



Princeton & NYU Discoveries in Action

# August 2022

Hello Panda Families!

Thank you for joining us! We are excited to launch this newsletter as a celebration of the discoveries we've made together and to build connections with you. PANDA is a virtual research lab focusing on child development. We study child development to understand how parents and teachers can help children learn. We also do research in-person in our lab at New York University. You can learn more about our research at: <http://kidconcepts.org/>.

Our research explores how children learn about the world around them. Specifically, we focus on four key areas:

1. How children learn about identities, including how they understand gender, ethnicity, and other ways that people categorize themselves and other people
2. How children navigate social relationships, including how they form friendships and how they decide whether something is the right or wrong thing to do
3. How children learn to learn; for example, how children decide what questions to ask, who to ask for different kinds of information, and how they learn from conversations with their parents and teachers
4. How children learn about the natural world, including different types of animals, plants, and other aspects of ecology

In our newsletters, we will share the results of the projects you've helped us complete, let you know about upcoming study opportunities, answer your questions, and of course– like any good newsletter– include some fun games to do with your children.

To keep in touch, please also follow us on social media:



Instagram: [\*\*discoveriesinaction\*\*](https://www.instagram.com/discoveriesinaction)



Facebook page: [\*\*Princeton & NYU discoveries in action\*\*](https://www.facebook.com/Princeton&NYUdiscoveriesinaction)

And of course, sign up for PANDA to get notified when studies are available!

[\*\*https://www.discoveriesinaction.org\*\*](https://www.discoveriesinaction.org)

We are always looking for new families to join us on PANDA, so please also share this newsletter with any family or friends who might want to participate!



Research  
Spotlight

# Newsletter

## What gets kids excited about science?

If you and your child have participated in PANDA studies in the past, you may remember learning about friction, gravity, buoyancy, and light with Curious Cat! When we transitioned to remote work in March of 2020, Curious Cat was created as an extension of an in-person study exploring science interventions for preschoolers. Read about this study below!

### Background

People often introduce children to science by talking about scientists as a special kind of identity, saying things like, "Let's be scientists today!" But this language is actually demotivating to children who don't see themselves as matching what they think scientists stereotypically look like. Instead, talking about science in terms of activities people do, by saying, "Let's do science today!" is more engaging. Anyone can DO science! Children persist more in challenging science tasks when they hear this kind of language. Even though this "action-oriented" language is more engaging and inclusive, the "identity-oriented" language (e.g., "Let's be scientists!") is more common in children's classrooms and in science media. We conducted a field experiment in the New York City Public Pre-K for All Program to see if we could support teachers to use more action-oriented language and if this change would lead to more science engagement in young children.



**Authors: Rhodes, M.,  
Cardarelli, A., and Leslie, S.-J.**

### Methods and Results

We had 130 pre-kindergarten teachers from across New York City teach their class a lesson about friction. But first, we sent half of the teachers a training video, which showed a teacher giving the lesson with action-oriented language, saying, for example, "Let's do science to learn about the world! The first step of doing science is to use our senses to observe." We found that teachers who watched this training video used more action-oriented language when they taught the lesson themselves. Importantly, children whose teachers received this training showed more science engagement a few days after the lesson!

### Implications

Despite the many achievements of women and people from racial and ethnic minority groups in science, members of these groups are still drastically underrepresented in science fields. Women represent only 39% of those employed in physical science, 25% of those employed in computer science, and 14% of those employed in engineering. Sixty-two percent of all STEM workers in the US are White while only 7% are Hispanic and 9% are Black. The goal of this study was to increase engagement and interest in science in children that have been historically underrepresented in STEM. One way we can encourage all children to participate in science is by using action focused language! You probably do lots of science activities at home with your kids already. You can use phrases like "let's observe" and begin science activities by letting your child know that, "doing science is a process to answer questions," to encourage your child to draw a connection between these fun activities and science. We've created action-oriented science lessons on Friction, Gravity, Buoyancy, and Transparency as a continuation of this project that you can use at home!



## Science activity example: Sink and Float

- Bring new toys into the tub. Say, "Today, let's do science!" Observe each toy, using your senses. Have children touch the toys, look at them and talk about what they see and feel.
- Do science and make predictions about whether each toy will sink or float. Why do they make each guess? What about the toy makes them think it will float or sink?
- Check to see if the predictions were right. If they were right, cool! If not, why do they think they might have been wrong? What do they think makes something float or sink? Was anything surprising?
- That's doing science!!

## Upcoming Studies

*How Do Middle- and High-School Students See and Remember Things?*

Inviting PANDA families with 13-16 year-olds to participate in our latest study on how your child remembers the patterns that they see! A short, fun online study where your child can contribute to science and get a \$10 Amazon gift card!

Children will be able to complete the study on their own, but as with all PANDA studies, we will need to record parental consent at the start of the study. You can register your kids and teens at <http://discoveriesinaction.org>

ELIGIBLE: 9-10yr and 13-16yr

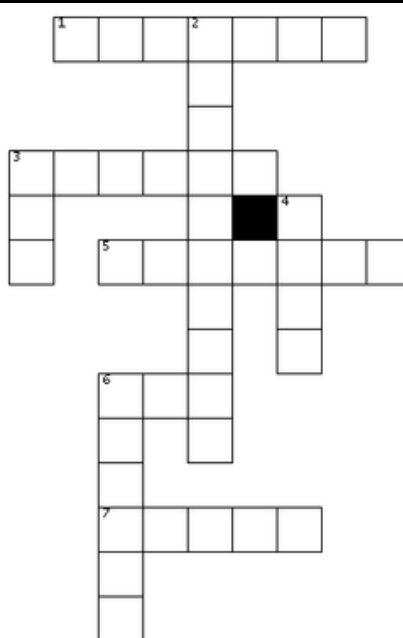
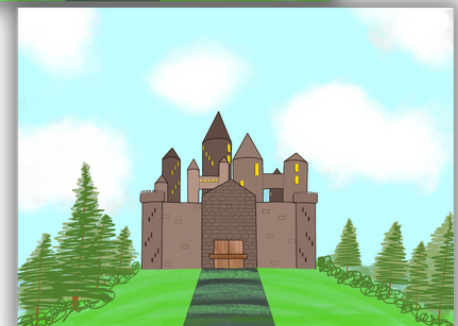
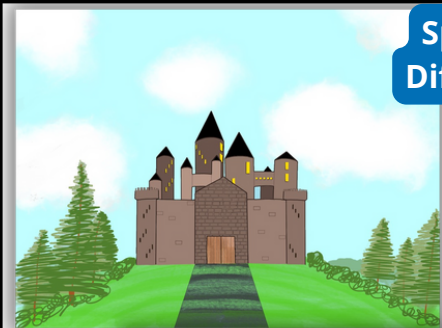
LAUNCH: Now for teens, soon for kids

INCENTIVE: \$10 Amazon gift card

DURATION: 10min



### Spot the Difference



### ACROSS

1. Why things fall
3. Something you don't tell others
5. The hardest rock
6. Make honey
7. The organ in your head

### DOWN

2. Don't forget to eat your \_\_\_\_\_
3. Is never seen at night
4. Controls the tide
6. 99% of panda's diet



Q&A

Q: My kids participated in your studies, can you share the hypothesis that motivated this project?

A: We are so glad that parents are interested in learning more about our studies and we are always glad to share our findings afterwards. Keep an eye on our upcoming newsletters to learn more about studies that your child has participated in!

But, you may have noticed that we never share our exact research question or specific hypothesis during the research sessions on PANDA. There are no right or wrong answers to the questions that we ask children, we just want to know what children think about the scenarios that we pose to them.

We do have research questions that we are trying to answer, and sometimes we have specific hypotheses about how children's thoughts and choices might change across age. We don't share these ideas with parents in advance because we don't want our guesses about what children might do to influence what children might actually do in the study. This is called "researcher bias," and we always try to avoid it. The idea here is that if we tell you what we think children might do, then children could pick up on subtle features of what you say, or where you look on the screen, or your facial expressions, and this could change your child's thoughts or choices. Whenever children visit us in our lab at NYU, we try to avoid this too, by making sure that the researcher who interacts with children does not know any hypotheses about the study.

This is why we don't share too much about our specific research questions or hypotheses ahead of time. But, we are always happy to answer questions, so if you want to know more about a study, please email us at [discoveriesinaction@gmail.com](mailto:discoveriesinaction@gmail.com). And keep an eye on future newsletters and our website for information about the findings from studies that your child might have participated in!

If you have a question about PANDA, some of our research findings, or about child development more generally, we'd be glad to answer in a future newsletter! Please use this form to submit your questions: [PANDA Q&A Link](#)

Puzzle Answers

