The Academy of Science - St. Louis Science Fair
Inquiry-based learning at its best!

Science • Technology • Engineering • Math

Sponsored by the Bayer Fund and Broadcom Foundation
with Technology & Engineering Track support provided by Boeing

2025 Safety Form

- [x] I have written a research plan that includes the following:
  - The question or problem being addressed and the expected outcome
  - Describes in detail the method and procedures including all safety precautions Includes all procedures to be used for data collection and/or building your prototype, if an engineering project
  - Identifies any potential risks and safety precautions to complete the project safely
  - Who will be supervising your project? For approval, an adult over 18 must be present and supervising during experimentation or prototype development and building.
- [x] I have reviewed this research plan with my:
  - Teacher
  - Parent/Guardian
  - Any other 18+ Adult who will be supervising the project (if not listed above)
- [x] I have reviewed the rules for The Academy of Science – St. Louis Science Fair and verified with my teacher that my project adheres to the rules.
- [x] I have reviewed the additional rules that apply if my project involves any of the following:
  - Mold
  - Bacteria
  - Humans

I acknowledge that all of the above safety precautions will be followed and that this project will be completed in a safe manner. I also acknowledge that no humans or animals (vertebrates or invertebrates) will be harmed in any way.

Print or Type Student Name	Student Signature	Date
Arpita Gabriel	Arpita Gabriel	Jan 16,2025
Print or Type Parent/Guardian Name	**Parent/Guardian Signature**	**Date**
Nancy Arthur	Nancy Arthur	Jan 16,2025
Print or Type Teacher Name	**Teacher Signature***	**Date**
Brendan Kearney	Brendan Kearney	1-16-2025

*You may include a project approval email from your teacher in lieu of a teacher signature.

Questions? Contact your science teacher, or the Academy Fair Director at sciencefair@academyofsciencestl.org

“How Does Kinetic Sand differ from regular soil?"
3rd grade
Arpita Gabriel

Jan 12,2025

We discussed science fair ideas, and I decided to work with kinetic sand as I like playing with it.

Since kinetic sand feels very different in the way that we can shape it and it doesn’t scatter, I wanted to compare it to regular sand

We decided to use the kinetic sand I had and to get beach sand.

Jan 19,2025

We decided to use potting soil instead of kinetic sand

Jan 26,2025

Does kinetic sand and potting soil look and feel the same

Kinetic sand is even and uniform.

It sticks together but is not sticky to touch.

It can be shaped into different forms using molds

We are moving and can’t do experiments for a few weeks

February 23,2025

1. Compared how fast water can be absorbed
   Used a dropper to add same amount of water to a tub of kinetic sand and potting soil. Used the timer on my chrome book to measure time.

Trials	**Kinetic sand**	**Garden soil**
Trial 1	2 min, 54 sec	36 sec
Trial 2	1 min, 40 sec	24 sec
Trial 3	1 min, 53sec	15 sec

“How Does Kinetic Sand differ from regular soil?"
3rd grade
Arpita Gabriel

2. Compared what happens if I added lots of water – 1 cup.

Lots of bubbles came from garden soil. My mother explained that it is because the air between the soil is being taken by water. Maybe kinetic sand is tightly packed and has less spaces between them.

Trials	**Kinetic sand**	**Garden soil**
Trial 1	5min	1min,10sec
Trial 2	6min,13sec	2 min,15sec
Trial 3	4min,5sec	2min

3.Washed the sand with dishwasher liquid. Some of the purple color came off from the kinetic sand. We spread it on a plate and let it dry.Kinetic sand still looked wet. It took 3 days.

February 26,2025

Kinetic sand felt different to touch after washing. More powdery. When I tried to make a ball with it would not hold shape.

I repeated the water absorption test and to my surprise the water went through the kinetic sand at the same speed as regular garden soil.

It should be some sort of oil coating that repels water.

I did a search on kiddle and learnt that kinetic sand is coated with oil and mized with another chemical(https://kids.kiddle.co/Hydrophobic_sand).

Magic sand was actually made to help clean oil spills in oceans but since its expensive they don’t use it anymore. I was surprised to learn this fact as I thought kinetic sand as a toy.

I would like to re do this study with different colors of kinetic sand and also use magic sand to compare and test more liquids. I also want to see how heat will affect its properties.

References

https://kids.kiddle.co/Hydrophobic_sand