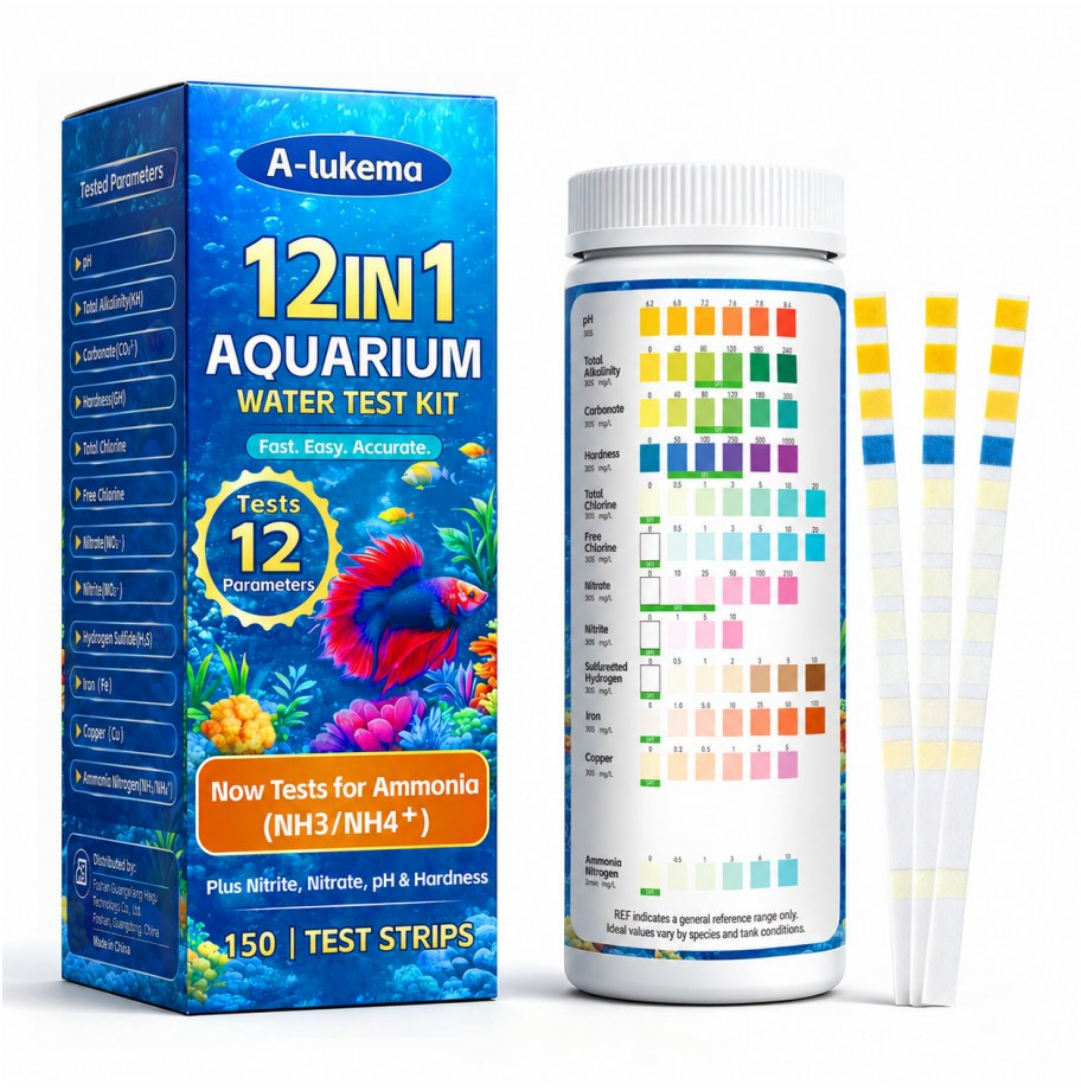
FREE OWNER'S GUIDE

12-IN-1 AQUARIUM WATER GUIDE

Test. Understand. Act with confidence.

A practical companion for freshwater aquariums, ponds, and saltwater screening.



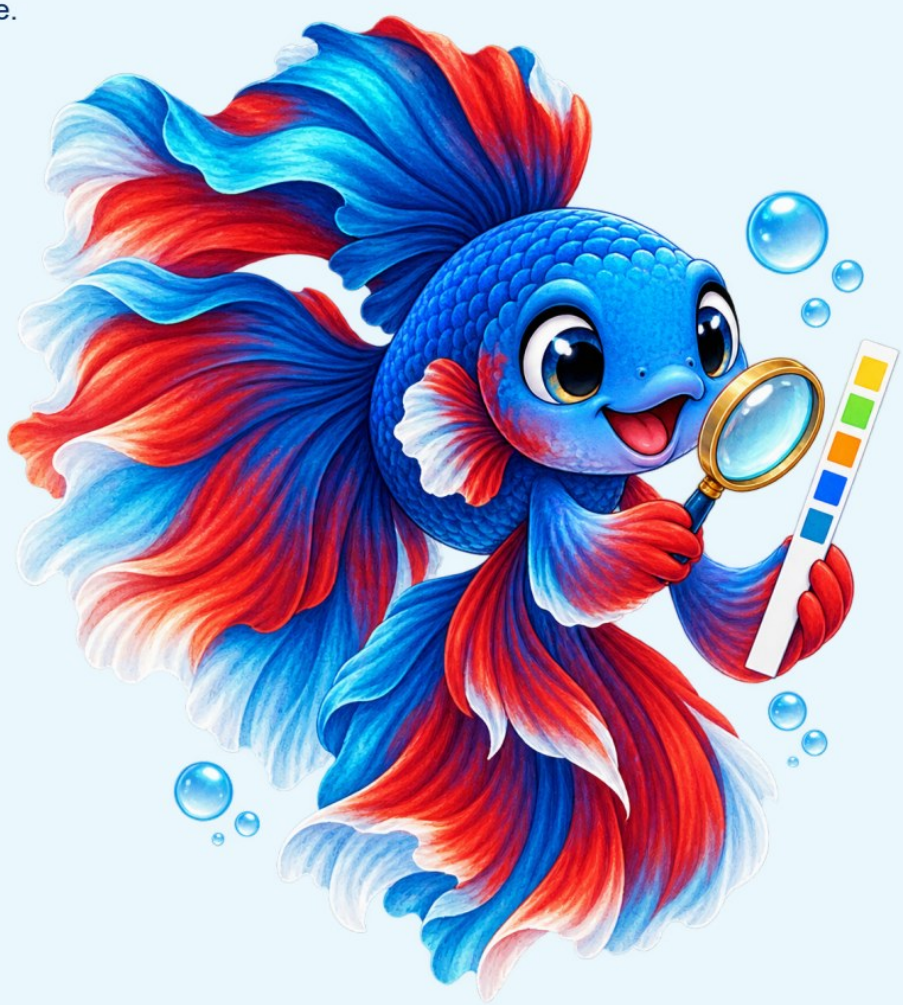
Includes ammonia nitrogen screening

Clear color clues. Calmer aquarium care.

A-lukema

HELLO, FISH KEEPER!

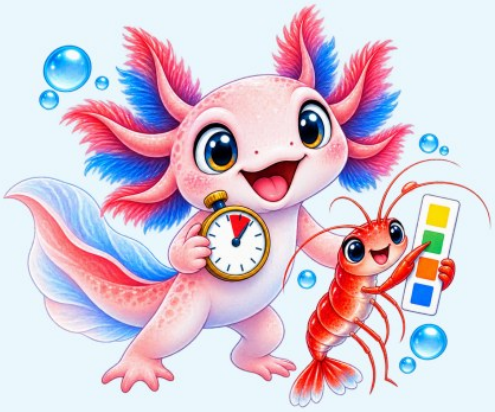
Your strip is a quick **water-health screening tool** - and this little detective is here to help you read it with confidence.



Four friendly reminders before the first dip

1. **COLOR BANDS**
   Useful ranges, not exact decimals
2. **PALE CAN BE OK**
   Low or zero may stay very light
3. **RETEST SURPRISES**
   Confirm before adding chemicals
4. **READ ON TIME**
   11 pads: 30 sec; ammonia: 2 min

Four surprises that are usually easy to solve



An honest expectation

A strip cannot match the precision or resolution of a liquid reagent kit or calibrated instrument. It is a semi-quantitative screen for quick checks, color-band ranges, and trends - not exact decimals.

Confirm important or unexpected results before changing the water chemistry.

1 I NOTICE AN ODOR

A faint dry-reagent odor can be normal. Use the strips in a well-ventilated area, avoid sniffing the bottle, and recap it promptly.
Stop using the strips if irritation occurs.

2 THE REACTION PADS SEEM NOT TO CHANGE

A near-zero or not-detected result may stay close to the lightest chart color; a dramatic color jump is not required.
Make sure the pads are fully wet and read them on time. If the whole strip stays unchanged, check the method, storage, and expiration date, then repeat with a fresh strip.

These two situations are usually explained by normal strip behavior or testing conditions. The next page covers differences between tests and between repeated strips.

Two more common questions

The safest approach is to treat the strip as a semi-quantitative trend tool and confirm any important result before dosing or making a large water change.

3 IT DOES NOT MATCH ANOTHER TEST

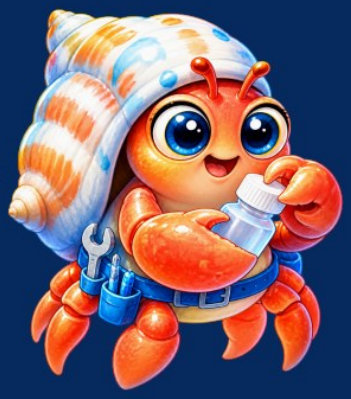
The strip provides **semi-quantitative color bands**, not laboratory-exact numbers. If a pad falls between two blocks, record a range.
Different methods may vary slightly. Confirm any important reading with a suitable liquid reagent kit or calibrated instrument.

4 REPEATED RESULTS LOOK DIFFERENT

Use the same water sample, immersion time, and read time. Compare colors under neutral white light, hold only the handle, and lay the strip flat.
If the difference is obvious, repeat with a fresh strip. Confirm important results with a suitable liquid reagent kit or calibrated instrument.

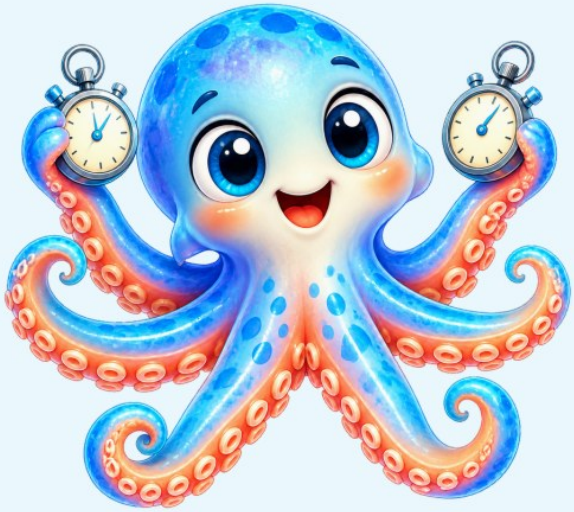
Still unsure? Check these six items in order.
1. Immerse for 1-2 seconds. 2. Lay the strip flat. 3. Read 11 pads at 30 seconds and ammonia nitrogen at 2 minutes. 4. Compare with the bottle chart under neutral white light. 5. Check storage, cap, and expiration date. 6. Repeat with a fresh strip.

Stop using strips that are damp, damaged, or irritating.



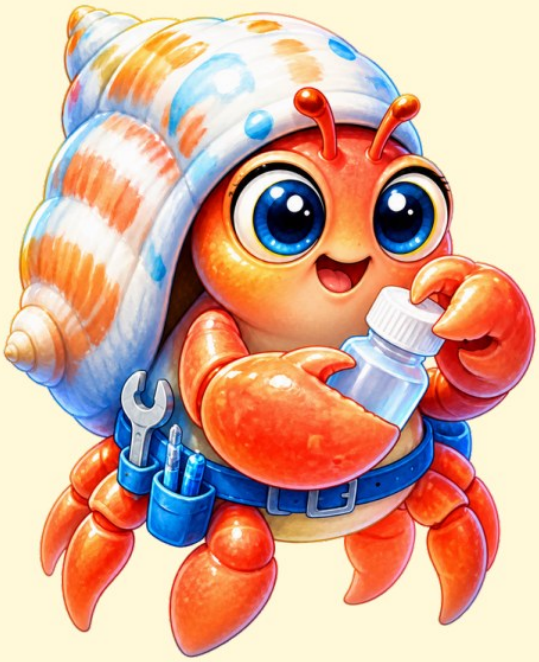
Timing and storage buddies

Two new friends make the most important testing habits easier to remember.



TWO-CLOCK COACH

One strip, two read times: most pads at 30 seconds and ammonia nitrogen at 2 minutes.



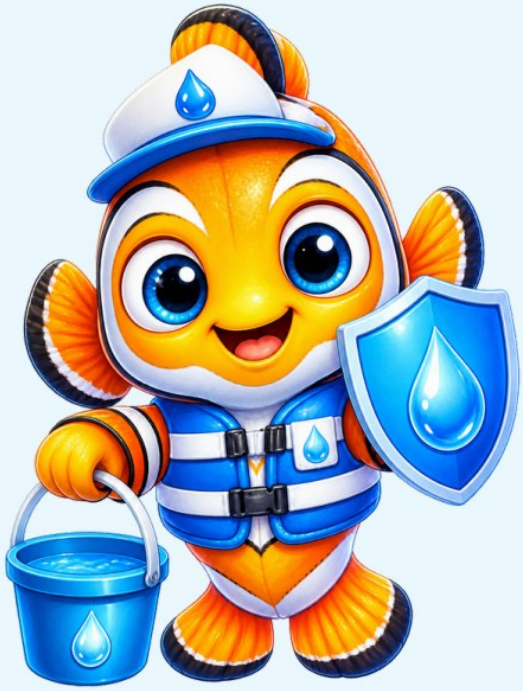
CAP GUARDIAN

Dry hands, a tightly closed cap, and the desiccant help protect every unused strip.

Good timing + dry storage = clearer color clues.

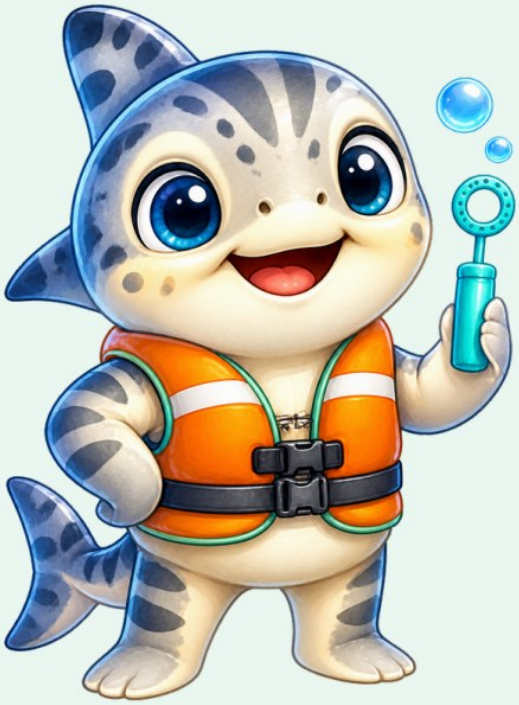
Clean-water safety buddies

These cheerful helpers remind us to protect the fish first whenever a result looks concerning.



WATER-CHANGE HELPER

Use clean, conditioned, temperature-matched water and make controlled changes instead of sudden swings.



AERATION GUARDIAN

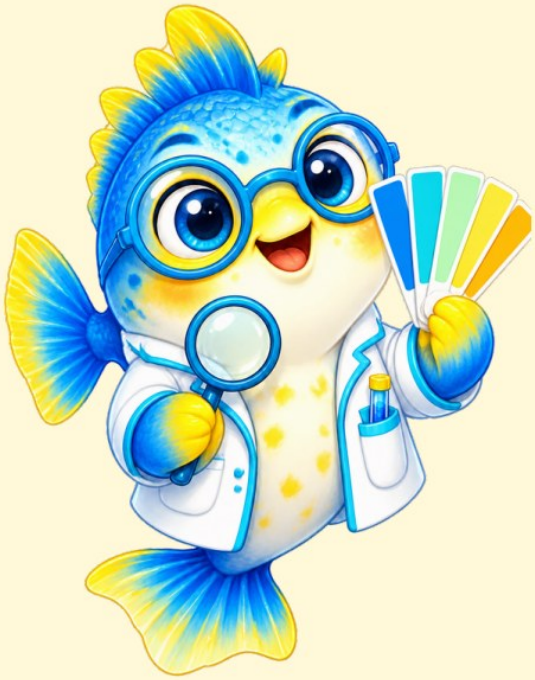
When fish are in distress, clean water and strong oxygenation come before chasing a perfect number.

Calm action protects livestock better than panic.

Color-matching buddies

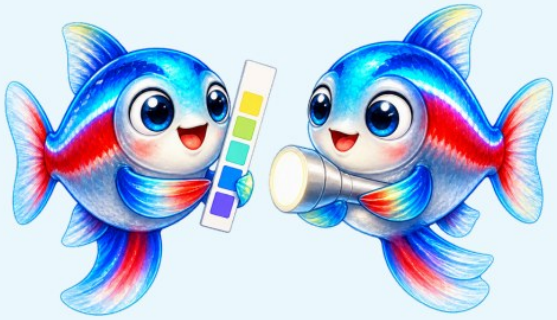
A-lukema

Color bands are easier to compare when the light, timing, and strip position stay consistent.



COLOR-BAND EXPERT

Choose the nearest bottle-chart color. If a pad falls between two blocks, record a range.



WHITE-LIGHT TEAM

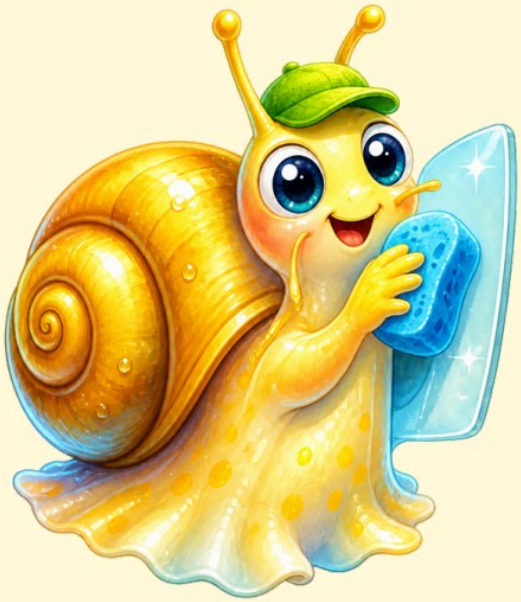
Compare under natural or neutral white light. Blue aquarium lights can distort the result.

Same method, same light, easier comparisons.

Happy-habitat buddies

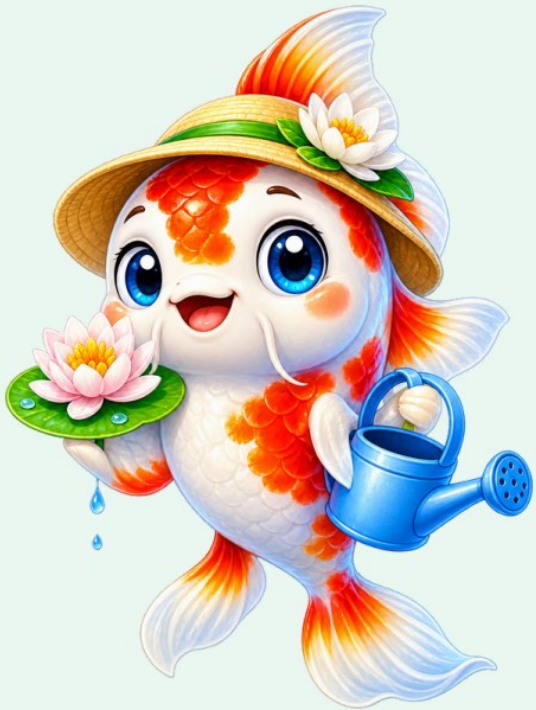
A-lukema

Regular observation and gentle maintenance help you notice small changes before they become big problems.



CLEAN-TANK HELPER

Remove trapped debris gradually, protect the biofilter, and avoid over-cleaning everything at once.



POND GARDENER

For ponds, compare results at a consistent time because rain, heat, algae, and daylight can shift readings.

Small observations build a healthier aquarium story.

The 5-step test method

A-lukema

Use the same routine every time. Consistent dipping, timing, lighting, and strip position make color comparisons much easier.

1	**COLLECT** **Use a clean cup**	Collect tank water. Do not dip the strip directly into the aquarium.
2	**PREP** **Set out paper towels**	Choose a flat, dry surface and use natural or neutral white light.
3	**DIP** **Immerse for 1-2 sec**	Hold the dry handle only. Remove and gently shake off excess water.
4	**WAIT** **Lay the strip flat**	Read 11 pads at 30 seconds. Read ammonia nitrogen at 2 minutes.
5	**MATCH** **Use the bottle chart**	Compare each pad to the nearest color. Ignore changes after 2 minutes.

Next: use two read times

The same strip is read once at 30 seconds and again at 2 minutes. The next page shows exactly which pads to read.

One strip, two read times

Two clocks prevent the most common reading mistake

0:30

Read all 11 pads except ammonia nitrogen.

2:00

Read ammonia nitrogen only.

Protect the chemistry on every strip

DRY HANDS

Keep wet fingers out of the bottle.

TIGHT CAP

Recap immediately and keep the desiccant inside.

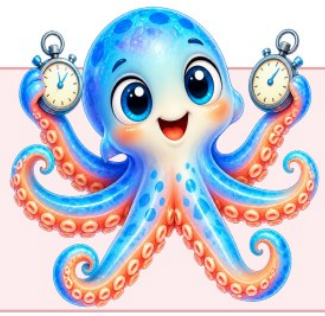
COOL + DRY

Keep away from heat, sunlight, and humidity.

CHECK DATE

Use the strips before the expiration date.

Odor and handling: Do not touch the reaction pads or sniff the bottle. A faint dry-reagent odor can be normal. Use in a well-ventilated area and avoid direct inhalation. Stop using the strips if irritation occurs.



Your 12-parameter dashboard

Use the chart on your bottle for the actual color match. The overview below explains what each pad is telling you and which results deserve the fastest follow-up.

NITROGEN CYCLE		
Ammonia nitrogen	Early waste signal	**Goal: not detected**
Nitrite	Second stage of cycling	**Goal: not detected**
Nitrate	End product that accumulates	**Keep low and stable**

STABILITY & MINERALS		
pH	Acidic-to-basic balance	**Stability matters**
Total alkalinity	Overall buffering capacity	**Supports biofilter**
Carbonate	Carbonate portion of buffering	**Helps resist pH swings**
Hardness (GH)	Calcium and magnesium	**Species dependent**

SOURCE-WATER & TRACE		
Total chlorine	Free chlorine + chloramine	**Goal: not detected**
Free chlorine	Active chlorine fraction	**Goal: not detected**
Iron	Source water / plant input	**Investigate unexpected rise**
Copper	Metal / medication signal	**High risk for invertebrates**
Hydrogen sulfide	Low-oxygen decay warning	**Goal: not detected**

Color-match rule: If a pad falls between two colors, record it as a range. If the result is unexpected, repeat once with a fresh strip before making any adjustment.

The nitrogen cycle in one page

A-lukema

Healthy filtration is a living process. Beneficial bacteria convert fish waste from a highly concerning form into progressively less harmful forms, while water changes and plants help control the final buildup.

1

AMMONIA

Fish waste, uneaten food, dead material

2

NITRITE

Produced by ammonia-oxidizing bacteria

3

NITRATE

Usually managed by plants and water changes

Your biofilter needs three things

OXYGEN
Good flow and aeration

ALKALINITY
Buffer for bacterial activity

TIME
New systems may take weeks to mature

When to test more often

NEW TANK

Track ammonia, nitrite, and nitrate through the cycle.

NEW LIVESTOCK

Test before adding and for several days after.

FILTER CHANGE

Retest after cleaning or replacing biological media.

FISH LOOK OFF

Test immediately when fish gasp, hide, stop eating, or act unusually.

Simple routine: Test weekly when the aquarium is stable, and test daily when ammonia or nitrite is detected until readings return to normal.

Ammonia nitrogen + pH: read them together

The ammonia pad screens total ammonia nitrogen (NH3/NH4+). The toxic share rises as pH and temperature rise, so the same total reading can represent different risk in different tanks.

0

Goal: no detectable ammonia nitrogen

Any repeatable color above zero deserves attention. Fish may be at greater risk when pH and temperature are higher.

If ammonia is detected

1 **RETEST**

Repeat with a fresh strip, then confirm with a reliable liquid kit.

2 **PROTECT**

Increase aeration and use a partial water change with conditioned, temperature-matched water.

3 **REDUCE LOAD**

Pause or reduce feeding briefly. Remove uneaten food or dead plant/animal material.

4 **CHECK FILTER**

Confirm flow, oxygenation, and that biological media has not dried out or been over-cleaned.

5 **MONITOR**

Recheck at least daily until both ammonia and nitrite are not detectable.

Do not chase pH.
A sudden pH correction can shock livestock and may increase the toxic NH3 fraction.

Urgent signs
Gasping, loss of balance, severe lethargy, or sudden deaths require immediate water-quality action and expert help.

Nitrite and nitrate: the difference matters

A-lukema

Both come from the nitrogen cycle, but they call for different responses. Nitrite should not be detectable. Nitrate is managed as a trend, with the appropriate target determined by the species and system.

NITRITE (NO_2^-)

Goal: 0 mg/L

Nitrite interferes with oxygen transport in freshwater fish. A repeatable reading deserves prompt confirmation and corrective action.

Look for: a cycling tank, disrupted biofilter, overfeeding, overcrowding, or decaying material.

NITRATE (NO_3^-)

Goal: low and stable

Nitrate accumulates when water changes and plant uptake do not keep up with the biological load. Tolerance varies widely.

Look for: rising trend, heavy feeding, infrequent water changes, crowded stock, or trapped debris.

A measured response

	NITRITE DETECTED	NITRATE RISING
First	Retest and confirm promptly	Compare with prior records
Water	Conditioned partial change	Resume a sustainable change schedule
System	Protect biofilter; increase aeration	Vacuum debris; review stocking and feeding
Follow-up	Test daily until zero	Test after maintenance, then trend weekly

Avoid the big-swing trap

Do not replace all the water, sterilize the filter, and add multiple chemicals at once. Those changes make it harder to identify the cause and can destabilize the biofilter. Make controlled changes, document them, and retest.

pH, alkalinity, carbonate, and hardness

These four readings work as a system. The goal is not to force every aquarium to the same number. The goal is to keep water appropriate for your livestock and resistant to sudden shifts.

pH

Where the water sits on the acidic-to-basic scale.

Sudden change is usually more concerning than a small stable difference.

TOTAL ALKALINITY

The water's overall ability to neutralize acids.

Supports biological filtration and helps prevent pH crashes.

CARBONATE

The carbonate component of buffering.

Useful as a trend alongside total alkalinity and pH.

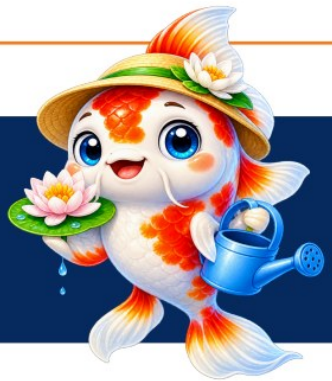
HARDNESS (GH)

Primarily calcium and magnesium in freshwater.

Species and life-stage needs vary; confirm for sensitive livestock.

STABILITY CHECK

Compare today's result with your last 3-4 readings. If pH is dropping while alkalinity/carbonate also fall, investigate maintenance schedule, biological load, and source-water buffering before adding chemicals.



Freshwater, pond, and reef notes

FRESHWATER

Match the species you keep. Soft-water and hard-water fish have different mineral needs.

POND

Rain, evaporation, algae, and time of day can shift readings. Test at a consistent time.

SALTWATER / REEF

Screen only. Confirm alkalinity with a marine method and test calcium and magnesium as needed; GH is not a core reef-management value.

Chlorine, copper, iron, and hydrogen sulfide

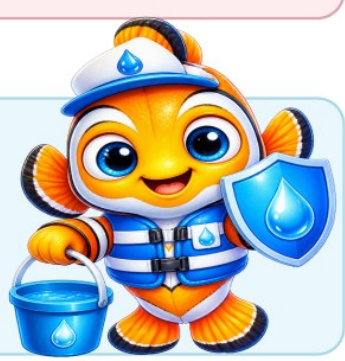
These pads can reveal hazards coming from tap water, plumbing, medication, fertilizers, or low-oxygen decay. Confirm an unusual result before treatment, but do not ignore a repeatable reading.

PARAMETER	WHY IT MATTERS	SAFE FIRST RESPONSE
Total chlorine	Screens free chlorine plus chloramine from treated water.	Condition all new water before it enters the aquarium; retest.
Free chlorine	Active chlorine can damage gills and beneficial bacteria.	Goal is not detected. Confirm conditioner dose and source water.
Copper	Can come from plumbing or medication; highly concerning for many invertebrates.	Do not dose copper from a strip result. Use a treatment-specific kit.
Iron	May come from source water, corrosion, or plant fertilizers.	Compare source water; review fertilizer use; confirm unexpected elevation.
Hydrogen sulfide	A low-oxygen decay signal, often associated with a rotten-egg odor.	Stop disturbing the substrate; increase aeration; seek expert help if severe.

Municipal-water reminder: Letting water sit may remove some free chlorine, but it does not reliably solve chloramine. Use a conditioner labeled for the disinfectant used by your utility.

Before every water change

1. Know or test the source. 2. Treat chlorine/chloramine. 3. Match temperature. 4. Match salinity in marine systems. 5. Add slowly. 6. Retest if livestock reacts unusually.

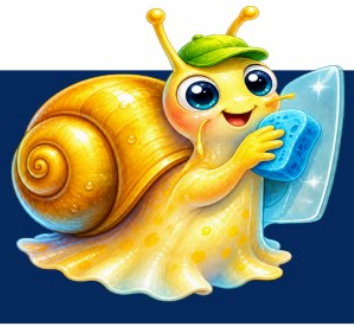


A testing schedule that catches change early

Consistency makes strip results more useful. Test at roughly the same time of day, use the same lighting, and record maintenance, feeding changes, and new livestock beside the readings.

SITUATION	WHEN TO TEST	FOCUS
Stable freshwater tank	Weekly and before major changes	All 12; watch the trend
New or cycling tank	Daily or every 1-2 days	Ammonia, nitrite, nitrate, pH, alkalinity
After adding livestock	Before, then daily for several days	Ammonia, nitrite, pH
After filter disruption	Immediately, then daily	Ammonia, nitrite, flow and aeration
Pond / water garden	Weekly; after storms, heat, algae events	pH, nitrogen cycle, alkalinity
Saltwater / reef screening	Weekly; confirm key readings separately	pH, nitrogen cycle; reef-specific confirmation
Fish acting unusually	Immediately	Full screen + dissolved oxygen check if available

THE MOST USEFUL NUMBER IS THE ONE YOU WROTE DOWN LAST TIME.
A log reveals slow pH drift, rising nitrate, source-water changes, and the effect of maintenance before livestock shows obvious stress.



Keep the bottle color chart beside the log. Photograph the strip at the correct read time if you need to compare later.

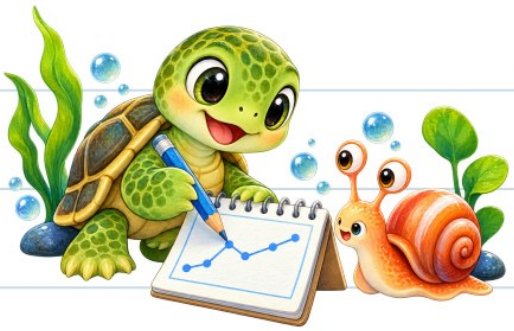
Aquarium water test log

Tank / pond name: _____ **Volume:** _____ **Livestock:** _____

Circle or write a range when a pad falls between two chart colors. Add the action taken so the next result has

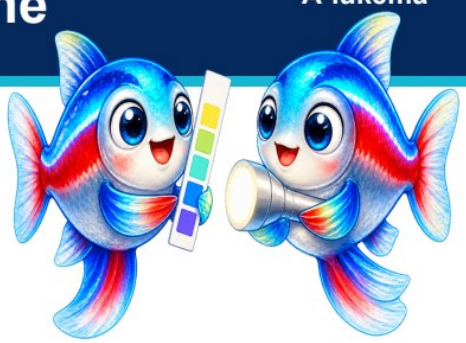
DATE / TIME	AMM	NO2	NO3	pH	ALK	CO3	GH	TCl	FCl	H2S	Fe	Cu

Maintenance / observations / action taken



Abbreviations: AMM ammonia nitrogen | NO2 nitrite | NO3 nitrate | ALK total alkalinity | CO3 carbonate | GH hardness | TCl total chlorine | FCl free chlorine | H2S hydrogen sulfide | Fe iron | Cu copper

Colors still confusing? Reset the routine



Six tiny resets for clearer colors

01 Wet fingers

Moisture activates pads in the bottle.

02 Direct tank dip

Can release reagent into the aquarium.

03 Wrong timing

Most pads: 30 sec. Ammonia: 2 min.

04 Strip held upright

Colors may run between pads.

05 Colored lighting

Blue aquarium lights distort matching.

06 Late reading

Ignore changes after 2 minutes.

1. IS THE RESULT EXPECTED?

No -> repeat with a fresh strip.

2. DID THE REPEAT AGREE?

No -> check timing, light, storage, and expiration. Yes -> confirm with a liquid kit or meter.

3. IS A ZERO-GOAL PARAMETER DETECTED?

Ammonia, nitrite, chlorine, or H2S: protect livestock, investigate source, and monitor closely.

4. IS IT A STABILITY / TREND ISSUE?

Compare records, make one controlled change at a time, then retest.

A calm next step for every color

Use this page for triage. It does not replace species-specific targets, a confirmatory test, or professional advice.

GREEN - TRACK

SIGNAL
Stable pH / alkalinity / hardness; nitrate within your chosen species target; zero-goal pads clear.

ACTION
Record the result. Continue routine care.

YELLOW - VERIFY

SIGNAL
Unexpected shift, result between colors, rising nitrate, or a trace-metal reading that does not fit the tank history.

ACTION
Repeat once. Check timing and storage. Confirm before dosing.

RED - RESPOND

SIGNAL
Repeatable ammonia, nitrite, chlorine, or hydrogen sulfide; rapidly shifting pH; fish showing distress.

ACTION
Increase aeration, use conditioned partial water changes as appropriate, confirm promptly, and seek expert help.

Fish first: When livestock is in distress, prioritize clean conditioned water, oxygenation, and reliable confirmation over chasing a perfect number.

Use the guide responsibly

This guide combines the instructions printed for the A-lukema 12-in-1 Aquarium Water Test Kit with established aquarium and aquaculture water-quality references. It is written for practical screening, not diagnosis or treatment.

Key references

Merck Veterinary Manual - Management of Aquarium Fish

https://www.merckvetmanual.com/exotic-and-laboratory-animals/aquarium-fish/management-of-aquarium-fish

Merck Veterinary Manual - A Summary of Water Quality Tests and Recommended Use

https://www.merckvetmanual.com/multimedia/table/a-summary-of-water-quality-tests-and-recommended-use

University of Florida IFAS Extension - Introduction to Fish Health Management

https://edis.ifas.ufl.edu/publication/FA004

University of Florida IFAS Extension - Ammonia in Aquatic Systems

https://edis.ifas.ufl.edu/publication/FA031

University of Florida IFAS Extension - On-Farm Transport of Ornamental Fish

https://edis.ifas.ufl.edu/publication/FA119

Safety and limitations

For aquarium-water screening only. Keep out of reach of children and pets. Avoid inhalation and eye or skin contact. Discontinue use if irritation occurs. Do not adjust water chemistry based on one strip result. Ideal values vary by species, life stage, temperature, salinity, and tank conditions. For abnormal results, confirm with a suitable liquid reagent kit or calibrated instrument.

Clear water is not always safe water.

Test regularly. Track the trend. Protect the life in your care.

Guide edition: August 2026 | A-lukema Aquarium Care Series