Welcome to the National Girls Collaborative Project
National Webinar
Design Squad Global: Engaging Kids in Hands-on Engineering
March 2, 2017
Agenda

• NGCP Vision and Goals
• Design Squad Global Introduction
• Starting a Design Squad Global Club
• Support for your Design Squad Global Club
• Questions
• Closing
NGCP Vision

The National Girls Collaborative Project (NGCP) brings together organizations that are committed to informing and encouraging girls to pursue careers in science, technology, engineering, and mathematics (STEM).
NGCP Goals

1. **Maximize access** to shared resources within organizations interested in engaging girls in STEM.

2. **Strengthen the capacity** of programs by sharing exemplary practice research and program models.

3. **Use the leverage of a network** to achieve gender equity in STEM.
National Network of Collaborative Teams
Speaker

Saranya Sathananthan,
Outreach Project Director at WGBH
DESIGN SQUAD GLOBAL CLUBS

DESIGN SQUAD Global

AN ENGINEERING AND INVENTION CLUB
AGENDA

- What are DSG clubs?
- Making the global connection with hands-on engineering
- How does the program work?
- What are the key resources available to clubs?
- Impact stories and outcomes
- How to participate and get involved
- Q&A
HANDS-ON ACTIVITIES

HELPING HAND

YOUR CHALLENGE:
Design and build a device with a long handle that can grab an object that’s hard to reach.
HANDS-ON ACTIVITIES

EMERGENCY SHELTER

YOUR CHALLENGE
Design and build an emergency shelter that’s sturdy and big enough to hold a person.
DEFINE A NEED

Keep your eyes open for an issue in your community that needs improvement. What problems do you see that engineering could help solve?

Community Issues
How can we as young engineers and inventors in our community help . . .

... people to stay healthy?
... people to stay safe?
... to improve our school?
... to protect the environment?
... to make older people's lives better?
... to make children's lives better?
PARTNER PROJECTS

**Med Magic** – fun pill reminder for kids

**Mirror Glasses** – allows teacher to see the class while writing on the board

**Caralight** – remote controlled light on wheels for power outages
THE BASICS OF RUNNING A CLUB

- **Program Length:** Choose between a 6-week or 12-week program
- **Session Length:** Weekly 60-minute sessions
- **Ages:** 10-13
- **Size of Club:** 9-12 members is ideal
- **Attendance:** Regular attendance required
- **Languages:** Basic English proficiency for leaders and participants
- **Technical Requirements:** Reliable Internet access and a device for taking photos and/or videos
- **Supplies:** Inexpensive materials for hands-on engineering activities
- **Partner Club Matches:** Sign up to run a club and be paired with a partner club from another country. Run your clubs during the same time period – doing the same session during each week. Then share your experiences with each other through “partner exchanges” – emails, documents, scans, photos, and videos.
DSG CLUBS

6-WEEK CLUB

Four Engineering and Invention Activities
Introduce kids to engineering, invention, and the design process.

Three Partner Exchanges
Partner clubs share information about themselves, their countries, and their engineering activities.

Final Party!
Each partner club celebrates the last session with a party and watches videos or looks at photos of their partner club’s engineering projects.

12-WEEK CLUB

PART 1
Four Engineering and Invention Activities
Introduce kids to engineering, invention, and the design process (sessions 1–5).

PART 2
Partner Project
In teams, kids create their own original engineering projects (sessions 6–12). Partner clubs collaborate by sharing design ideas and giving each other feedback.

Six Partner Exchanges
Partner clubs share information about themselves, their countries, and their engineering activities.

Final Party!
Each partner club celebrates the last session with a party and watches videos or looks at photos of their partner club’s engineering projects.
CLUB GUIDE

DESIGN squad. CLUB
SIX-WEEK GUIDE

Celebrate engineering, cross-cultural understanding, and having fun!

DESIGN squad. CLUB
TWELVE-WEEK GUIDE

Celebrate engineering, cross-cultural understanding, and having fun!
CLUB GUIDE

DESIGN SQUAD GLOBAL

AN ENGINEERING AND INVENTION CLUB

WANT TO HAVE FUN?
Design, invent, and build things!
Be part of a weekly club!
Get to know kids from another country!

DATES: __________________

TIME & LOCATION: __________________

AGES: __________________

CONTACT: __________________

JOIN THE CLUB!

MEMBERSHIP CARDS
To make membership cards, photocopy this page (in color, if possible). Then cut out the cards and fold them in half on the dotted line. Punch out the hole and attach a string so kids can wear their cards during club meetings.

At the end of each meeting, give each kid a sticker to put on the grid on the back of the card. If you don’t have stickers, you can use a pen or pencil to put a check mark in the grid. Membership cards can get lost easily. Pick a place where kids can find them at the start of each session and return them when it’s over.
SESSION 3: HELPING HAND (60 min.)

OVERVIEW
1. PARTNER CLUB INTRODUCTIONS: SHARE (15 min.)
Find out what your partner club sent you about themselves!
2. HELPING HAND CHALLENGE (45 min.)
Design a device that can grab something hard to reach.

AFTER THE SESSION:
PARTNER CLUB Q&A (SEND)
Email your partner club with answers to their questions from the Partner Club Introductions.

SESSION GOALS
ENGINEERING
Kids explore how a lever functions and learn to identify its parts. As kids become familiar with the design process, they discover the importance of testing, evaluating, and redesigning.

GLOBAL COMPETENCY
Through the Partner Club Introductions, kids learn about their partner’s country, community, schools, hobbies, and interests. They discover what they have in common with their partner and in what ways they are different. The exchange may even dispel some cultural misconceptions and stereotypes.

BONUS ACTIVITY 1: SEISMIC SHAKE-UP (60 min.)

OVERVIEW
1. SEISMIC SHAKE-UP CHALLENGE (60 min.)
Design a structure that can withstand an earthquake.

SESSION GOALS
ENGINEERING
Kids see engineering and invention in a real-world context by examining why earthquake-resistant structures are important. Kids discover which architectural shapes (triangles, squares, etc.) make the strongest building blocks and learn the importance of a stable, solid foundation. They strengthen their understanding of the design process by focusing on the importance of testing.

GLOBAL COMPETENCY
Kids see engineering and invention in a real-world context by examining why emergency shelters are needed in different places around the world.
Welcome

Congratulations on running a DSG Club!

Taking the DSG Club Leader Training will give you the confidence you need to lead your club.

Let’s get started!
The DSG Club Leader Training has two parts.

Part 1: Gives you a strong foundation in the educational values at the heart of DSG, the key to successfully leading your DSG club.

Part 2: Leads you step-by-step through the process of setting up your DSG club.

Part 1: Building a Foundation

1. Leading a DSG club
2. Talking to kids about engineering and invention
3. Reinforcing the design process
4. Developing kids' global competency
5. Working with your partner club leader

Part 2: Steps to Set-up a Club

1. Familiarize yourself with the DSG Club Guide
2. Start recruiting kids
3. Contact your partner club leader
4. Talk to your partner club leader
5. Confirm club dates
6. Gather materials
7. Lead your club!
There are two ways to access the Club Guide. Click on this Table of Contents to view and print out individual 6-Week Club Guide sessions and accompanying materials. Or, you can choose to download the complete 6-Week DSG Club Guide (92 pages) and the Welcome to DSG! video. (You'll show kids the video in the first session.)

6-Week DSG Club Guide (PDF)
This complete Design Squad Global Six-Week Club Guide is a 92-page, downloadable PDF document.

Welcome to DSG! (video)
Show this video to your kids during the first session of your DSG club.
“We shared interests, answered cultural questions, and taught each other greetings in other languages. The kids on both ends were ecstatic. My kids were very surprised that they were more similar than different. Kids in South Africa also wore Nikes, watched Empire, and Nickelodeon.”

Michelle Reason, DSG Club Leader – Averne, New York
Researchers found that DSG had a significant, measurable impact on:

- students’ understanding of engineering and how engineering can make a positive difference in the world;
- their motivation for participating in engineering activities;
- their interest in people and places around the globe; and
- their confidence that they can solve problems and create change.

*These changes were statistically significant at the 90% confidence level.

Researchers also found that, as a result of the program, DSG educators increased their comfort leading engineering activities and collaborating with educators from other countries. (Smiley, 2016)
DSG CLUBS ACROSS THE GLOBE

225 clubs from 18 countries reaching 2,750 kids since Fall 2016
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<tr>
<th>REGISTRATION DEADLINES</th>
<th>CLUB DATES</th>
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<tbody>
<tr>
<td>15 Feb. 2017</td>
<td>15 March – 30 June 2017</td>
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<tr>
<td>1 April 2017</td>
<td>1 May – 15 Aug. 2017</td>
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<td>1 May 2017</td>
<td>June 1 – 30 Aug. 2017</td>
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*6-week club only; all other dates for 6- or 12-week clubs
REGISTRATION

http://www.pbskids.org/designsquad/global/

**DSG Club Sign-Up!**

We are so glad that you have decided to lead a DSG club!

An important part of the DSG experience is partnering with another DSG club from a different country. Please answer the questions in this short form to help us match you with a partner club and get you on your way towards running your own DSG Club.

- I want to be matched with a partner club.
- I already have a partner club I plan to work with.

Never submit passwords through Google Forms.
THANK YOU!

pbskids.org/designsquad/global

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MAJOR FUNDING

PROJECT FUNDING

Design Squad Global is produced by WGBH

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Funds Available!

• Benefits
  – Accepting requests up to $1,000 to support implementation of your DSG Club

• Expectations
  – Must complete application by deadline according to Club dates
  – Must be registered in The Connectory
  – Funds can only be used for promotion and implementation of the DSG Club
Funds Available!

Application can be found here: https://goo.gl/forms/2xcOub966LoxbEv83

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<th>Club Dates</th>
<th>Application for Funding Deadline</th>
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<tbody>
<tr>
<td>15 March – 30 June 2017</td>
<td>February 24, 2017</td>
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<tr>
<td>1 June – 30 Aug. 2017</td>
<td>May 1, 2017</td>
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Get Involved with NGCP

• Follow us on social media, @NGCProject
• Attend local events and national webinars
• Join your local Collaborative leadership
• Collaborate to serve more girls in STEM