



Challenge gender stereotypes saying 'science is for boys'. Let the children get hands-on practice. IMAGE/FREEPIK

How to encourage girls to pursue sciences

Wednesday is the International Day of Women and Girls in Science. Here are tips for parents to encourage females offer sciences.

BY MICHAEL AGABA

In a mud hut with no electricity, and every day she walked miles to fetch water from a distant well. Despite these hardships, Betty had an insatiable curiosity. She would collect stones, plants, and insects, asking endless questions about how the world worked.

Her neighbours often laughed, saying, "Books won't fill your stomach." But Betty believed knowledge could change her life.

One day, a teacher visited her village and brought a box of old science textbooks. Betty devoured them, teaching herself about chemistry, biology, and physics by candlelight.

She built small experiments using scraps, turning tin cans into makeshift microscopes and using broken glass bottles to study water purity.

Her determination caught the attention of a local NGO, which sponsored her education.

At school, Betty excelled. She often studied under trees when classrooms were overcrowded. When she won a national science competition by designing a low-cost water filtration system using charcoal and sand, her name began to spread.

She earned a scholarship to a university abroad, where she faced new challenges—language barriers, cultural differences, and the weight of being the only girl from her village to ever attend university. But she persevered.

Years later, Betty became a renowned

scientist specialising in renewable energy and clean water technologies. Her groundbreaking invention, a solar-powered water purifier—was affordable and easy to use in rural communities. It saved thousands of lives across Africa by reducing waterborne diseases.

She returned to her village, not as the poor girl who once fetched water, but as a scientist who brought hope.

She built a research center to train young African girls in science, proving that poverty is not a prison but a challenge to overcome.

Her story became a symbol of resilience, showing the world that brilliance can rise from the humblest beginnings.

The International Day of Women and Girls in Science, celebrated every year on February 11, highlights the critical role women and girls play in science, technology, engineering, and mathematics (STEM), while calling for stronger action to close the gender gap in research and innovation.

Established by the UN in 2015, the day aims to promote full and equal access to participation in science for women and girls worldwide.

It aligns with the 2030 Agenda for Sustainable Development, recognising that gender equality in science is essential for achieving global progress.

The day is not only symbolic but also a platform for dialogue, policy-making, and collaboration across governments, institutions, and communities.

What can parents do to encourage their daughters to pursue sciences?

Build confidence early

As a parent, encourage your daughters to explore science, technology, engineering, and math early. Encourage them to treat curiosity as valuable, even if the answers aren't obvious.

Praise their small effort, not just results. Reinforce persistence in solving problems and when they make mistakes, don't over criticise them; show them that failure is part of learning, not a sign of weakness.

Gillen Agaba, a Biology textbook author and teacher at Trinity Senior Academy in Bwebajja explains, "Sciences need aggressiveness and boys, because of their aggressive behaviour, naturally tend to excel above the girls."

Girls have the potential but they must force themselves into spaces such as leading scientific group discussions (where they can learn more than just being spectators and waiting on boys to do all the hard work for them), speak up in class and take and read longer hours. I often put a lot of pressure on girls especially at "A" level and some hate me for it but in the long run they appreciate me for it if it hadn't been for that extra effort, they probably would not have performed as better."

Provide role models

Share stories of women scientists such as Katherine Johnson, NASA mathematician or Winnie Byanyima, an aeronautical engineer, to inspire them.

Connect your daughters with female mentors in STEM fields through school

programs or community organisations. Role models and advisors play a pivotal role in shaping a girl's aspirations and career choices.

Create hands-on opportunities

Buy science kits, puzzles, or books that spark experimentation. Encourage participation in science fairs, hackathons, coding clubs, or robotics teams.

Take trips to museums, planetariums, or nature reserves to make science tangible. Enrolling daughters in STEM-related extracurricular activities, such as coding clubs, science camps, and robotics competitions, can provide hands-on experience and boost their confidence.

Allow girls go their natural path

Ms Teddy Nalubega who holds a PhD in Public Management and Governance with focus on AI and Emerging Technologies, explains: "Sciences were natural for me. I grew up doing them very well and no one told me they were hard or they were for boys only. So I naturally gravitated to them and ended up in engineering."

As a parent you can encourage your girl children to take the science path if their brains can allow them.

Dr Beliza Chemutai of Lung Institute Mulago Hospital, says, "my parents encouraged me to do whatever I wanted. I had always wanted to be a medical doctor even when I did the arts well too. So, I chose sciences and the rest is history."

Challenge gender stereotypes

Parents should avoid gender stereotyping with comments such as "science is for boys" or "math is too hard" on their daughters.

Instead they should promote equal household expectations—show that both boys and girls can fix things, build, or calculate.

Ms Claudine Mukashyaka, a Ugandan immunologist and PhD student of Medical Sciences at the University of Antwerp in Belgium, explains, "I used to hear such negative comments about girls."

That beautiful girls were not intelligent... that girls were not meant for sciences... and that negative vibe alone motivated me to venture out to prove the world wrong.

Besides, I had grown up in a family of mostly boys and I had seen firsthand that what they could do I could also do. I thus chose the sciences and I am glad I did."

NOTE

The International Day of Women and Girls in Science, celebrated every year on February 11, highlights the critical role women and girls play in science, technology, engineering, and mathematics (STEM), while calling for stronger action to close the gender gap in research and innovation.

Integrate science into daily life

Ms Christine Matama, a public health specialist and parent, advises fellow parents, "Cook together while explaining chemical reactions of how food changes after cooking, garden while discussing biology and ecosystems, use everyday problems (such as water filtration or electricity use) as mini science lessons."

Our environment provides a lot of science lessons for children to learn from. I do this with my children and it has been easy to pass on lessons to them without sounding like you are a teacher in a formal classroom."

Support education pathways

Advocate for strong math and science programmes at school. Help your daughters apply for scholarships, internships, and STEM camps. Encourage advanced coursework even if it seems challenging.

Yes, these can be academic pathways but they can also offer strategic routes to employment, creativity and innovation, and long-term socioeconomic mobility thereby equipping young girls and women with essential 20th century skills needed to thrive in a rapidly evolving global environment.