

Spark & Create

A guide to co-designing with younger students

December 2024

 **Optimistic Design**



Who Is This Toolkit For?

Designing with young students takes intentionality. This toolkit is specifically researched and designed for product teams building education technology products with an emphasis on math. However, the toolkit can be applied to any K-12 subject area.

Below are some of the roles that you may have:

- Product owner
- UX Designer
- Researcher
- Entrepreneur

Essentially, you are a team member of a technology product team looking to build innovative products and features that are usable, desirable and intuitive.

Experts who have conducted co-design research with young students*, have told us that some level of experience engaging with young children — be it as a parent, an uncle, an after school educator, or a volunteer mentor — is extremely beneficial. We want to encourage you and your team to go out and seek out these experiences so you have hands-on experience navigating tricky situations like a good human.

Who Are We?

We are Optimistic Design, a small team of researchers, designers, and strategists with experience co-designing with students of all ages. We have led in-person and online co-design sessions, using many different methods, tools, and prompts. Many of us share backgrounds with the students we highlight in this toolkit, and others have experience parenting, auntying, mentoring, and working with this age group of students. We also talked to a variety of experts and partners to ensure that we highlight the assets, joys and needs of the students we elevate in this toolkit.

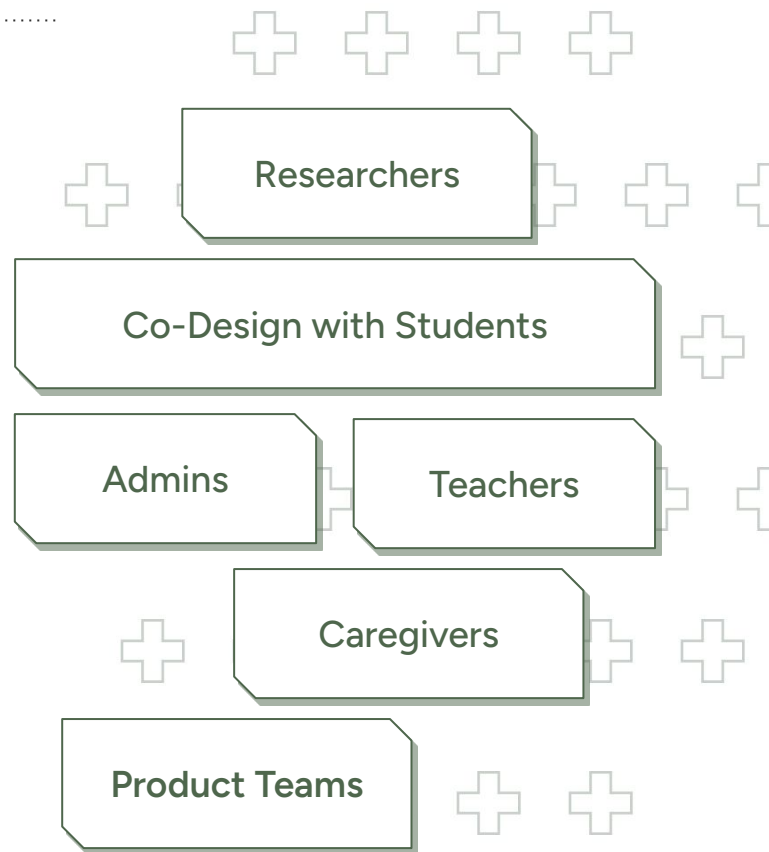
* Experts we consulted with include researchers from Sesame Workshop: Joan Ganz Cooney Center, UW Kids Team, Kahoot!, Character Lab, and Lifelong Kindergarten



How We Designed It

Our team iteratively crafted this toolkit based on feedback from teams like yours. To ensure we started on the right track, we interviewed classroom teachers (with a focus on math teachers), administrators, and caregivers of students in 3rd through 6th grades. We learned about the context of students including the needs that they see of this group and how best to engage students this age. We spent time talking to subject matter experts who focused on engaging, testing, and co-designing with students. Lastly, we worked closely with the KidsTeam at the University of Washington* to design a session where students co-designed how they prefer adults work with them. It wouldn't be a toolkit about co-designing if we didn't co-design it with students!

We hope that you can use this toolkit to help you get started and when you're further along on your co-designing journey, you can use it to help you deepen your practice.



*Kids Team at the University of Washington is where adults partner with children to design new technology for children (kidsteam.ischool.uw.edu)

How to Use It

So you're ready to get started but don't know what to do. Don't worry, you've come to the right place.

If you're looking to understand what co-design is and how to co-design, continue reading this document to help you orient yourself to the practices. You can then pivot to our activity cards to help you identify your design activity for your co-design session.

If you already know what co-design is and want to get started right away, you can jump to our [Spark & Create: A card game for co-designing with young students](#) to help you plan out your session, ensure you're considering the different context of students in the US, and reflect on whether your ideas support their needs.

You can jump back into any section as you see fit. Feel free to use the contents slide to help you navigate this toolkit.

Who Are the Students?

We mentioned that this toolkit is based on the assets, contexts, experiences, and needs of priority students*. This is a pretty diverse group of students.

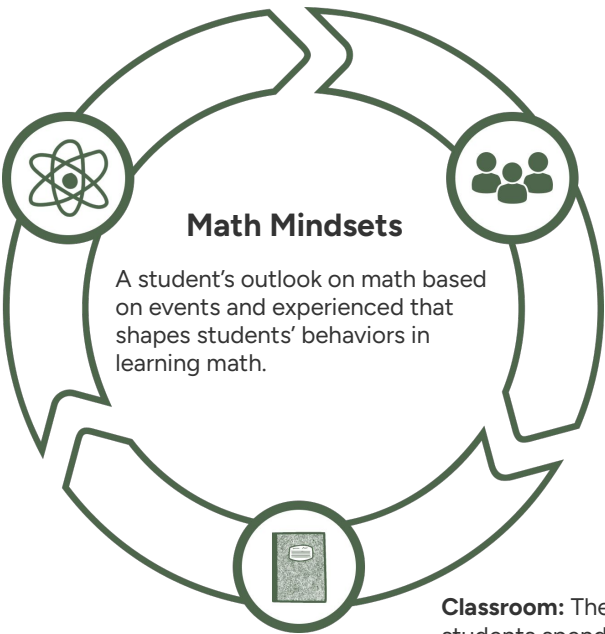
Our focus on math: Much of our research for this work was focused on math learning, so in the next few sections you will notice specific references to math. If you're focused on developing technology that is not math specific, the factors and context we highlight will still be applicable to you. However, you might need to extrapolate whether other factors translate differently to your field of study. Fear not, let's jump right in!

Contextual Factors to Keep in Mind

From our interviews with caregivers, teachers, and school administrators, we identified important contextual factors that affect priority students' math learning:

- **Socio-cultural:** Factors that impact student learning experience but are out of the direct control of students and caregiver.
- **Family:** Family structure and household.
- **Classroom:** The place where students spend the majority of their time learning.
- **Math mindsets:** A student's outlook on math based on events and experienced that shapes students' behaviors in learning math.

Socio-cultural: Factors that impact student learning experience but are out of the direct control of students and caregiver.



Family: Family structure and household.

Classroom: The place where students spend the majority of their time learning.

*Students who are Black, Latine, and those who are impacted by poverty, experience disabilities or are English Language Learners.

Socio-cultural factors

Issues that impact student learning experience but are out of the direct control of students and caregivers fall under socio-cultural factors. The following are the three main socio-cultural factors that we identified:

- **Language Development:** Some students might have proficiency in multiple languages or varying levels of literacy in English, which varies how they make sense of math concepts. Keep in mind how this might affect your product choices.
- **Representation:** Representation has been shown to heavily affect students' confidence¹ in themselves and the learning content they interact with. If a student does not see themselves in the content, they will be less engaged, whether it is continuing with a lesson or participating in your co-design activities.
- **Cultural responsiveness** is another factor that came up often in our research. We know that being culturally responsive within learning products allows a child to feel more seen which can impact their mindset when it comes to math.²

Family

These family structure and household factors provide additional context for the student's learning environment.

- **Busy caregivers:** Parents might engage in their child's academic endeavors, but they may work long hours or have multiple jobs that limit their time. Keep this in mind for both your product and co-design activities.
- **Multigenerational households:** Priority students often live in multi-generational households. For example, they may have a grandparent in their home, an auntie, a cousin, or someone else who is part of their household and may be involved in their learning environment.
- **Chosen family or extended supports:** Beyond immediate family, priority students may have mentors or chosen family. These could be community members to whom they are closely related, whether it's from after-school programs or church groups. These individuals play a key role in students' learning and their environment. You should keep this ecosystem in mind as a product developer.





Classroom

The classroom is where students spend the majority of their time learning.

- **Elementary and middle school teachers' math expertise:** Most teachers teaching grades 3-5 have an Elementary Education degree that allows them to teach across various subjects. Students don't typically have a dedicated math instructor, and teachers may not have expertise in teaching math. Some teachers may struggle while explaining abstract math concepts and the reasoning behind math procedures. This may impact a student's math learning experiences.
- **Learning needs:** Students have different learning needs that include accommodations for visible and invisible disabilities.
- **Working style preferences:** Students may prefer to work on their own, in a group, or a mix of both. We wanted to highlight this because it changes how students use products and the way in which your team might co-design with students.*
- **Teacher support:** Oftentimes elementary-aged teachers are busy, tasked with many things. How a teacher is supported affects their relationship with digital learning products. For example, some schools have a dedicated English Language Learning (ELL) teacher whereas other schools may share an ELL teacher across the district. Factor this in as you conduct research and think about how your product is being used within the school atmosphere.

Math mindsets**

Students' behaviors in learning math are shaped by the events that they experience and the way that they make sense of those events.³ Some key factors that impact a student's math mindset are:

- **Societal stereotypes:** Pervasive cultural stereotypes regarding the nature of intelligence have an impact on how empowered a student feels when it comes to their ability to perform in math⁴. When you intersect this with varying personal identities such as race, ethnicity, gender, and socioeconomic status, this can result in the harmful stereotypes that these groups of individuals will be less likely to do well in mathematics compared to others. Keep this in mind as you develop your product and how you structure your co-design sessions.
- **Key socializers⁵:** Interactions with people can have an impact on students' perceptions of their math ability. For young students, their caregivers and teachers are the primary individuals they interact with and who pass on their perceptions about math. Their attitude, language, and approach to offering support for math to their students impacts how their math mindset is shaped. Consider how you and your product engages these important socializers.

*Preference for one style of working is not superior to the other. Honoring and supporting student preferences builds on their assets and allows them to thrive.

**You might notice that these mindsets also work for the subject that you're working on. If not, what else would you include?

What Is Co-Design?

Now that we've explored student context, let's lay the groundwork for understanding co-design. Co-design⁶ is a design partnership between product designers and lived experts (experts with lived experience — in this case, priority students), a creative and collaborative approach to understanding problem spaces, and generating ideas for products, services, or policies. It can be hands-on and action-oriented. Priority students are active co-creators* in identifying the problems and designing solutions with your product team. In traditional design research methods such as interviewing, focus groups, and UX testing, the product team holds the power to decide what solutions they design. However, in co-design, the product team and students share equal responsibility in problem definition and ideation. The product team needs to ensure that there is structure to the session so they can hand over power to students on what ideas are generated, enjoyed and feel most relevant to them. To enable full participation from the co-designers, it is important for the facilitators to engage and center the co-designers, their ideas, perspectives, and designs: their output are held at the same level of importance as those of the product team.

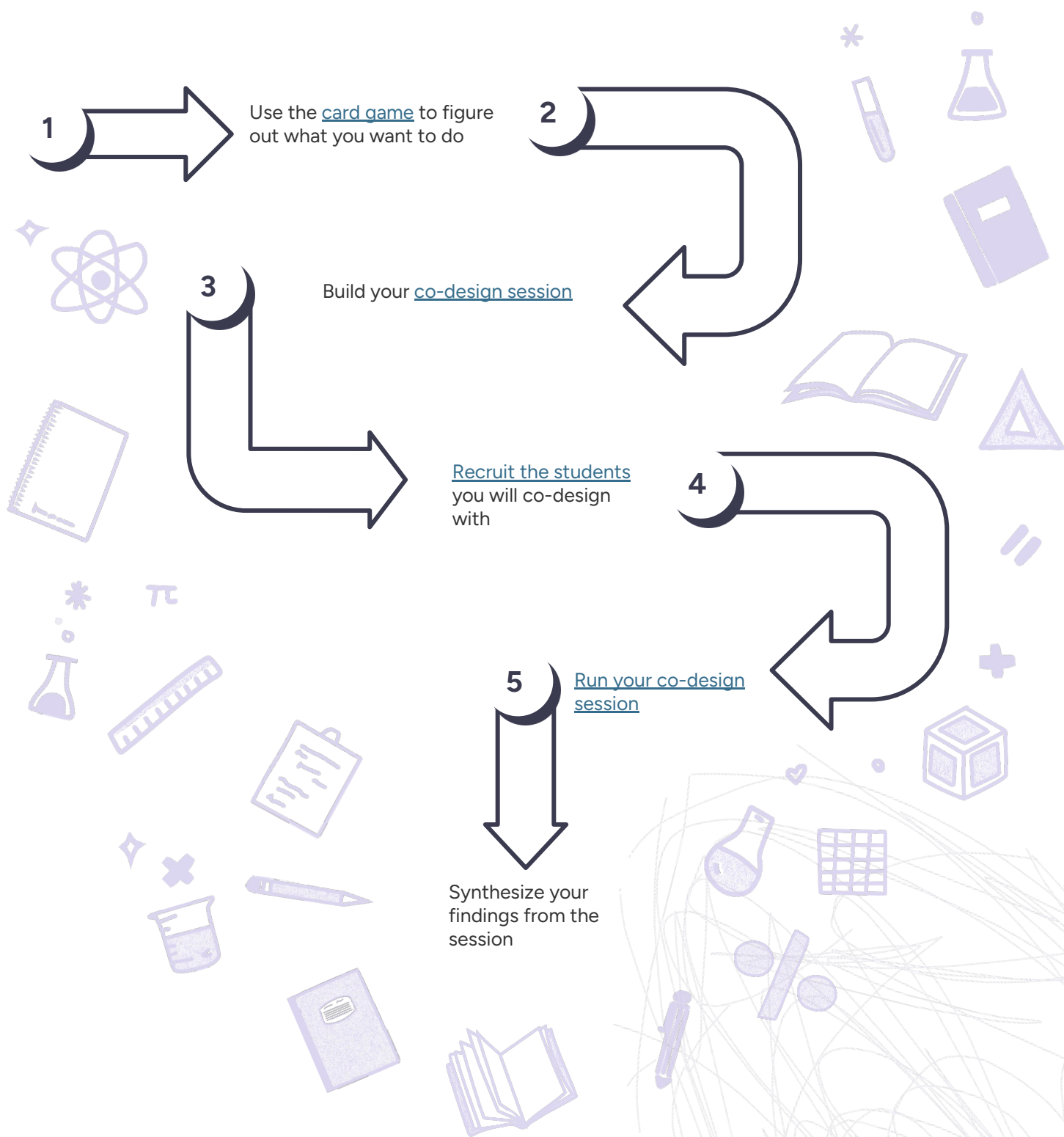
Co-design activities tap into underlying knowledge that students carry through their lived experiences within the classroom and outside. This ensures that students go beyond what they just say and think. Priority students, who are often furthest from opportunity, have a chance to share what they know, feel, and dream. You can learn more about techniques for co-designing with young students in the accompanying activity, *Spark & Create: A Card Game for Co-Designing With Young Students*.

Co-design happens on a continuum of engagement with students. For example, interviewing, focus groups, and UX testing fall in the "Observe & gather" section of the continuum. Co-design falls in the middle highlighted section. Based on the maturity of the organizations, a team might focus on collective activity and collaboration. More mature design and research teams might have the capacity to ensure that students have dominant decision-making authority on final designs that the team will implement. In other scenarios, such as in government or community design, co-designing can extend to complete lived expert control.



*Co-creators and co-designers are individuals who work alongside the product team to generate ideas, solutions, or prototypes.

Plan your Co-design Session

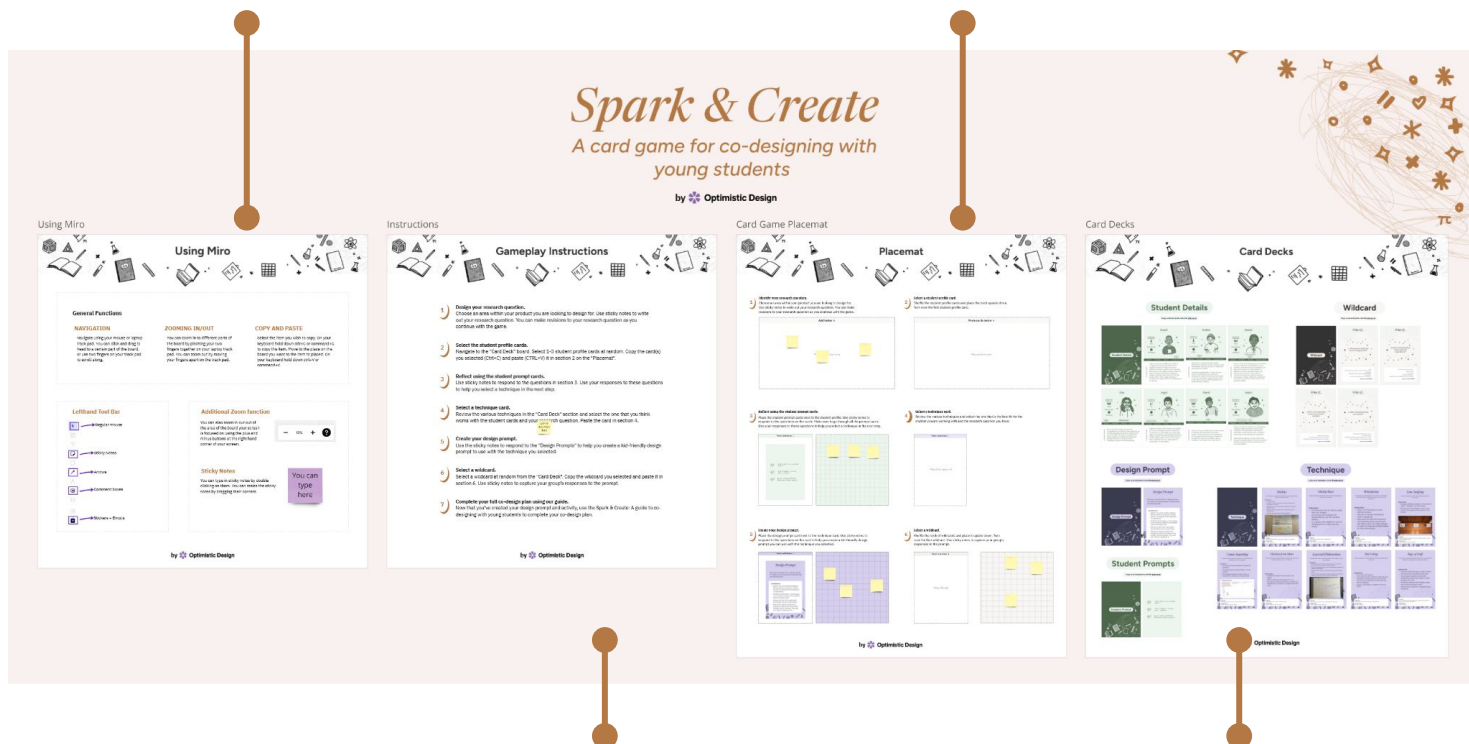


Card Game Overview

[*Spark & Create: A card game for co-designing with young students*](#) is a tool to be used alongside this guide to help you and your team identify a design technique and develop your design prompt for your co-design session. You can find the Miro board [here](#). Review the diagram below to orient yourself to the board.

Using Miro: View tips & tricks on how to use and navigate Miro

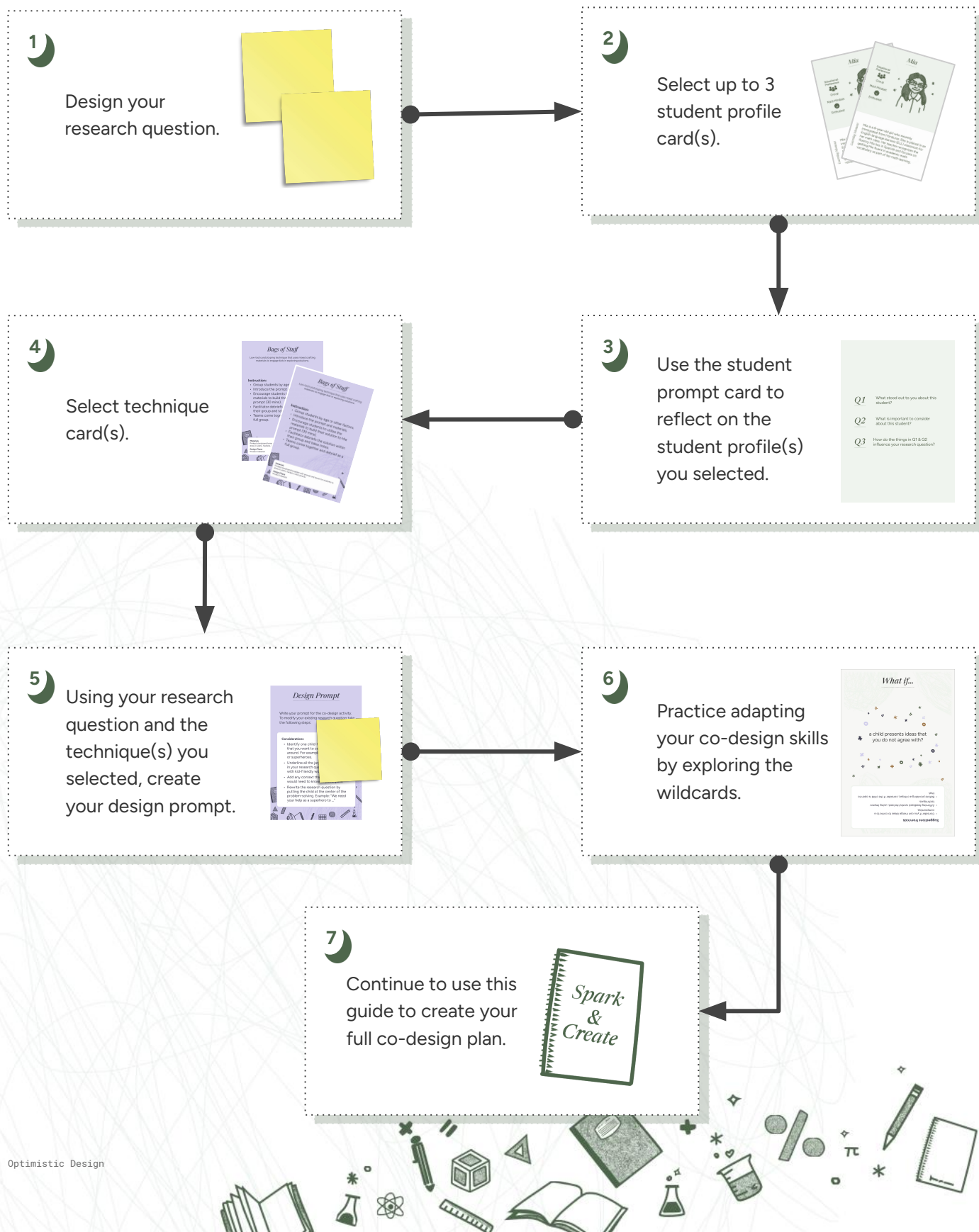
Placemat: Place the cards and play the game



Instructions: Learn the step by step instructions on how to play the game on Miro

Card Decks: Find all the cards for the game

Gameplay Instructions



Card Details

Spark & Create: A card game for co-designing with young students.

The card game is designed to help product teams ground themselves in unique student learning contexts and identify co-design activities best suited for their research questions. The card game has four types of cards:

Student details cards:

Highlights important priority student contexts with a detailed learning moment that is gathered from our research, particularly interviews with caregivers and teachers. The following details sections that you will see on the student detail cards.

- 1 **Situational preference: Highlights the preferred working style of a student.** This section highlights student preference for a learning environment. Students share different preferences for how they like to engage in problem solving and learning.
- 2 **Math mindsets: Identifies a student's learning experience with math.** We have identified three main math mindset types that you will interact with in the card game. These can be leveraged for how you think about engaging said students within your product and also in the co-design process.



Indifferent:

A student who may not have had a lot of math related exposure or who has no strong feelings about class or math concepts..



Enthusiast:

A student who has had positive and affirming experience with math making them excited to tackle more problems.



Jaded:

A student who has had difficult math experiences leaving them with a negative impression of the subject.

- 3 **Language literacy: Identifies a student's proficiency in a language for their age group.** This section highlights students' literacy (ability to read and write) a language. We have highlighted the different levels of literacy in English and an additional language, where applicable.

The card for Mia is a light green rectangle. At the top, the name "Mia" is written in a cursive font. Below the name is a line drawing of a girl with long dark hair, glasses, and a white shirt. To the left of the drawing are three numbered sections: 1. Situational Preference with a group of three people icon and the word "Group"; 2. Math Mindset with a smiley face icon and the word "Enthusiast"; 3. Language literacy with two buttons: "English" and "Additional Language". Below these buttons is a horizontal bar with four levels: "Beginning", "Intermediate", "Proficient", and "Advanced Proficient". At the bottom, section 4. Learning Moment is written vertically on the left, followed by a paragraph of text.

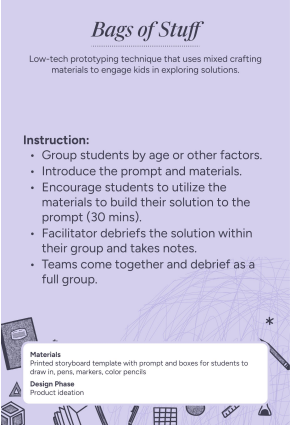
1 Situational Preference
Group

2 Math Mindset
Enthusiast

3 English Additional Language
Beginning Intermediate Proficient Advanced Proficient

4 Learning Moment
Mia is a 8-year-old girl who recently immigrated from Honduras. She is placed in an English language learners (ELL) classroom for her math class. Her teacher recognizes the fluency Mia has in Spanish and focuses on getting Mia fluent in academic math vocabulary as part of her math learning.

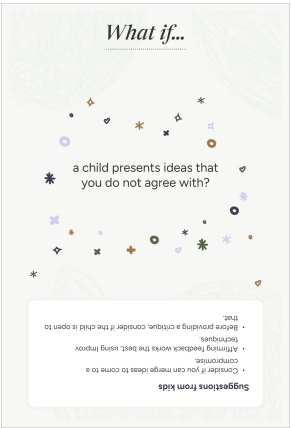
- 4 **Learning moment:** Allows you to consider how your product considers these unique learning experiences and interactions your team should keep in mind as you plan your co-design session. These are math specific, but the overall learning experience can be applied outside of math learning environments.



Technique cards:

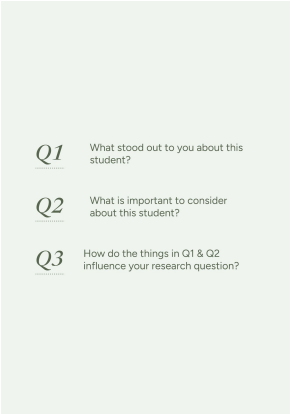
Provides in-person co-design activities that are age appropriate for young students.. You can and should adapt them as needed. We have included a description, instructions, and the materials you will need and the design phases where they are applicable. The following list describes three key design phases that impact how a technique can be used based on the phase your product is in.

- Problem definition: The phase in which the team is still identifying the problem that you're looking to solve at the product or feature level.
- Product ideation: The phase in which the team has an understanding of the problem and are hoping to generate ideas with students.
- Product validation: The phase in which the team has developed the designs to a certain level of fidelity and need input to finalize the direction.



Wildcards:

The wildcards were created to help you consider different student behaviors during the co-design session. Use these cards to develop strategies proactively to navigate the co-design session. Each card contains suggestions of how to navigate each unique scenario that might occur during a co-design session. These are from students from our collaboration with the University of Washington Kids Team. However, we encourage you to first brainstorm your response prior to looking at the suggestions from kids on how they advise adults to approach the situation in the wildcard.



Prompt cards:

Prompt cards are designed to help you consider the student experiences and the techniques within the context of your work. Use the cards to pause and reflect. Document your responses and update them as needed. There are two types of prompt cards - student and design prompts. Shown on the left is the student prompt card.



Build Your Session

When you're ready to build your co-design session, ensure that you have team members available to support it. A 1:1 or 1:2 adult co-designer to student ratio is preferred to ensure that students are able to engage fully. Most co-designers will be able to give you their full attention for up to 50 minutes focused on a single activity. However, for them to be present and participate, you have to do the following:

1. Accommodate varying arrival times.
2. Create space for them to be mentally present for the session.
3. Warm everyone up to be able to participate creatively.

The following describes the recommended structure for co-designing with young students, adapted from our work with adults and middle school students. The total session time is two hours. Additionally, this is informed by the format used by the University of Washington KidsTeam.

- 1 [30 mins] Arrival & snack time:**
Ensure you have up to 30 minutes at the top of the session to accommodate different arrival times and to give students time to eat. Make sure there are healthy and interesting snacks. During this time the adult facilitators should engage the students and build rapport. You can do this by starting a conversation with them by asking about their day, interests, or simply checking in on how they are currently doing.
- 2 [up to 10 mins] Circle time:**
This is the time that adult and student co-designers gather to welcome themselves to the space. You can use a simple prompt to engage the students or the light system to help them check in. See Check-in in the Appendix for details on the prompts and the light system check-in.
- 3 [5 mins] Warm up:**
For the adult co-designers and students, it is important to warm up. Using body movements, vocal warm-up exercises, and other fun activities can enable folks to move into a more creative space. It also ensures that co-designers learn to build on each other's ideas and collaborate. See the Warm-ups section in the Appendix to learn more about activities that you can use.

- 4 [50 mins] Main activity:**
The main activity is the bulk of the session where you will be co-designing with students. This is where you will have the prompt available, share it with the full group and then split off into groups with individual facilitators or stay with the larger group based on the research question you have, where you are in your design phase and what kind of feedback you need. You can review the Techniques section in the Appendix to learn more about the techniques and also use the *Spark & Create: A card game to co-designing with young students* to get started.
- 5 [15 mins] Reflection & debrief:**
After the co-design session, bring students together to share what each group of co-designers designed. You can also use this time to gather input on how the experience felt and how you can make it better. This time enables students to share ideas that might not have been mentioned during the session.
- 6 Drop off:**
Ensure your young co-designers are brought back to their caregivers.

Tips for your session

Facilitation considerations

- 1 Co-designing with kids is different from teaching or taking care of kids.
 - a. Co-designing with young students requires some ability to improvise, students may respond in different ways and as facilitators you will have to navigate it on the go while supporting participation.
 - b. Co-design is a collective understanding, ideation and evaluation so hold back from teaching or telling students what to do.
 - c. The focus of the facilitators should be on building relationships with the kids.
- 2 Ensure that the adult facilitators have previous experience working with young students such as teachers, parents, after-school program support etc.
- 3 Consider partnering with your local or state university's school of education to bring in educators to support facilitation.
- 4 Think about metaphors and concepts that kids are familiar with that you can use, such as superheroes, dinosaurs, and monsters. Incorporate them into your research question as the context within which the children are solving this problem.
- 5 Consider support and training for facilitators to familiarize themselves with the context and the content of the research.
- 6 Consider one adult facilitator for every 1-2 students participating in your session.

Student supports

- 1 Building students' capacity to engage with you on the subject matter that you're focused on is important and this might take a few sessions.
- 2 Re-engaging the same students works better for co-designing with young students as they familiarize themselves with the approach and what is asked of them. This will also allow to take on more co-facilitation roles and take more ownership of the space and their design choices.
- 3 In-person interaction works best for this group of co-designers. You can adapt some of the techniques for online, however you may need to consider caregivers engaging in the session and providing them support as is needed.
- 4 Ensure there is a steady supply of snacks and food to ensure that your co-designers are not working hungry or hangry. Keep in mind allergies and food sensitivities/restrictions.
- 5 Do not overload the session. Kids can be engaged for a maximum of 45 minutes in the co-design activity and 15 minutes of debrief. Keep it to one main activity or two smaller ones.
- 6 Consider the time needed for them to arrive at the session and connect with other kids.

Student engagement considerations

Through our work, we identified five key student engagement considerations ⁷. These considerations are:

- 1 Students' knowledge of co-design or the design process:**
Depending on their awareness level, they will need to be briefed about the process in a way that is simple and direct. Keep the language jargon-free.
- 2 Students' language development and oracy:**
Students between grades 3-6 will have different levels of language development. It will be important to have different ways for them to respond to you. For example, young students might not be able to communicate in long written paragraphs.
- 3 Students' knowledge of the field that you're looking to research:**
If students require a certain level of domain knowledge, such as the design research process or learning science, then it will be important in the session to bring them up to speed without confusing jargon.
- 4 Other student needs:**
For students with disabilities, ensure access to the physical co-design location, sign and other language interpretation, or other accommodations for them to participate fully. Also, remember that sometimes students might need to get energy out. Your team might need to get them to go outside, play, and run around so that they can be focused during the co-design session.
- 5 Team's knowledge and capacity:**
It can take time to develop trust with young students, and to learn how to communicate and work with them. Sometimes, slowly introducing technical design language and concepts with the same co-designers over a period of time can lead to better sessions and improved outputs.

Your Plan

Below you will find the outline of core elements to be incorporated in your plan for your co-design session. Review "[Build your Session](#)" for tips on the session segments. Use the questions below to guide you. Reference the cards and your reflections from the [card game](#) to complete the plan.

Research Focus or Question:

1) Opening [5 min]

Pick a warm up activity to prime students for the for the main co-design activity. Choose from [our examples](#) or design your own.

2) Main Activity [50 min]

Use the technique(s) you selected in the card game and the design prompt you created to detail out your activity.

3) Debrief [15 min]

Write a reflective question to ask students after the main activity has been completed and everyone comes together as a group. This should be used to gather deeper insights into the ideas generated in the main activity.

Recruit Students for Co-Design

Recruitment is a big aspect of the co-design process. Designing innovative, usable, and desirable math products requires the voices of students who are traditionally not included in the product design process. Recruiting Black, Latine, multilingual, and disabled students, or students of all races and ethnicities impacted by poverty requires time and intentionality.

Consider who your product serves currently and who it may not be serving. This will help you focus on students that you should prioritize for your co-design sessions. The following describes recruitment strategies to better help you find a wide array of students for your co-design sessions.

Recruitment strategies

- 1 Working with community based organizations:** Local and national after-school and summer school programs could be a good avenue to share your co-design opportunity with students and parents. Some examples are: Boys and Girls Club, YMCA, and afterschool STEM programing non-profits.
- 2 Working with libraries in priority student neighborhoods:** Recruiting parents and students directly through libraries can help you reach more parents directly. Some libraries may have partnerships where they convene young students as part of their work. They may allow external organizations to run sessions with kids during this time. Consider sharing your recruitment flyer at the local community center.
- 3 Partnering with a co-design research team at a university:** While recruiting and supporting young student co-designers may be a large lift for a product team, co-design labs across different higher education institutions may serve as a good partner for one of your on-going sessions. Your team will have less control on the population of students engaged through these labs and the reach (many labs will focus on students in the city or neighborhood they are based in and not nationally).
- 4 Building ongoing relationships with school districts:** Build a formal, reciprocal relationship with school districts that serve priority students. Consider what the school districts will receive for spending the time and energy to help find appropriate students and educators to help you with your sessions.

Gathering data

When it comes to gathering data, ensure personal information is safe and minimize the amount of personally identifiable data that is collected. The following details some guidelines for ethical data collection:

- **Voluntary participation:** Ensure that students and their caregivers have freely consented to their participation and inform them that they are allowed to revoke their participation at any point throughout the co-design process.
- **Informed consent:** Ensure that caregivers are informed about the details of the co-design, what questions will be asked, and how students will interact with the facilitation team. Gather their consent to their students' participation in the session. Additionally ensure that students are aware of what to expect during the session and that the facilitating team gathers consent from students before they participate in each activity.

Wrap Up

Congratulations! You're on your way to being a better co-design partner with young students. Thank you for venturing on this journey with us. You're at the end of this guide but we hope you refer back to it as and when you need it. You can leverage the card game as you design each co-design session or as you're thinking about new products and features. Make it your own!

Acknowledgements

We would like to recognize and thank the caregivers, educators, school administrators, product teams, and organizations that collectively contributed to this project by providing their time, energy, thoughts, and feedback for the development of this toolkit.

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Additional Materials

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- ⁴ The Math Narrative Project: Literature Review, Jalisha Jenifer, 2022.
- ⁵ The Math Narrative Project: Literature Review, Jalisha Jenifer, 2022.
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- ⁷ A Framework for Analysis and Creation of Intergenerational Techniques for Participatory Design, Greg Walsh, et al., 2013.



Appendix

Check-in

Prompts to use

The following are some example prompts that you can use for circle time. Use either the prompts or the light system to check-in. Both are not necessary. Adult and student co-designers should answer the prompts. If students don't have an answer, move on.

1. What is one thing you've recently learned?
2. What is something new for you?
3. If you could describe how you are feeling today, what weather would you be?
4. Choose the emoji that you're feeling today and why?
5. (For virtual groups) Find an object that is important or interesting to you. Share with the group.

Light system check-in

Co-designers share their names, pronouns and what light best represents them red, yellow, or green. Adult and student co-designers can use this to share how they are arriving in the space.

1. Red light: Tired, hungry, hurt (physically or emotionally)
2. Yellow light: Tired, preoccupied, not present
3. Green light: Present and available to engage

For folks who share that they are red or yellow, make sure to ask if there is anything you can do to accommodate them.

Warm-ups

These are a few fun warm-ups used in improvisational theater to help actors and participants use their body, voice and imagination. These warm-ups are designed to help all co-designers including facilitators and students, add to each other's ideas and pull from their experiences. Warm-ups can set the tone for how students are expected to show up in a space. Engaging students holistically and creatively enables them to channel the same energy into the co-design session. Students, facilitators, and other stakeholders who will be a part of the co-design session should participate in the warm ups. Warm-ups build camaraderie and infuse joy into the space.

Passing the ball

In this warm-up, all participants of co-design "pass" an invisible ball to one another.

■ Formation:

- All co-designers will stand in a circle.

■ Action:

- One person will make eye contact with another participant and "pass" the invisible ball to another participant without calling their name or using their voice.
 - Pay attention to the size and weight of the ball.
 - Is it a tennis ball or a bowling ball?
 - Pay attention to how the ball is thrown. It will impact how the receiver "catches" it.
- The receiver "catches" the ball with the weight and size that it was passed in and then passes or throws the ball to another participant.
- Continue until everyone has had a chance to receive and throw the ball.
- You can graduate to the next few iterations as needed.
 - **Iteration 1:** Pass a ball that has a sound attached to it.
 - The person receiving the "ball" will now not only imitate the weight of the ball but also the sound.
 - **Iteration 2:** Pass a ball that can be changed by the receiver such as the weight, size, shape, and the noise it makes. The receiver imitates the change and then passes the new "ball" to another participant.
 - **Tips:**
 - You can start this activity with an actual item that you can toss around in the group like a ball, stuffed toy, etc.
 - Encourage participants to make sure the receiver knows that the ball or item is being thrown at them.
 - The intention is never to put a participant in a "gotcha" moment. You are trying to encourage collaboration.
 - **Value:**
 - Creates a space where co-designers are not trying to bring each other down, which is extremely important for collaboration.
 - Co-designers tap into their imagination to design "balls."
 - Co-designers practice consent.
 - Co-designers practice acknowledging existing ideas and adding their flair to them.

Copy paste

In this warm up, a co-designer "copies" the body movement, tone of voice and phrase of the person before them "pastes" on to the next person.

- **Formation:**
 - All co-designers will stand in a circle.
- **Action:**
 - One person will initiate a quick movement that includes a short phrase or voice and "pass" it to the person to their left.
 - The person on the left will imitate exactly the motion, voice and phrase and pass along to the person on *their* left.
 - Once the person who initiated the first motion and voice "receives" and performs the motions and voice, the person to their left will initiate a completely *new* motion, voice and phrase quickly.
 - You will do this until everyone in the group has initiated and performed the last initiated concept.
- **Tips:**
 - As a motion and voice continues around the circle it might change as it is "passed" through the group, and that is okay.
 - Encourage folks to copy the person before them as close as possible.
 - Modifications can include:
 - Increasing the pace of the imitation so it feels like a quick "wave" for every motion and voice
 - Reducing the time between the last copy and a new initiation
- **Value:**
 - Encourages all co-designers to use their body, voice, and language to inspire them.
 - Encourages everyone to step away from "overthinking" and enables them to jump in.
 - Creates a co-design environment where there are no wrong answers and people can show up the way they are.

Techniques

This is not an exhaustive list of all the co-design techniques. These are iterations of techniques that you may be familiar with but have been modified for young students. You can use these to start off your work, and we encourage you to combine techniques as needed. You can also find more techniques online using key words from the list below, or create your own! While these techniques have been scaffolded to be age appropriate for 3rd-6th grade students, they can be used for older students and even adults.

You can find the step by step instructions for each technique in the [Spark & Create: A card game for co-designing with young students](#).

Mixing Ideas: This is a great technique to use for any phase of design you are in. At the start of the session, be clear that the initial ideas that are created will be disassembled — not because they are wrong, but to help the group create a design together.

Comic boarding: Provide a concise template for students to draw out ideas or processes for what you are investigating. This is best used for production definition and ideation. Students can use both words and drawings. Make sure to have sufficient adult facilitators to partner with students to ask follow up questions to their drawings.

Mission from Mars: You can adapt this to frame it in a different context, but the underlying focus is to have students explain a concept, feature idea or process, to someone/something who is very unfamiliar with it. The individual who is the "Martian" can be an adult facilitator or another student. Refer to this "[yes, and](#)" improv technique to help guide the individual playing the "Martian" role.

Layered Elaboration: With this technique, emphasize that you will be building off of ideas from peers. There is no correct design idea but each idea can be used to spark new ones.

Roleplaying: This technique can be used in relation to other techniques (scenario-based roleplaying), however for this specific one the focus is to further develop the pre-defined scenario your team has crafted. This will give students ownership to input their own perspectives into the scenario you built out, whether it's a process for a feature, interaction with content, etc.

Dot Voting: This technique is mainly utilized for product validation. During the debrief, have students talk about what did and didn't resonate for them to understand why. You can also mix this technique with another one if you want students to not only give their feedback but also create new things if the ideas and designs presented do not meet their needs.

Line Judging: While this is called line judging, you can also adapt this to fit the needs of the space you are in. You can adapt it to a section of a room so students move to a corner depending on their responses rather than a line. After each question, verbalize some observations and prompt students to provide more context for their responses. You can also have students reflect within their group or with a peer.

Bags of Stuff: Work with your team to craft a design prompt that has enough constraints for students to design, but that is also broad enough for students to explore. You can have groups work on the same design prompt or have them tackle different ones. Have a variety of materials available to spur students' thinking and exploration as they design.



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