

STUDENT FIELD HANDBOOK



Rainflower

Student Field Handbook

Everything you need to start doing real research where you live

THE RESEARCH PROMISE

Learn what matters.

Experiment carefully.

Analyze local evidence.

Pilot solutions that can improve real lives.

For Rainflower student researchers · Grades 9–12 · First cohort, 2026

"When it rains, the flower blooms."

rainflower.world

Welcome, researcher

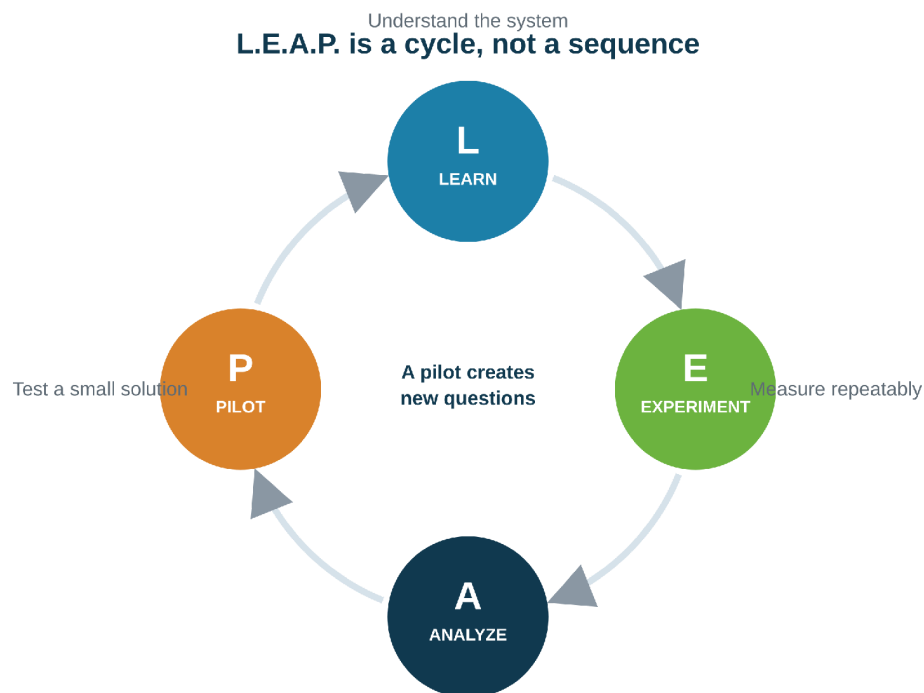
That word is not a decoration. From your first day in Rainflower, you are doing the real thing: asking a question nobody has answered about the place where you live, collecting evidence carefully enough that a stranger could trust it, and sharing what you find — including the parts that surprised you or went wrong. Scientists in universities do exactly this. So will you.

Rainflower studies water: how much rain falls in your neighbourhood, how families get and use drinking water, what happens to streets and homes when it rains, and whether a smart collecting device — our flower — can turn wasted rainfall into something useful. You do not need to be a top student, own special equipment, or know how to code. You need curiosity, honesty, and the patience to do small things the same way every time.

You are never alone in this

You belong to a **coordinator** — a teacher, engineer, or graduate student who approves your plans before you start, answers your questions, and reviews everything you submit. Your coordinator connects you to **advisors** — experts around the world who check our methods. And behind it all is one shared way of working, called L.E.A.P. Before you do any field work: your parent or guardian signs the permission agreement, and your coordinator approves your plan. Both. Every time.

L.E.A.P. — how we work



The cycle never really ends: what you build teaches you what to ask next.

Stage	In plain words	Example
Learn	Understand the system before trying to change it.	Survey your own family: where does drinking water come from, and how much do we use?
Experiment	Measure something the same way, repeatedly.	Read a rain gauge at the same time every day for six weeks.
Analyze	Work out what your evidence can — and cannot — show.	Compare your rainfall photos and totals: where does water pool, and why might that be?
Pilot	Build something small, test it, and learn from its failures.	Help test a Rainflower unit and write down every fault it has.

THE GOLDEN RULE OF EVIDENCE

Describe first. Compare second. Explain third. Claim only what your evidence supports.

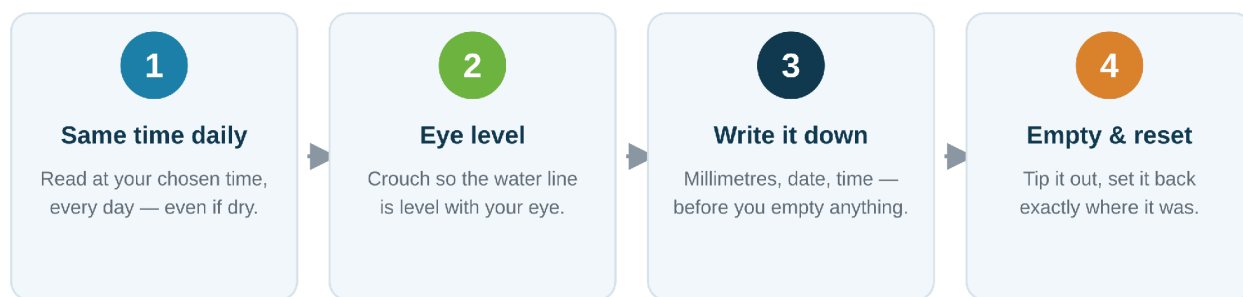
One more thing about that cycle: an unexpected result is valuable. A result you hid, changed, or invented is not research. If your numbers look weird, that is interesting — measure again and report both readings. Never "fix" a number because it looks wrong.

Your first projects

Every new researcher starts with work they can do at or near home. Your coordinator will help you pick.

Project	What you do	What you produce
Household water survey (Learn)	Ask your family — and, with approval, neighbours — how they get, store, treat, and use water.	A short summary, a table with no names in it, one or two charts, and one new question.
Rainfall log (Experiment)	Read a rain gauge daily at a fixed time and record millimetres, honestly including missed days.	A measurement log, a weekly summary, and a comparison with a nearby station.
Photo evidence story (Analyze)	Take 5–10 captioned photos of how rain affects your area: pooling, drains, runoff, erosion.	An evidence story with captions, one alternative explanation, and honest limits.
Pilot helper (Pilot)	Join a team testing a Rainflower unit: log events, measure collected water, record faults.	A performance log, a failure record, and one recommendation for the next design.

Reading your rain gauge — the same four steps, every single day



Missed a day? That's okay — record it as a missed reading. Never guess a number to fill the gap.

The rules that make it research

- **Accuracy.** Record what happened, not what you hoped would happen.
- **Consistency.** Same method, same units (millimetres and litres), same time, every time.
- **Transparency.** Say what is missing, what is uncertain, and what your evidence cannot prove.
- **Respect.** Permission before questions. A "no" is recorded as a "no" — never guessed around.
- **Safety.** No lightning, no floodwater, no traffic, no unstable structures, no unsafe rooftops. Ever.
- **Stewardship.** Look after the equipment, the data, the people you talk to, and the places you work.
- **Collaboration.** Share your method and findings so others can check them and build on them.

Talking with people and visiting homes

Most of our research happens where people live, so how you behave matters as much as what you measure.

- Before any survey question, say who you are, what Rainflower is, and how the information will be used. A simple version: "Hi, I'm a student researcher with Rainflower. We study how families in our area get and use water. May I ask you a few questions? You can skip any question or stop anytime, and I won't write down your name or address."
- Never record names, house numbers, phone numbers, or exact addresses. Location is always "neighbourhood or general area" only.
- Photograph conditions, not people. No identifiable faces without clear permission — and never photograph other children.
- Permission to ask a question is not permission to publish a photo. Ask separately for each, and honour a change of mind — even later.
- Never enter private property without an invitation from an adult who lives there, and always tell your coordinator where you will be working before you go.

The water rule — read this twice

NEVER. NOT ONCE. NOT EVEN TO TASTE.

Do not drink, cook with, or share water collected by any Rainflower device — no matter how clean it looks, and no matter what any single test says. Water in our devices is evidence to be measured, not water to be consumed.

Why so strict? Because clear, odourless water can still be unsafe, and one good test only describes one sample on one day. Only accredited laboratories, repeat testing, and a qualified water-safety professional can ever change this rule — and none of that happens in our current phase. Every unit carries a label saying its contents are under test. Help everyone around the device understand it, especially younger children.

If you find contamination — insects, smell, strange colour, floating bits — do not just empty the tank and move on. Photograph it, report it, and be a little bit proud: a documented failure is a real finding, and it is exactly what pilots exist to discover.

When something feels wrong

If something feels wrong — anything at all



"Something wrong" includes: an unsafe place, an angry or uncomfortable situation, a refusal or dispute, broken or strange-looking equipment, contaminated water — or just a feeling you cannot name.

You will never be in trouble for stopping, for asking, or for reporting a problem. Hiding a problem is the only mistake.

Report to your coordinator the same day — an unsafe situation, a refusal, a dispute, broken equipment, a mistake you made, anything unexpected. Reporting fast is a skill of good researchers, not an admission of failure. And remember the first box: stopping is always an acceptable decision. Always.

Before you submit — quick checklist

Your coordinator reviews every submission. Save yourself a round trip by checking these first:

- One clear question, stated before the results.
- A method another student could repeat just from your description.
- Date, time, place (area only!), method, and your name and coordinator on every record.
- Refusals recorded as refusals; missed readings recorded as missed — with a reason, never a guess.
- Observation kept separate from interpretation: what you saw vs what you think it means.
- At least one alternative explanation considered.
- Your limitations, in your own words: what your evidence cannot show.
- One new question for next time.
- Nothing anywhere that suggests collected water is safe to drink.

A FINDING SOUNDS LIKE THIS

"Among 12 participating households, drinking water use averaged 2.1 litres per person per day. Cooking used more water than respondents expected." — Specific. Bounded. Honest. Not "people use lots of water."

Words you will hear

Word	What it means
Bloom	A Rainflower unit opening its petals to collect rain.
Mother / child units	In a group of devices, the mother has the best sensors and the outside connection; children collect locally and report to her — but every child can work alone if she is silent.
Gauge	The simple tube that measures rainfall in millimetres. It is our reference: when a device and your gauge disagree, your gauge wins.
First flush	The first dirty runoff of a rainstorm, diverted away from storage on purpose.
Metadata	The facts about your measurement: where, when, how, with what. A number without metadata cannot be compared with anyone else's.
Limitation	Something your evidence cannot prove. Naming your limitations makes your work stronger, not weaker.
Escalation	Telling your coordinator about a problem the same day it happens.
Imagination engineering	Our belief: students do not have to wait for distant institutions to solve big problems — we can build local, sustainable solutions ourselves.

THE INVITATION

**Begin where you live. Ask one clear question. Collect one trustworthy piece of evidence. Share what you learn.
Then take the next L.E.A.P.**

Learn • Experiment • Analyze • Pilot

An imagination-engineering project by Ethan Kabir · Rocklin High School · rainflower.world