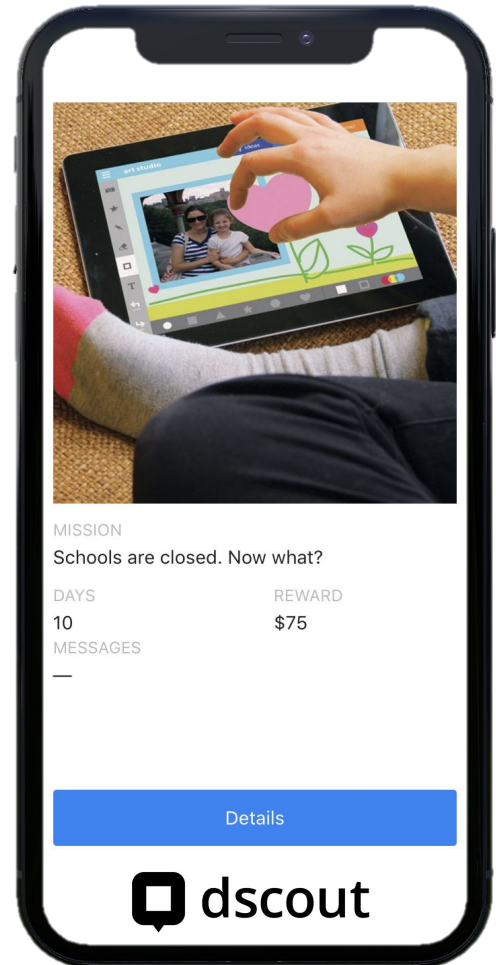


Parents listen in: STEM experiences at home with young children during COVID

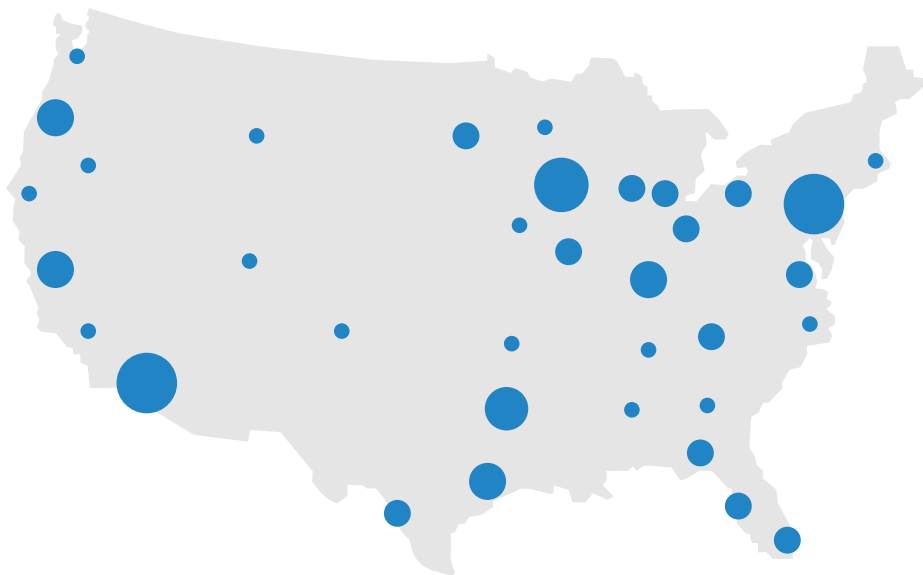
2021

Research Questions

1. What were families experiencing at home?
2. How were parents and other caregivers helping to sustain and extend their child's learning?
3. How did these experiences vary for families living on higher/lower incomes?



109 diverse families recruited



Annual household income

Caregivers (mostly parents)

- **55%** white
16% Black
15% Latinx
9% Asian
4% Middle Eastern/N. African
- **32%** high school
38% college
29% graduate work

Focal **children** (K-5 grade)

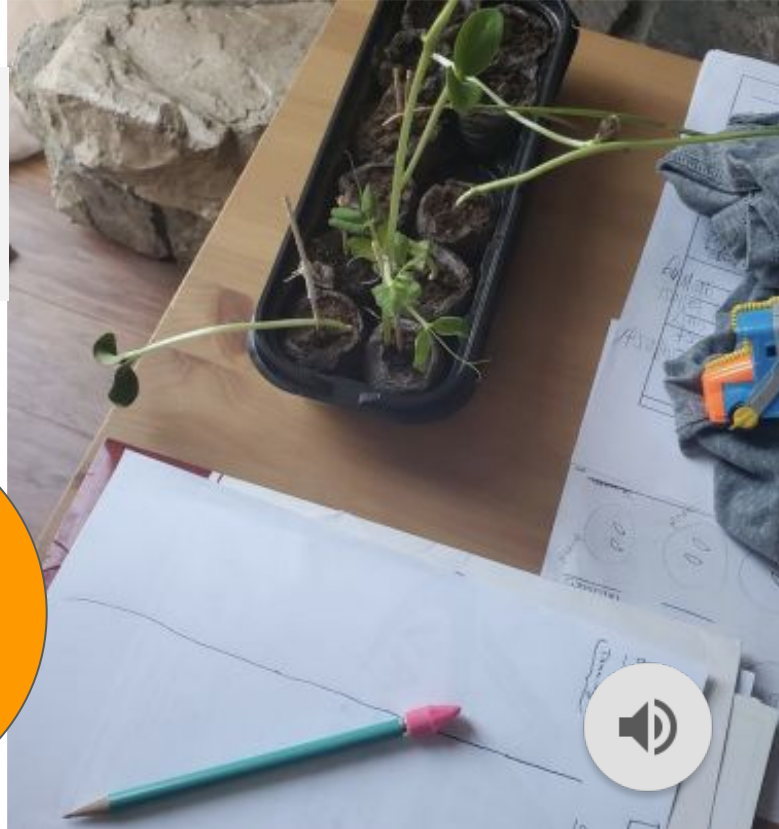
- **84%** public school

Parents in charge of documenting learning activities

Diary entries

6 entries per family
about focal child

50% of the
668 learning
moments
were
classified as
STEM



- 2-minute *video* description
- Photo
- Ratings:
 - learning
 - fun
- Checklists:
 - activity origin
 - content area
 - time of day
 - resources used
 - challenges faced
- Comments



Questions about the pandemic

Child and their families learning together, exploring resources and having conversations



School assignments

Teacher initiated, resources from school, teachers and other students involved, parents recruited



Child interests and hobbies

Existing STEM areas of interests and related pursuits



Caregivers extending and brokering activities

Supplementing school work, connecting to child interests and available resources



Various and interconnected origins of rich collaborative STEM learning moments at home

Pranav

California
w/partner
2 children
\$150+K

Ansh

6-years old
Kindergarten



- Teacher assigned activity
- Packet from school
- Zoom meeting with teacher and peers
- Parents listen in and continue activity



“So the teacher gave them the activity, so my kid was creating that cube and, and other kids were creating the cube as well on the Zoom. So that the activity was just to create that. And and it took him, I think, a couple of minutes to create it and make it like properly stand and evenly standing over there. And he really enjoyed this activity and competing with his friends on Zoom, and he was proud to show his teacher. So it was a fun exercise that they did. And we made him, you know, make some other shapes as well after the class, little rectangles and triangles.”



Cara

Tennessee
w/partner
1 child
\$50-75K

Avery

7-years old
1st grade



- Avery dislikes math 
- Mom comes up with a math activity while Avery is playing 
- Idea sparked by fun fraction lesson she saw teacher do during Zoom class



“My daughter was playing with her Play-Doh. So I took the chance to review her fractions and partitions just to refresh her memory of what she learned from last week especially for math subject. which she willingly did. And she never thought she would have lots of fun learning more about fractions using Play-Doh. And for me it was very meaningful and it was so successful because she was learning- she was having fun while learning and since she already know the concepts and basics of fraction, I eventually showed her or taught her how to add fractions so that it can become whole number again and she said it was so mind blowing.”

Brie

Oregon
single mom
1 child
\$25-50K

Ben

7-years old
1st grade



- Ben has pre-existing interest in bugs
- Grandmother finds and sends a kit
- Mom plans to join in



“This is a photograph of my son opening up a gift he got from his grandmother. It is a butterfly garden. He has been really into bugs, especially ladybugs. He likes to go and collect them. He's been collecting roly-polys. He's found some snails. He has done research about how to take care of all these bugs. He's done research on how many species there are of ladybugs in the world and what they eat. He's watched them mate, he's watched them lay eggs.”

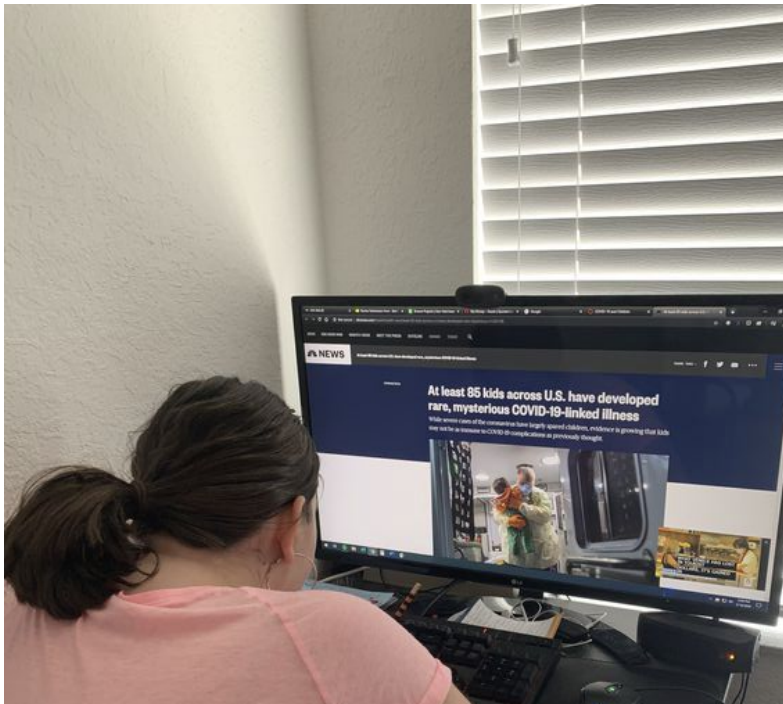
So it's cool he got this kit that has everything incorporated into it ... So, it'll be fun to have that as a project and something that we will do while we are at home together.”

Camilla

Florida
Married
3 children
\$125-150K

Ana

8 years old
2nd grade

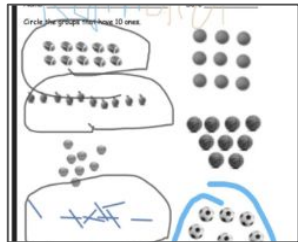
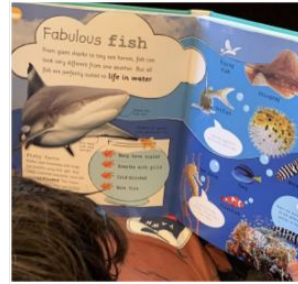


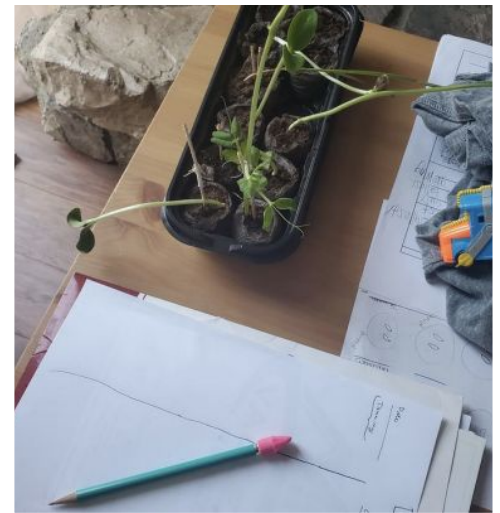
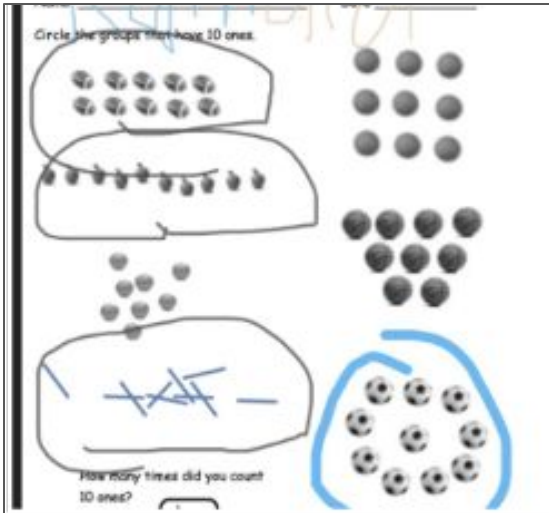
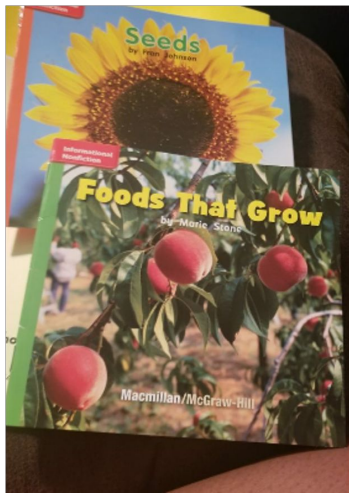
- Assignment from school
- Internet and media research
- Parent + child joint attention to news and information
- Family discussions



“My daughter was doing an assignment where she has to talk about the Covid-19 pandemic and how it affects children and the different things that are happening now with the swelling of the skin or the Kawasaki disease that they're saying they don't know if it's related to it or not. ... She needed to take notes on the actual reading of the article from NBC News and then from there she has to go back on Canvas and submit an assignment and just talk about what she what her what her thoughts were on you know on the actual subject for Covid 19 and children. So it went well. Abby was engaged. She really wants you know she's been watching the news with me every day. We talk about the different things that happen. Just because I don't like to keep I don't like to keep my children you know just kind of closed minded and not knowing what's going on”

Caregivers as learning partners





Papers on request

- Barron, B., Martin, C. K., Lin, V., Lam, C., Pozos, R., Nguyen, J., Garcia, S., & Levy, Z. (2021). New views, new roles: How parents supported learning during the transition to remote learning. Annual Meeting of the International Society of the Learning Sciences (ISLS), Bochum, Germany
- Nguyen, J., Barron, B., Martin, C. K., Lam, C., Pozos, R., Lin, V., Levy, Z., & Garcia, S. (2021). Family resilience during Covid-19: Contrasting cases of mothers' beliefs and behaviors to support child well-being. Annual Meeting of the International Society of the Learning Sciences (ISLS), Bochum, Germany.
- Pozos, R., Martin, C. K., Barron, B., Lam, C., Nguyen, J., Lin, V., Levy, Z., & Garcia, S. (2021). Before the storm: How families were supported for the transition to distance learning. Annual Meeting of the International Society of the Learning Sciences (ISLS), Bochum, Germany.
- Takeuchi, L., Martin, C. K., & Barron, B. (2021). Learning remotely: Families as research partners during the COVID-19 pandemic. New York: Joan Ganz Cooney Center at Sesame Workshop.

Using remote diary methods to understand how families navigate COVID-19-driven schooling at home

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Thank you!

GSE Doctoral Students



Brigid Barron
Principal Investigator



Rose Pozos



Cindy Lam



Judy Nguyen



Veronica Lin

Undergraduate Students



Susie Garcia



April Ball



Zohar Levi



Flora Troy

