

## THE BACKYARD TIME CAPSULE LAB

BRR•ACT-001

Outdoor • Summer • 15–20 Minutes • Low Prep • Contamination Level: Low • Basically Free

One shadow. One sound map. One tiny wonder. One little piece of summer saved for later.

I started thinking about how many completely ordinary summer afternoons disappear.

Not birthdays or vacations. The random ones.

Warm grass. Chalk on the driveway. Doggos wandering nearby. A bug suddenly becoming the most important thing happening in the world.

So we're keeping one.

Not every second of it. Just enough evidence to remind us someday:

This was us. This was summer. This is what we noticed.

### PURPOSE

Spend 15–20 minutes outside noticing the world around us, ask one good question, make one tiny observation experiment, and preserve a piece of the afternoon in our Field Notes Binder.

A little old-school summer.

A little science.

A tiny bit of technology.

### MATERIALS

- Family Field Notes Binder
- Pencil, crayons, or colored pencils

- Sidewalk chalk
- Phone/camera
- Water
- Optional blanket
- Optional magnifying glass
- Snack, because quality assurance



## PREPARATION

1. Pick a spot.

Backyard, driveway, park, campground, Grandma's yard—wherever outside happens to be today.

2. Find something casting a clear shadow.

A flowerpot.

Bucket.

Chair.

Toy.

Shoe.

Tiny human.

3. Open the Field Notes Binder.

Start a fresh page:

"BACKYARD TIME CAPSULE LAB"

Date:

Location:

Time:

Weather:

Then:

The field station is active.

We're ready.



## PROCEDURE

### 1 • Trace the Shadow

Trace the object's shadow with chalk.

Write the time beside the outline.

"1042"

Then ask:

"Do you think it'll stay there?"

Let everyone guess before explaining anything.

Earth's rotation creates observable daily changes in the length and direction of shadows.

Leave the chalk outline where it is.

We'll come back.

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### 2 • Make a Sound Map

Turn to the activity page in the Field Notes Binder.

Draw an X in the middle.

The X is us.

Now everybody gets quiet for 30 seconds.

Each time we hear something, add a mark roughly where the sound came from.

Invent any symbols you want:

"V" = bird

"~~~" = wind

"BZZ" = bee

"CAR" = car

"?" = what the hell was that?

For little hands, scribbles, pointing, or helping choose the symbol absolutely counts.

After 30 seconds, look at the page.

What did we hear only because we stopped long enough to notice it?

If a bird becomes today's rabbit hole, Cornell Lab's Merlin Sound ID can listen to nearby birds and provide real-time identification suggestions to compare against the recording.

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### 3 • Find One Tiny Wonder

Now find one thing worth looking at twice.

Maybe:

- an ant carrying something absurdly large
- holes in a leaf
- a spiderweb
- an unfamiliar bird call
- two kinds of grass growing together
- something glittery in a rock
- a tiny flower
- a beetle doing beetle shit
- something none of us recognizes

Don't turn it into a scavenger hunt. One interesting thing is plenty.

In the Field Notes Binder, add:

"TODAY'S TINY WONDER:"

Draw it. Describe it. Let a toddler scribble what she thinks it looks like.

Then write:

What do we wonder about it?

Maybe:





«Why are ants so strong?»  
«What made those holes?»  
«What kind of bird is yelling at us?»  
«Why does that rock sparkle?»

We don't need the answer right now.

A good question is already a result.

If you're exploring public or protected land, sketch or photograph natural finds rather than taking them. Leave No Trace recommends leaving rocks, plants, and other natural objects where they are.

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#### 4 • Make the Memory

Every Beyond the Reference Range activity gets:

One photo OR one short video.

Not documentation of the entire activity.

Just one little doorway back into it.

Maybe:

- chalk-covered hands
- tiny shoes beside the shadow
- the dogs hanging around
- a 10-second clip of the sounds outside
- the bug that derailed everything
- everyone walking through the grass
- today's Tiny Wonder

Save it with the activity name and year.

"BACKYARD TIME CAPSULE • 2026"

Later, print the photo for the Field Notes Binder if you want a physical copy beside the entry.

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#### 5 • Leave Something for Future Us





On the same Field Notes page, write:

Next summer, I think...

Everyone who can answer adds a prediction.

«That little tree will be taller.»

«We'll know what bird makes that sound.»

«She'll still love rocks.»

«We'll live somewhere new.»

«I genuinely have no idea.»

For a child too young to make a prediction, record something tiny about who they are today.

Not a milestone.

A detail.

«Currently believes every dog requires a personal greeting.»

«Stops everything for airplanes.»

«Carries rocks around like precious currency.»

«Laughs every time Dad sneezes.»

Those are the things I think I'll remember forever.

Which is exactly why they're going in the binder.

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## 6 • Check the Shadow

Go back to the chalk outline.

Look closely.

Did the shadow:





move?

shift direction?

change shape?

Ask:

“Why do you think that happened?”

Guess.

Talk about it.

Look it up if everybody's curious.

Or leave yourself another question in the binder.

Then you're done.

Go find a popsicle.

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## OBSERVATIONS

Things I'm interested in noticing:

- What catches her attention without prompting?
- What do I notice because she noticed it first?
- What gets ignored?
- What makes us stop?
- Does something unexpected take over?
- What question comes inside with us?

Useful prompts:

“What do you notice?”

“What do you think?”

“Should we look closer?”

“How could we find out?”

And the phrase I hope becomes second nature:

“I don't know. Let's find out.”





## Quality Control • QC

### "ACCEPTANCE CRITERIA"

- ✓ Went outside.
- ✓ Noticed something.
- ✓ Asked at least one genuine question.
- ✓ Added something to the Field Notes Binder.
- ✓ Saved one photo or short video.
- ✓ Curiosity was allowed to change the procedure.

Completion of every step is not required for QC to pass.

## QUALITY ASSURANCE • QA

Quick check:

Water? Shade? Weather reasonable? Humans fed?

On hot days, prioritize shade and water and adjust outdoor timing as needed.

## PROCEDURAL DEVIATIONS

Shadow experiment abandoned because someone found an ant?

"DEVIATION ACCEPTED."

Sound map turned into fifteen minutes of bird watching?

Accepted.

Activity lasted seven minutes instead of twenty?

Also accepted.

The interesting thing gets to become the activity.



## ROOT CAUSE ANALYSIS

If the whole thing bombs:

Hot?

Hungry?

Tired?

Bad timing?

Too much adult direction?

Something much more interesting nearby?

Or:

Nobody felt like doing this today.

Valid result.

## CAPA

### Corrective Action

Too big?

Make it smaller.

Go outside.

Notice one thing.

Write it in the binder.

Done.

### Preventive Action

Better timing.

Fewer supplies.

More snacks.

## FURTHER INVESTIGATION

Follow one question if it sticks.

Maybe:

- Why do shadows move?
- How do birds recognize one another's calls?
- Why are ants so strong?
- What makes holes in leaves?
- Can insects hear us?
- Why can we sometimes see the Moon during the day?
- What animals visit this same spot after we're asleep?

Add anything we discover directly beneath the original question in the Field Notes Binder.

Today's activity can end.

The rabbit hole doesn't have to.

## BENCH NOTES •

I suspect the thing we remember will be whatever wasn't actually in the procedure.

That's usually how curiosity behaves.

Give it a perfectly reasonable protocol and five minutes later everyone is crouched over a sidewalk crack examining something with too many legs.

Unexpected morphology. Manual review required.

## REFERENCES • GO DOWN THE RABBIT HOLE

Shadow Changes

NASA Heliophysics — Big Idea 1.1

NASA educational resources include observing daily patterns in the length and direction of shadows.

"Explore NASA's resource" (<https://science.nasa.gov/learn/heat/big-ideas/big-idea-1-1/>)

### Bird Sounds

Cornell Lab of Ornithology — Merlin Sound ID

Sound ID listens to nearby birds and displays real-time identification suggestions that can be compared with recordings.

"Explore Merlin Sound ID" (<https://merlin.allaboutbirds.org/sound-id/>)

### Caring for What We Explore

Leave No Trace — Leave What You Find

Guidance for leaving plants, rocks, and other natural objects in their environment.

"Read Leave What You Find" (<https://lnt.org/why/7-principles/leave-what-you-find/>)

### Summer Outdoor Safety

Centers for Disease Control and Prevention — Outdoor Play and Safety for Children

Current guidance on shade, hydration, heat, sunscreen, insects, and outdoor safety.

"Read CDC guidance"

(<https://www.cdc.gov/early-care/communication-resources/outdoor-play-and-safety-for-children-in-ece.html>)

References checked August 12, 2026.

## REVISION HISTORY

"VERSION 1.0 • AUGUST 12, 2026"

Initial activity developed.

## WHAT I'M TAKING WITH ME

I started this thinking we were making a tiny time capsule.

But the thing I like more is that we're building a record of what caught our attention.

Not just where we went.

What we heard.

What she pointed at.

What nobody could identify.

What we thought would happen next.

The small things that don't feel historically significant while they're happening.

One picture.

A page of field notes.

A question we may or may not answer.

And soon, we run the test again. 🧡

