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DNA

PHOTO 51

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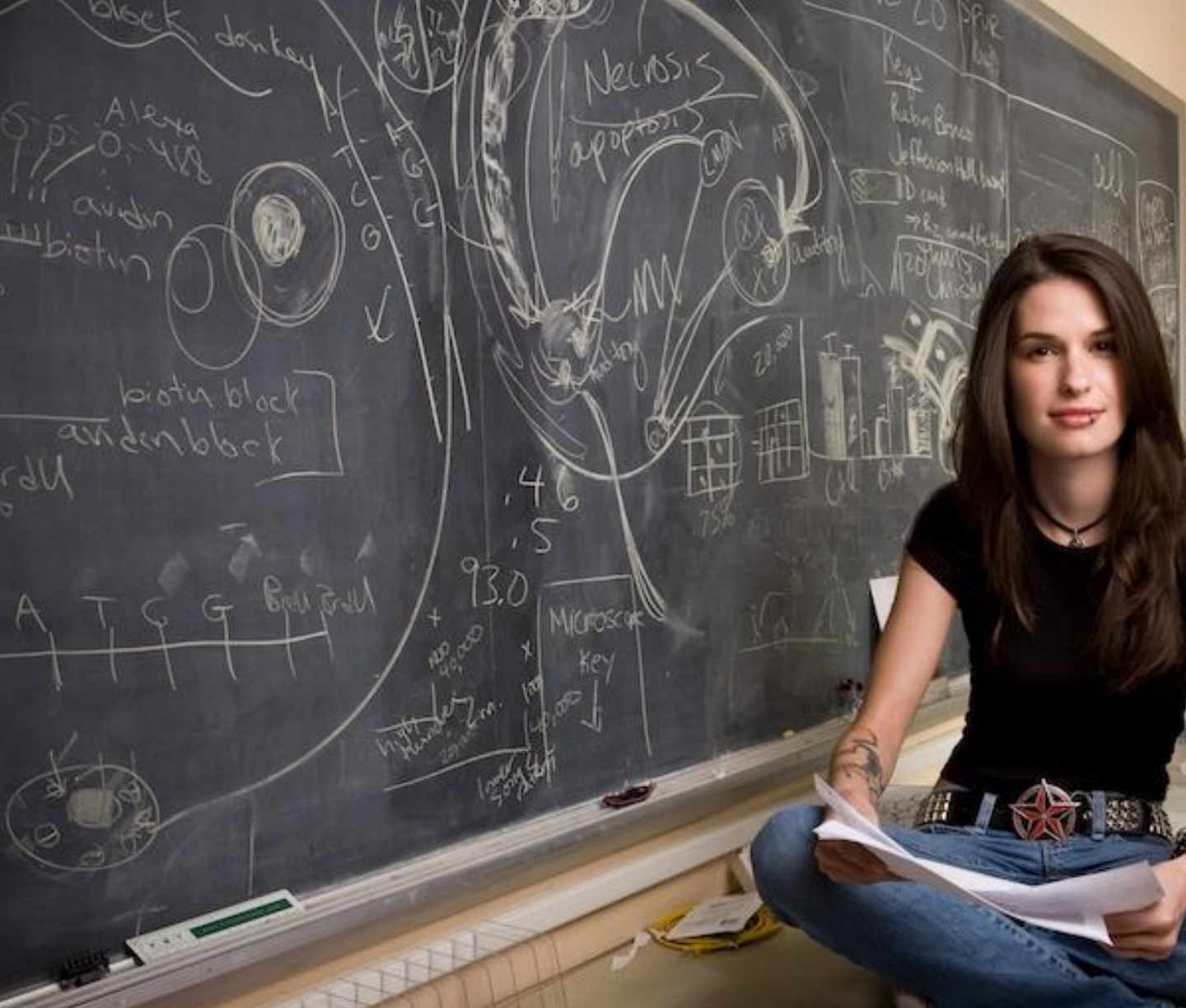
Mentors



12 badass, beautiful women scientists



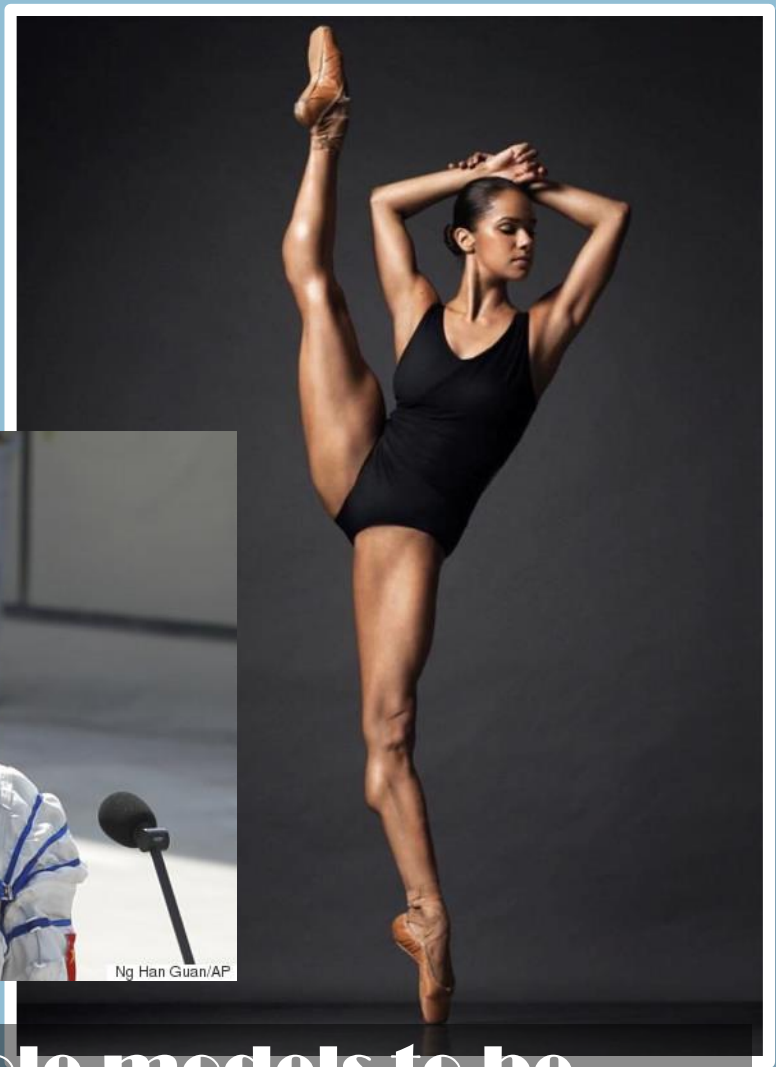
Geek is chic



Smart is awesome



STEM is powerful

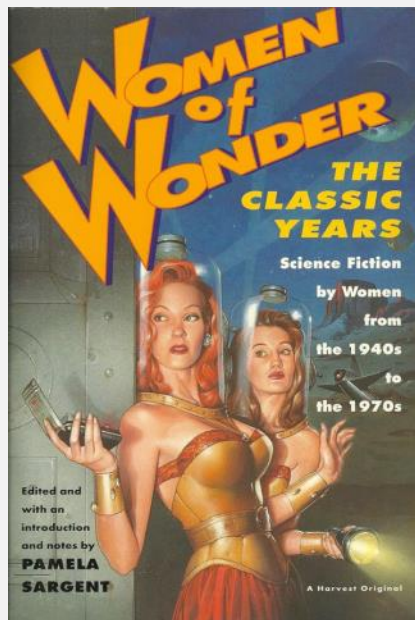


**Girls Need the right role models to be interested in STEM:
Women who are determined to succeed in the face of diversity**

**Let's change the story
we tell ourselves**

and our kids

We need to rewrite how we all see women in STEM



And start shaping a change

