A bold pilot, interdisciplinary program built especially for girls ages 13-16.

In a first-of-its-kind collaboration, the World Science Foundation (WSF), National Girls Collaborative Project (NGCP), and The Hello Studios jointly piloted a high-quality STEM-centered program for Girls.

**Purpose**

A combination of COVID-19, the summer slide, and lack of equity across the science field for females created an urgent need to fill the vacuum of programs, which could not be held in person.

**BRITE Core Goals**

- fostering STEM agency: decision-making about STEM
- fostering STEM identity: a belief in self, image, and ability
- engagement in collaborative learning
- building a community of girl learners and a support network among them
- sparking curiosity and creativity

**Evaluation Methodology**

Tracking changes in self-esteem by Brite girls’ responses for the degree by which they agree with varying statements about themselves and science.

Analysis of weekly questions embedded into the World Science U platform as 'Exercise' modules.

Coding of posts and discussion comments (trending topics and sentiments) on the World Science U and FlipGrid platforms.

Analysis of program lead / educator responses to the post-Brite survey.
**BRITE Girl Weekly Participation and Completion**

Across the three weeks, Brite girls engaged the most in FlipGrid activities and discussion prompts in Week 2, Danger.

- 57% of the Brite girls who logged in at the beginning of each week completed all weekly activities.
- 32 individual girls completed all three weeks and were marked as 100% in the World Science U platform.
- Week 3, Mind Matters, had the lowest participation and completion levels.

*The recorded number of Zoom attendees noted in this report include Brite girls, program leads, and Brite admin team members for 3 assemblies each week. The totals do not reflect the girls involved in Brite activities offline or who did not log into the World Science U platform.*

**Graph Depicts the Number of Girls Participating in Each Program Element Each Week**

- **# of Unique FlipGrid Posts each Week**: 418 (Week 1), 361 (Week 2), 273 (Week 3)
- **# of Recorded Zoom Attendees at Brite Assemblies each Week**: 232 (Week 1), 172 (Week 2), 144 (Week 3)
- **# of Unique Discussion Posts on the World Science U Platform each Week**: 154 (Week 1), 104 (Week 2), 91 (Week 3)
- **# of Girls Logged in the Beginning of the Week**: 63 (Week 1), 59 (Week 2), 35 (Week 3)
- **# of Girls Completing 100% of the Week’s Activities**: 79 (Week 1), 59 (Week 2), 35 (Week 3)
Brite girls rated how "cool" science, technology, engineering, and math was to them at the beginning and end of Brite. Here is what they said.

- All of the girls who submitted feedback on the Friday of Week 3 (29 girls) reported liking STEM!
- By the end of Brite, there was a 77% decrease in the number of Brite girls reporting feeling unsure about liking STEM subjects.
- There was a 14% increase in the number of girls who love or like most things about STEM by the end of the program.

The figures in this chart reflect responses from 128 girls at the beginning of Brite and 29 at the conclusion of week 3.

When asked to upload an emoji that best captured the way they felt at the end of each week, Brite girls shared the following.*

- 9% of the emoji submitted included one of each of the following:

  - Grinning Face
  - Smiling Face
  - Thumbs Up
  - Partying Face
  - Thoughtful Face
  - Smiling Face with Hearts

58 emoji were uploaded over the three weeks.

* this question was not required
Brite Goal Achievement Findings
88% of open-ended responses to weekly feedback questions were positive!

GOALS 1 and 2: Fostering STEM agency and STEM identity.

Brite girls referenced their STEM identity and belief in themselves in 77% of the weekly responses to feedback question.

Of the comments referencing increases in their sense of STEM agency (decision-making about STEM):
- 56% focused on their increased awareness of choices available to them for pursuing STEM interests and career,
- 37% focused on heightened interests in using STEM to problem solving, and
- 7% noted myriad opportunities that STEM offers in identifying pros and cons and analyzing situations.

Of the comments referencing increases in their sense of STEM identity (belief in self, image, and ability in STEM):
- 61% identified at least one characteristic and individual interest in the theme of the week or a specific activity topic,
- 25% described feeling recognized and validated regarding their STEM interests, and
- 14% reflected on finding others with similar interests.

Select Brite girl comments:
- "Your own instincts are more valuable than your peers [sic] who may doubt you."
- "[I] am leaning [sic] to be open minded and learn about new things everyday."
- "we learned that we can make mistakes, be weird, and unique and that is all good!"

Most significant Changes in Pre- / Post Self-Esteem Test for Full Brite Girl Cohort

<table>
<thead>
<tr>
<th>Prompt</th>
<th>Pre-test and post-test response totals</th>
<th>Aggregated percent for full cohort</th>
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<th>Aggregated percent for full cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel I am good at science.</td>
<td>From 8% Strongly Agree (Pre-Test) to 50% (Post-Test)</td>
<td>535% Increase in agreement</td>
<td>Overall, I am satisfied with my skills in science.</td>
<td>From 26% Strongly Agree (Pre-Test) to 39% (Post-Test)</td>
<td>50% Increase in agreement</td>
</tr>
<tr>
<td>At times I think I am not good at science.</td>
<td>From 9% Strongly Agree (Pre-Test) to 0% (Post-Test)</td>
<td>Total Decrease in agreement</td>
<td>I am often not proud of my performance in science activities.</td>
<td>From 14% Strongly Disagree (Pre-Test) to 33% (Post-Test)</td>
<td>135% Increase in disagreement</td>
</tr>
</tbody>
</table>
GOAL 3: Engagement in Collaborative Learning.

25% of the weekly feedback responses shared by Brite girls referenced the collaborative experience of the program (in addition to the number of FlipGrid posts and views, unique discussion posts to daily prompts, and activity completion rates (see page 1)).

Select Brite girl comments:

- "Brite fest was fun and it was good to hear about everyone’s projects."
- "...we can directly see who other girls are and see their process and thoughts [of the topic or activity]."
- "I liked the whole thing and I really liked getting to see how everyone interpreted the risk and reward project."
- "I really appreciate how interactive BriteFest is!"

GOAL 4: Building a community of girl learners and a support network among them.

Brite girls specifically referenced excitement for interacting with others with like interests and supporting one another in 14% of responses to feedback questions.

- "Building community among the girls" was most frequently referenced by program leads and educators as the most fun element of the Brite program.
- Program leads and educators reported that it was fun to see the girls work and share with, and support, each other.

Select Brite girl comments:

- "My favorite part of britefest was seeing al [sic] the girls projects and answering Amanda’s questions."
- "Being able to interact with people who have made achievements and worked hard."
- "Meeting everybody and making new friends and connections all connected to STEAM is inspiring!"
GOAL 5: Sparking curiosity and creativity.

35% of the weekly responses submitted by Brite girls referenced increased curiosity about STEM, lessons learned during the week, interesting surprises, and how creativity is a key element in science.

Select Brite girl comments:

- "Art and science play a big role in my life, as I know science is everywhere, but art makes it [more understandable] I can use it to express my creativity."
- "I enjoyed seeing the other girls’ creativity."
- "Amy Sterling taught me that when something seems impossible, it just might take a little creativity to get it done."
- "[I] learned that its more common than [I] thought it was to be a storm chaser."
- "I think the next thing scientists should focus on is seeing the signs of mental illnesses earlier in life."
- "I think scientists should focus on why we have dreams. We still don’t know why we experience dreams."
- "We should focus on how are [sic] brain work [sic] when we are in a subconscious state."

When asked what was most memorable from the Brite weeks and what they are still thinking about, Brite girls responded:

<table>
<thead>
<tr>
<th>Speakers and Presentations</th>
<th>56%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly Theme</td>
<td>24%</td>
</tr>
<tr>
<td>Specific Activities</td>
<td>20%</td>
</tr>
</tbody>
</table>

After the Brite weeks, the girls still thought about:

- earth and marine sciences
- combining art and science
- sharks
- photography
- combining music and science
- combining fashion and science
- medicine and chemistry
- coding
- archaeology
- space science

Topics listed above in descending order of mentions in weekly feedback.