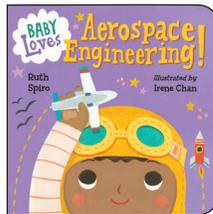


ACTIVITY GUIDE

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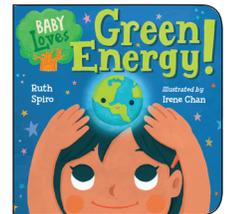
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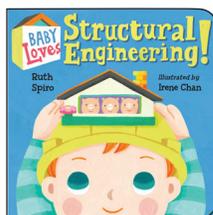
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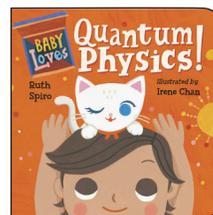
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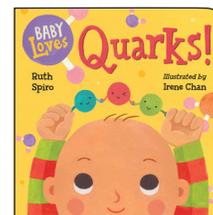
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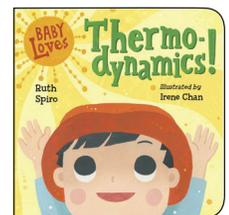
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Praise for Baby Loves Science

“... makes science accessible, relatable, and fun for little ones . . .”
– *Brightly*

“... a great way to foster a love of science and a curiosity about the world!”
– *A Mighty Girl*



About the Author

Ruth Spiro is the author of the Baby Loves Science series; *Lester Fizz*, *Bubble-Gum Artist*; and *Made By Maxine*. She holds a BS in Communications from the University of Illinois and an MBA from Loyola University of Chicago. She lives in Chicago, Illinois.



About the Illustrator

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Baby Loves Aerospace Engineering!

Visiting the park

On the playground, encourage your child to observe anything that flies:

- Birds
- Insects
- Passing planes and helicopters

Wonder aloud how these things fly; play a guessing game with your child about where they're going.

Toys and tools

At home or in an indoor play space, make (or if developmentally appropriate, help your child make) and play with a paper airplane. Let your child observe the entire flight process, from windup to launch to landing. Demonstrate how a stronger throw results in a farther flight.

Learning on the go

When flying with your child, read *Baby Loves Aerospace Engineering* while waiting at the gate. Point out to your child the features of the airplane if visible from the gate (fixed wings with curved tops and flat undersides, etc). If possible, encourage them to look out the window before, during, and after takeoff.



Baby Loves Coding!

Wonderful world of computers

Play "spot the computer" with your child at home or in public places; take turns pointing out something that is operated completely or in part by a computer, such as an electronic toy, a smartphone, a stoplight, a grocery checkout stand, or a car's GPS system.

What are the steps?

As you do a household task with or observed by your child, narrate the steps you're taking to accomplish the task. For example, as you cook dinner, narrate finding the ingredients, turning on the stove, chopping the vegetables, etc. If you have older children, let your Baby Loves Science-age child observe as you teach them procedures like tying their shoes, washing their hands, setting the table, etc.

Musical mastery

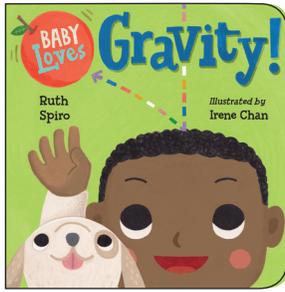
Bolster your child's procedural memory with music! Sing "This is the Way" while doing multi-step daily tasks with your child, assigning a verse to each step, for example washing hands:

This is the way we roll our sleeves . . .

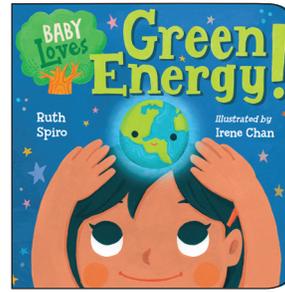
This is the way we get the soap . . .

This is the way we scrub, scrub, scrub . . .

This is the way we dry our hands . . .



Baby Loves Gravity!



Baby Loves Green Energy!

Stop, drop, and roll!

Pair your child's delight in gravity with an elementary fire-safety procedure in a rousing game of "Stop, drop, and roll!" Play in a safe, open space with a well-cushioned floor such as a child's gym room with mats or a well-carpeted playroom. Play a fun song while participants wander freely around the room. Then turn off the music and shout "Stop, drop, and roll!" Model the action. Supervise carefully to minimize collisions.

Gravity games

Assemble a variety of child-safe objects (a large stuffed animal, a small stuffed animal, a heavy ball such as a basketball, and a handkerchief or other lightweight floaty object) and help your child to lift and drop them. Mix it up by dropping from different heights (while sitting on the floor, from the top of a staircase, off the side of a couch or chair, etc). Observe together how fast the items drop, whether they bounce at the end, and any other interesting characteristics.

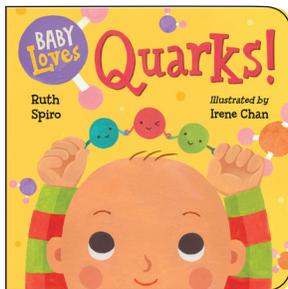
What can baby do?

As they occur, talk to your child about daily home procedures that help save energy and conserve natural resources—taking out the recycling, putting vegetable waste in a compost bin, walking or riding a bike to your destination, turning off the lights when you leave the house. Share set phrases like "This saves energy!" or "This helps the earth!"

Earth's blanket

Using an inflatable or similar child-safe globe, act out the story of earth's changing atmosphere as you read *Baby Loves Green Energy* aloud. Start by wrapping the globe in a bedsheet or light summer blanket, then swaddle it in progressively thicker blankets. You can also cast an assistant as the Globe—older siblings may find this a fun activity. Ask baby if the globe is too hot, too cold, or just right as you go.





Baby Loves Quarks!

What's it made of?

Encourage your child to discover the component parts of their favorite things: talk about how tracks plus cars equals a toy train, pillows plus couch equals a pillow fort, or how delicious ingredients come together to make their favorite sweet treat.

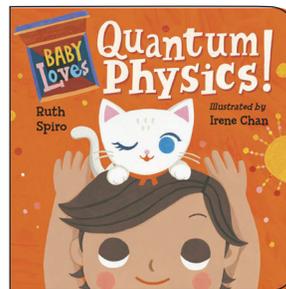
Mixing up science

Demonstrate the idea of atoms to your child with homemade Play-Doh! Invite your child to help measure or mix the ingredients for a big batch of fun.

- 1 cup flour
- 1/4 cup salt
- 1/2 cup water
- 3 to 5 drops food coloring

Combine the wet and dry ingredients separately, then slowly add the colored water to the flour-salt mixture, stirring and then kneading until the water is completely absorbed. If the dough is too sticky, add flour until it doesn't stick.

Throughout this process, encourage your child to observe each ingredient closely—compare the size of salt grains to flour grains, watch how the drops of food coloring diffuse into the water, and see how little individual clumps of flour eventually blend into the dough. Where do the flour grains go? Are they still in there, just too small to see? Everything is made up of tiny little pieces like flour grains that you can't see—things we call atoms, which are made of quarks.



Baby Loves Quantum Physics!

Hide the cat

For a fun variation on peekaboo, hide a stuffed cat under a cardboard box and ask your child, "Where's the cat!?" Slightly older children can use this game to practice their directional and positional language: can they put the cat *under* the box, *in* the box, *on top of* the box, *behind* the box, *next to* the box?

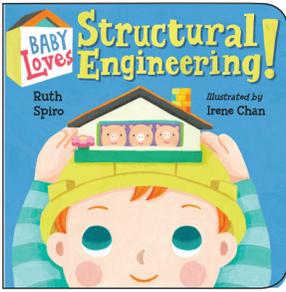
Where's the coin?

Play a shell game with your child using cups and a coin. Encourage them to guess if the coin is heads or tails before lifting the cup. Wonder together if maybe the coin is both heads and tails until you check.

Hot and cold

Play a classic finding game to build observational skills and reasoning!

- Hide two or three items in a room or backyard and invite your child to seek them.
- If your child gets close, exclaim, "You're getting warmer!" and if they move away, say, "You're getting colder."
- When they are hot, have them guess which item they're near; ask why they think that.
- If they're right, celebrate! If they're wrong, tell them the object is somewhere and keep looking.



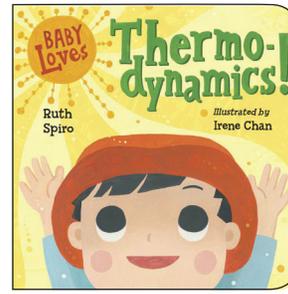
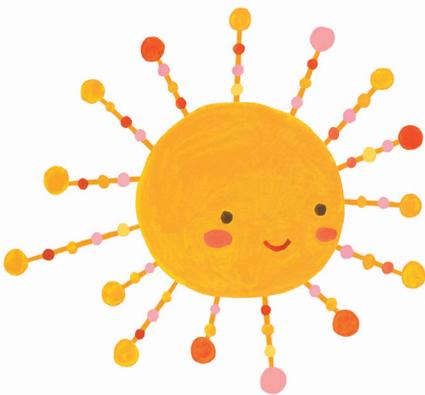
Baby Loves Structural Engineering!

Shapes everywhere!

Point out shapes in the local architecture when you go on a walk or car ride with your child; if developmentally appropriate, take turns naming a shape you see in the environment. You can also play an indoor version of I Spy. Name a shape you see in the room, challenging each other to find the shape. For more common shapes like squares, add specificity like “a red square” or “a tiny square.”

Baby builds

As your child plays with blocks, encourage them to experiment with different foundations (carpeted floor versus tiled floor versus sofa cushion versus tabletop). Offer interesting block shapes like arches so that your child can try them out in practice.



Baby Loves Thermodynamics!

Warming up

On a cold day, encourage your child to discover new ways of warming up:

- Cozy sweaters and blankets
- Rub hands together for friction heat
- Drink a warm beverage or eat a warm meal
- Sit close to a heat source like a fireplace or a cuddly pet

Cooling down

On a hot day, encourage your child to discover new ways of keeping cool:

- Drink cold water and stay in the shade
- Wear light clothing
- Go swimming
- Put on a wet bandana

Don't forget the sunscreen!

Fuel time!

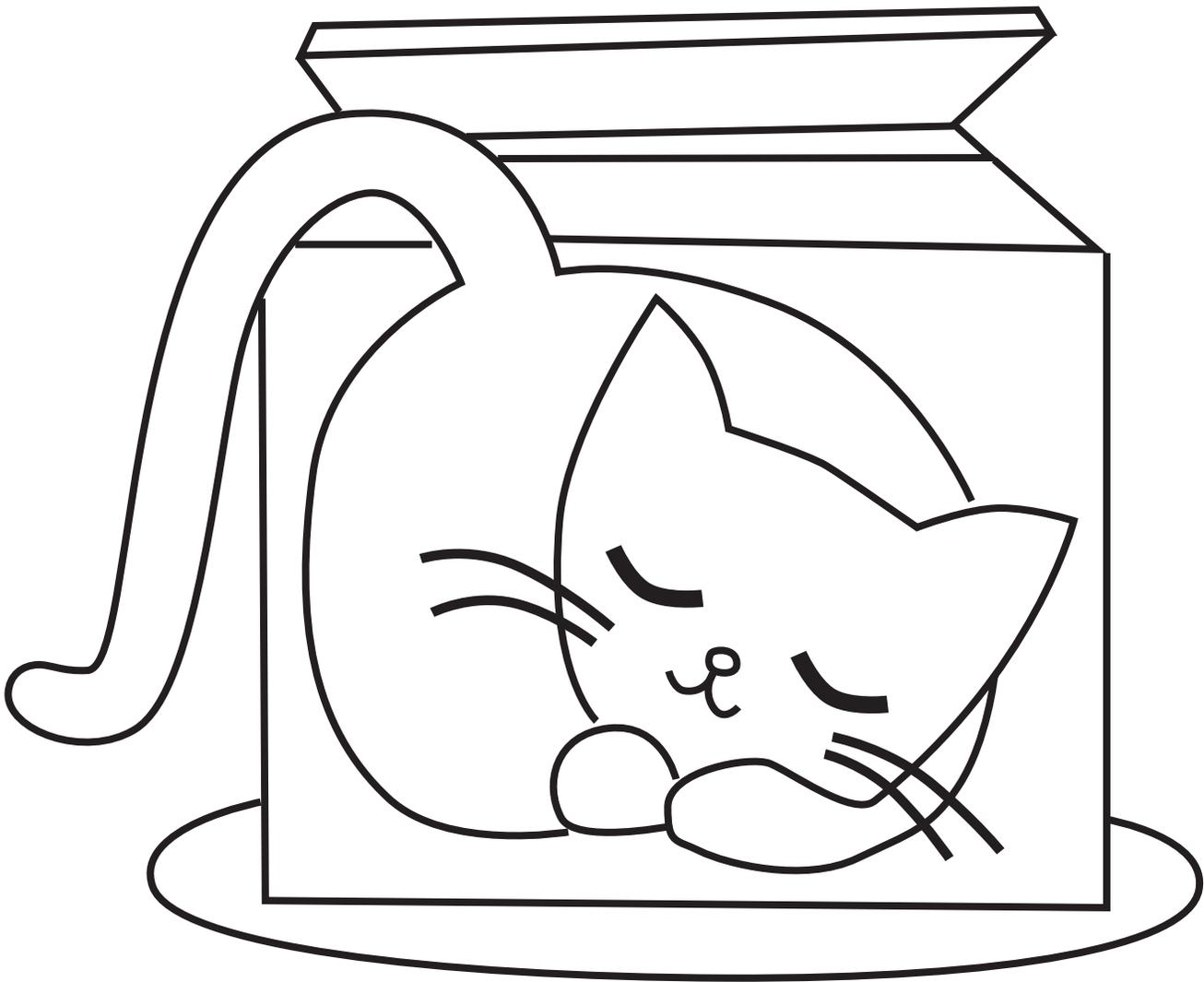
At mealtimes, talk to your children about how all their food gives them energy—even the veggies!

- Some food gives fast energy that burns quickly and leaves you hungry again (candy, crackers, juice).
- Some food gives slow energy that keeps you full a long time (meat, potatoes, vegetables).
- Where does food get this energy? If time permits, you can extend this activity with a trip to the garden to plant a seed, pick a tomato, and talk about the power of the sun!

Word Search

H B I R D B
N O E S T L
W X U R A O
O N E S C C
D E F W E K
D L O C V Q

BIRD CAT HOUSE
BLOCK COLD SUN
BOX DOWN TREE



Matching Squares

