

Welcome!

NGCP National Webinar: The Genius of Play and STEAM

Please respond to the poll on your screen



National Girls
Collaborative Project



A young girl with freckles is looking intently at a green lollipop. She is in a classroom setting, with a yellow balloon and a window visible in the background. The image is used as a background for a promotional banner.

NGCP

20 YEARS TRANSFORMING STEM

The Genius of Play and STEAM

November 8th, 2022

NGCP Vision

The vision of the National Girls Collaborative Project is to **support and create STEM experiences that are as diverse as the world we live in.**



Our Goals

Connect + Create + Collaborate

1

Build and sustain a network of advocates to provide equitable and inclusive STEM opportunities.

2

Catalyze equity in STEM from research to practice by providing actionable knowledge that transforms the STEM experience.

3

Increase our collective impact by strengthening organizational effectiveness and enhancing our fiscal sustainability.



NGCP Activities

- Network Partnerships
- IF/THEN Collection
- FabFems
- Youth Advisory Board
- State Leadership Teams



National Webinars

- Offered monthly on topics to help our networks grow and thrive
- Speakers include educators, researchers, authors, and diverse STEM professionals
- Sign up: <https://www.ngcproject.org/events-announcements>

"I have gotten more out of this than the dozens of other presentations I have attended this summer."

"I found this useful and enjoyable."

"I really like all the resources placed in the chat that I can go and flip through to find what is most helpful to my organization"



NGCP Newsletter

- National in-person and online events
- STEM resources for engaging girls and youth, professional development opportunities for educators, and opportunities for youth
- Research and reports related to STEM and equity, informal STEM education and learning
- NGCP updates and events, including webinars, knowledge products, and tools



Speakers



Anna Yudina

The Toy Association



Dr. Amanda Gummer

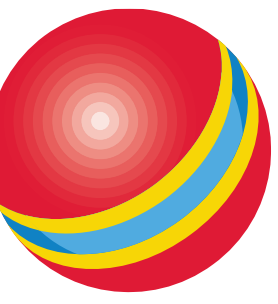
Dr. Gummer's Good Play Guide



Tyler Kearns

Clayton Kid Zone

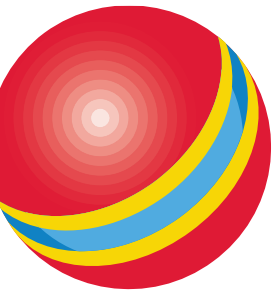




the GENIUS *of*
PLAY™
• • • • •
It's more than play!

The Toy Association's initiative to educate consumers on the benefits of play and provide families with play ideas and inspiration

The Six Benefits of Play

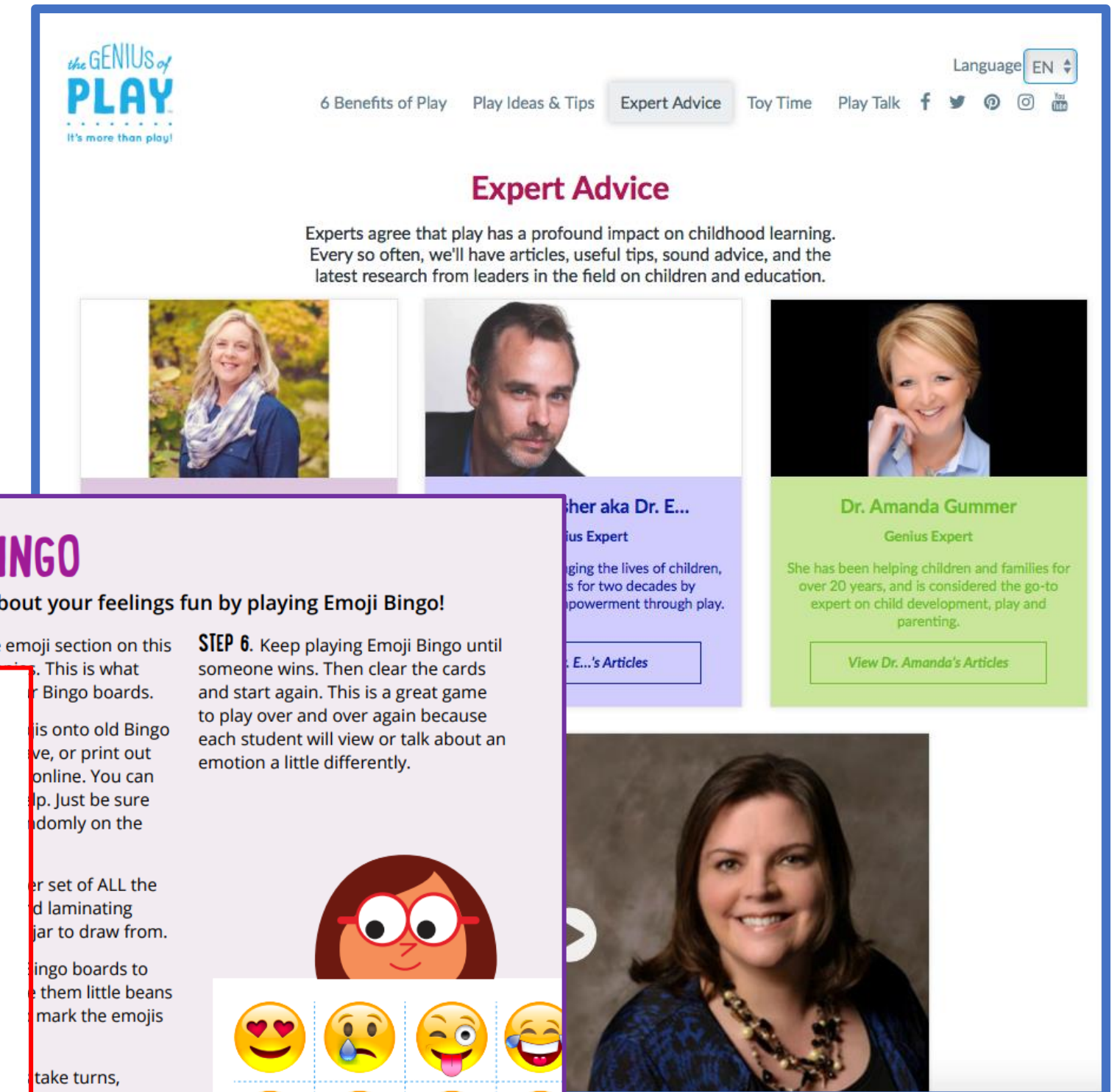


<p>DEVELOP PHYSICAL SKILLS</p> 	<p>INCREASE CREATIVITY</p> 
<p>HONE COMMUNICATION SKILLS</p> 	<p>ENHANCE SOCIAL SKILLS</p> 
<p>IMPROVE COGNITIVE ABILITIES</p> 	<p>PROCESS & EXPRESS EMOTIONS</p> 

Resources for Families & Educators



- Play Ideas & Activities
- Research & Expert Advice
- "Once Upon a Playtime" podcast
- ... and more!



EMOJI BINGO

Make talking about your feelings fun by playing Emoji Bingo!

STEP 1. Cut out the emoji section on this page and place it on your Bingo boards. This is what your Bingo boards will look like. You can print out the boards online. You can also use old Bingo boards. Just be sure to mark the emojis on the boards to draw from.

STEP 6. Keep playing Emoji Bingo until someone wins. Then clear the cards and start again. This is a great game to play over and over again because each student will view or talk about an emotion a little differently.

ACTIVITY #4:
Benefit: Process & Express Emotions
Focus Skills: Social-Emotional Learning

NATURE SCIENCE SCAVENGER HUNT

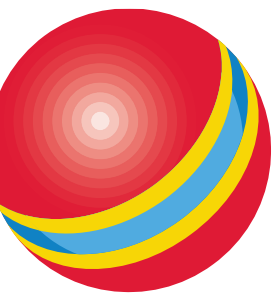
Kids love scavenger hunts. This one comes with a couple of twists because it gets students to focus on nature and the outdoors while also incorporating some yoga!

Here's how it works. Divide your class into groups, and then give them the list below. Upon discovery of each item, invite kids to take a picture of the item using a camera or iPad. Then they should also attempt to do a related yoga pose. For example, what would a spider yoga pose look like? A daisy? Once your students are back in the classroom, they should review their photos. Try to have them identify the items they discover, and discuss how they tie back to your natural sciences unit. Invite students to share the yoga poses they invented, too!

- Discover a bug
- Find a flower
- Find 3 different types of leaves
- Look for a sign of an animal (tracks, markings, hair, etc.)
- Find two different cloud types
- Collect two different types of rock
- Find a sign of a bird (nest, feather, etc.)

ACTIVITY #5
Benefit: Develop Physical Skills
Focus Skills: Observation, Natural Science, Recording

Discover & follow:
www.thegeniusofplay.org
[@geniusofplay](https://www.instagram.com/geniusofplay)



STEAM & Play: What Parents Say

9
out of
10

said it's important to
foster & encourage
the development of
**STEM/STEAM
skills**
in their kids



76%

want their child to end up in a
STEM-related
career or field. Top jobs: engineer,
doctor, web developer, or scientist

5 1/2

the ideal age
to get kids started
on their future
career path

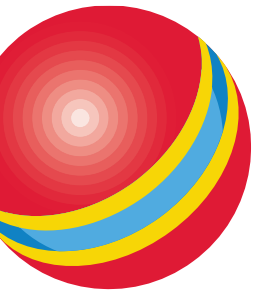


82%

look for ways to
encourage their
child's learning
through play



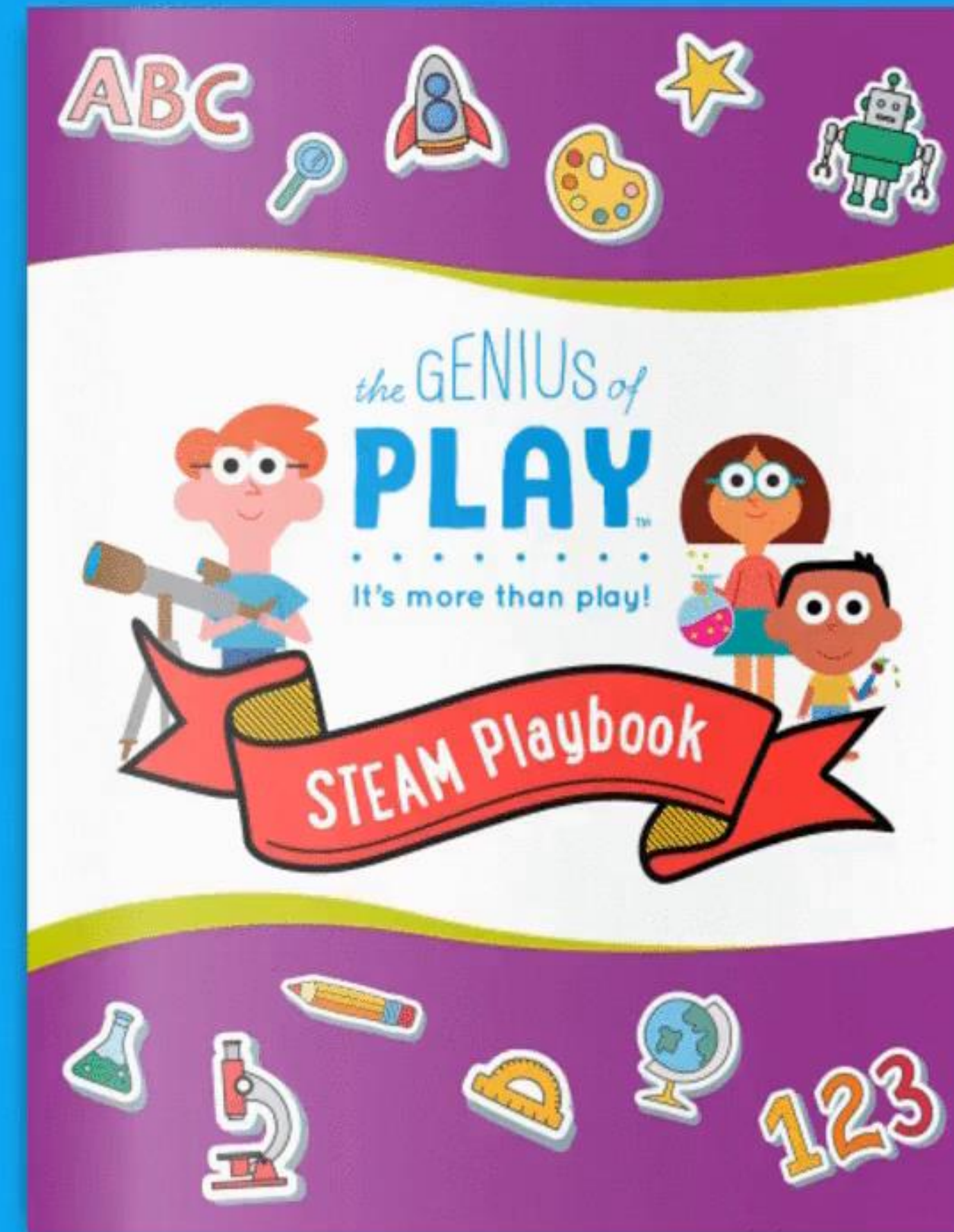
Source: survey of 2,000 parents, conducted by OnePoll on behalf of The Toy Association



Introducing: STEAM Playbook

- Play ideas for every letter in S-T-E-M, with Arts woven in throughout
- Ready-to-use coloring, connect the dots, and word search activities
- View on any device or download and print!

Available now at
www.thegeniusofplay.org



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The Toy Association's STEAM Initiative

1 Clarify the meaning of the terms



DECODING STEM/STEAM
THE TOY ASSOCIATION STEM/STEAM
STRATEGIC LEADERSHIP COMMITTEE REPORT



2 Define STEAM toy characteristics



**STEM/STEAM
FORMULA FOR SUCCESS**



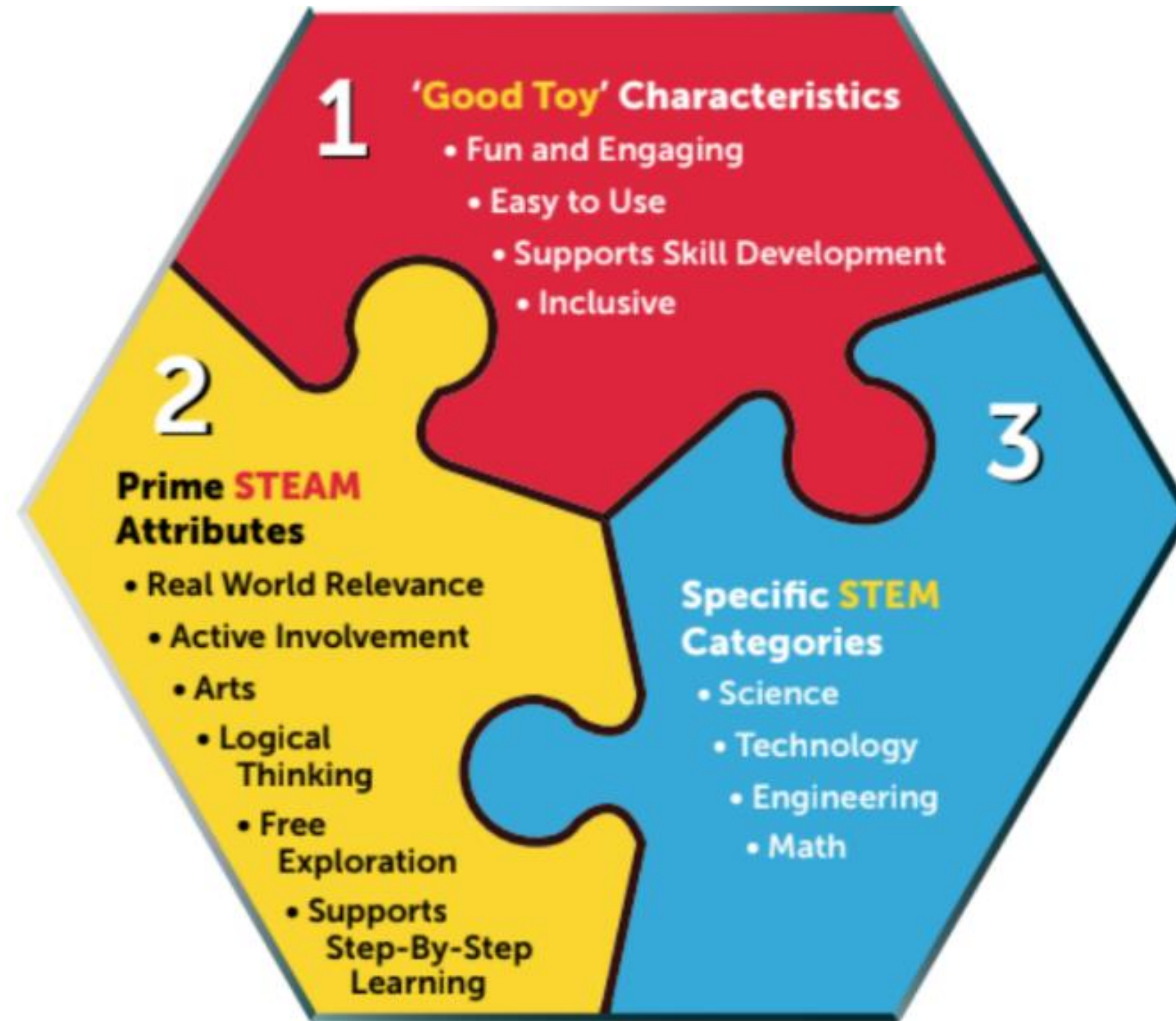
3 Develop specific assessment criteria



Science, Technology, Engineering, Arts & Mathematics
**Toy Assessment
Framework**







STEAM: TOY ASSESSMENT FRAMEWORK MODEL



CHARACTERISTICS OF A GOOD TOY

The toy is fun to play with, is accessible and inclusive, and has good play value.

RATING CRITERIA

Characteristic	Poor	Good	Excellent
Fun and Engaging 	Most children of the target age get bored quickly and are reluctant to play with the toy more than once.	Many children of the target age enjoy playing with the toy, and some for prolonged periods of time. It is not a favorite but still provides engagement and entertainment.	Many children of the target age enjoy playing with the toy, some for prolonged periods of time. Some children remain keen to play regularly and it may be very engaging for specific groups of children.
Easy to Use 	Children of the target age are unable to use the toy without a third party (e.g. an adult does everything for them).	Children of the target age will be able to use the toy with third party support (e.g. play is largely guided by an adult).	Children of the target age will be able to use the toy to its full capacity with minimal third-party help (e.g. an adult offers some guidance when needed).
Supports Skill Development 	There are no obvious age-appropriate skills developed by using the toy.	The toy has substantial benefit to a child's development in at least one age-appropriate skill area.	The toy actively encourages age-appropriate development across three or more skills (e.g. cognitive, language, or creative skills) or is particularly good at developing one or more core skills (e.g. literacy or numeracy).
Inclusive 	Is specifically marketed as a 'girl's toy' or a 'boy's toy'.	Can be engaging and relevant for all children, regardless of individual differences such as gender.	The toy is designed to be accessible for children with additional needs and disabilities where appropriate (e.g. written instructions are dyslexia friendly). It can be engaging and relevant for all children, regardless of individual differences such as gender.

- Fun to play with
- Easy to use
- Supports skill development
- Accessible for all



PRIME STEAM ATTRIBUTES

- Has real world applications
- Hands-on
- Creative
- Logical
- Encourages curiosity
- Promotes progression

The toy affords all six attributes that should underlie a STEAM toy.

RATING CRITERIA			
Characteristic	Poor	Good	Excellent
Real World Relevance 	Has no relevance to the real world and no opportunity to practice applying knowledge.	Allows hands-on observation and use, for example: seeing real working mechanics, using measurements, or using scientific tools. Relevance to the real world isn't clear, for example: a puzzle game.	Has clear relevance and application to the real world. Allows hands-on observation and use, for example: seeing real working mechanics, using measurements, or using scientific tools.
Active Involvement 	Children cannot be actively involved in the learning experience through observation or hands-on play.	Allows children to be actively involved in the learning experience, but a large amount of support from an adult is required to do so.	Allows children to be actively and independently involved in the learning experience. They can look at and physically manipulate materials to further their understanding and/or solve problems.
Arts 	Has no opportunities for creativity or self-expression through the arts.	Gives children some opportunities to be creative and/or express themselves through arts such as design, dance, music, drama, history or language, but this is limited.	Actively encourages children to be creative and/or express themselves through arts such as design, dance, music, drama, history or language.
Logical Thinking 	There is no need to use logical thinking when playing with the toy, for example: there are no opportunities to problem solve, no exploration or use of logic principles such as cause and effect.	Promotes learning through trial and error and/or investigative learning. Encourages children to explore logical concepts, such as cause and effect.	Allows children to identify and apply solutions to problems independently. Promotes learning through trial and error and/or investigative learning. Encourages children to explore logic principles, such as cause and effect.
Free Exploration 	Children do not have opportunities to experiment with materials. They are unable to explore and find answers to their own questions.	Opportunities to explore and experiment are available but limited. For example: children are only able to carry out a science experiment once, or children must follow set instructions with no room for innovation.	Gives children the freedom to explore their own ideas, such as exploring their own hypotheses through science experiments, or designing their own code to see what it does. Creativity and curiosity are encouraged with opportunities for open-ended play.
Supports Step-By-Step Learning 	Has limited learning opportunities. Is either too simple for the target age, thereby not helping them to grow their skills; or is too complex for the target age and tries to develop skills that are not yet achievable.	Allows children to continually extend and apply their knowledge through open-ended play, reinforcing learning within their comfort zone. Included activities offer different levels of challenge, gradually increasing in difficulty, to help children grow their confidence.	Includes additional guidance for adults to help them support the child's learning to extend their knowledge past their comfort zone. Allows children to continually extend and apply their knowledge through open-ended play. Included activities offer different levels of challenge, gradually increasing in difficulty, to help children grow their confidence.



STEAM TOY EXAMPLE: 18 MONTHS TO 2 YEARS



OUR REVIEW OF

WEPLAY SAND AND WATER CLAM

£230.25

This ocean-themed sand and water table with a specially designed lid and the accessories brought sand and water play to a new level!

Fun: 5

Skill Development: 5

Ease of Use: 4

Age: 18 months+

[READ OUR EXPERT REVIEWS →](#)

[ADD TO WISHLIST](#)

WHAT OUR EXPERTS THINK

“The children found the Weplay Sand and Water Clam very appealing and were very excited to play with them. Adults might need to provide assistance to their children to help set up the table. The children particularly enjoyed playing it with their friends and caregivers.

Children also got to engage in creative, open-ended, experimental play while using the Weplay Sand and Water Clam set. The set supports physical and perceptual skills, as well as thinking, language, and creativity”.



STEAM TOYS: 6 TO 8 YEARS



OUR REVIEW OF COUNTALOUBE

£9.99

Countaloupe is the sweet slice and dice game of risk and reward!

Fun: ⑦

Skill Development: ⑦

Ease of Use: ⑦

Age: 7+ years

[READ OUR EXPERT REVIEWS →](#)

[ADD TO WISHLIST](#)

WHAT OUR EXPERTS THINK

“Countaloupe is an innovative game that challenges numeracy skills, strategic thinking and perseverance. It provides a fun way to practice fast-paced, mental addition as children work out which slices they can remove. Although it was handy to have an adult explain the instructions and demonstrate the game first, once they understood the rules, children were very engaged in play”.



STEAM TOYS: 9+ YEARS



OUR REVIEW OF

CIRCUIT BLOX BYO GLOWING LED FM RADIO STUDENT SET

£99.99

Build your own working electronics with these electronic, construction blocks.

Fun:
Skill Development:
Ease of Use:
Age: 8+ years

[READ OUR EXPERT REVIEWS](#)

WHAT OUR EXPERTS THINK

“Circuit Blox allow children to experiment with the science of circuits and provide a huge amount of project ideas for children to follow and build their own working electronics. As well as completing the projects provided, the set offers open-ended play – the children explored whether they could attach other building blocks to the circuit ones, which is a fantastic way to foster creative problem-solving”.



What do you think of when you hear STEAM Education?



STEAM Learning is....

- Asking purposeful questions
- Open ended play
- Problem solving
- Making mistakes
- 21 century skill building
 - Creative
 - Collaborative
 - Critical thinking
 - Communication

For a list of The Toy Association's STEAM Accredited Toys, be sure check out thegeniusofplay.org/STEAM



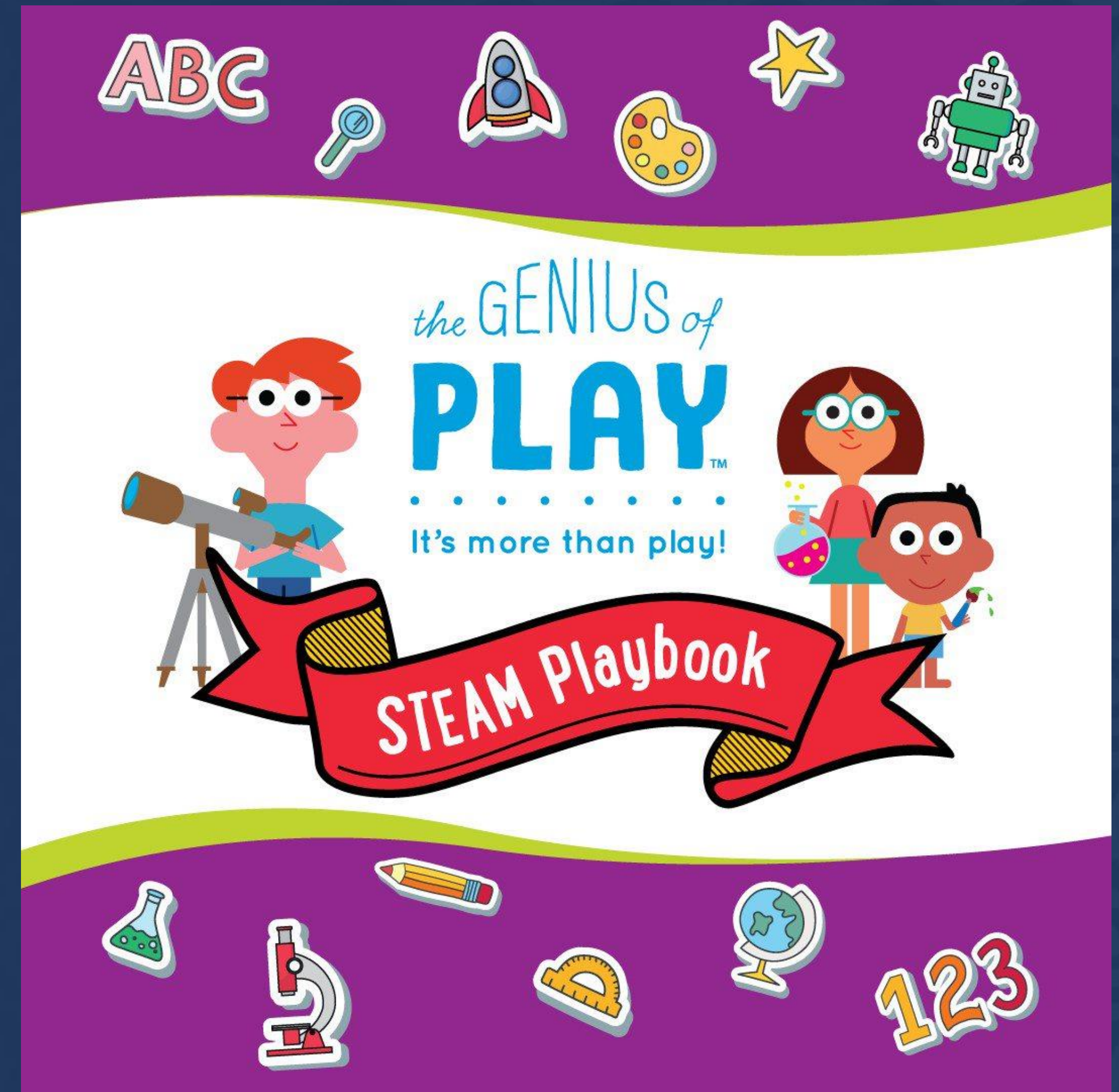
Q & A

We'll take questions from the chat and from people using the 'hand raise' function.

Call to Action

In the chat...

Share one activity you will try, resource you will explore, or approach you will put into practice after this webinar!



Upcoming NGCP Events

- **GSAWN Exemplary Practices & Celebration of National STEAM Day** – Tuesday November 8th, 2022 at 11am Pacific / 2pm Eastern
- **Enjoy Computer Science Education Week with Microsoft Makecode** – Tuesday December 6th, 2022 at 11am Pacific / 2pm Eastern
- **NGCP Holiday Sweater Networking** – Tuesday December 13th, 2022 at 10am Pacific / 1pm Eastern





20 YEARS OF TRANSFORMING STEM

Learn more at ngcproject.org

Webinar Questions? Contact: asullivan@ngcproject.org

