How to read, and draw, an ABA line graph.

Esta lección en español

A behavior graph is the one page a parent, a teacher and a BCBA all look at together. It follows a handful of conventions so that anyone trained can read it in ten seconds. Learn the conventions and you can read any of them. Follow them and yours will be trusted.

What is an ABA line graph?

It is a picture of one behavior, measured the same way, session after session. Time runs left to right along the bottom (the **x-axis**). The measure runs up the side (the **y-axis**): how many times, how many minutes, what percentage. Each session is a dot. Dots in the same condition are joined by a line.

A **condition**, also called a phase, is a stretch of sessions where the same thing was happening: nothing yet (the **baseline**), or the intervention being tried. A vertical dashed line marks where one phase ends and the next begins.

Why it matters

The graph is the evidence. Progress reports, insurance authorizations and IEP meetings all turn on it. A graph that breaks the conventions can make a change look bigger than it was, or hide a change that was real. Applied behavior analysis has used the same graphing rules for decades precisely so that the picture cannot argue for one side.

How to read one, today, free

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Look for three things inside each phase, then one thing at the dashed line.

1. Level

Where do the dots sit, on average? High on the axis, low, in the middle. Say the number.

2. Trend

Which way are they heading? Going up, going down, or flat. Imagine a line drawn through the middle of them.

3. Variability

How much do they bounce? Tight dots mean a steady behavior. Wide bounces mean something else is at work, and the picture is less trustworthy until you know what.

4. The change at the line

Compare the last few dots before the dashed line with the first few after it. Did the level shift right away? Did the trend turn? A real effect usually shows up fast and holds. A change that drifts in slowly over weeks may be growing up, the season, or a new teacher, not your plan.

How to draw one so it is trusted

The y-axis starts at zero. Starting it at 40 makes a drop from 50 to 45 look like a collapse.

One dot per session, joined within a phase only. The line never crosses the dashed phase line. The gap is the point: it says "something changed here."

Label the axes with units: "Sessions" along the bottom, "Instances per hour" up the side. A number without a unit is a guess.

Name each phase above the graph: Baseline, Intervention. Not "Phase 1."

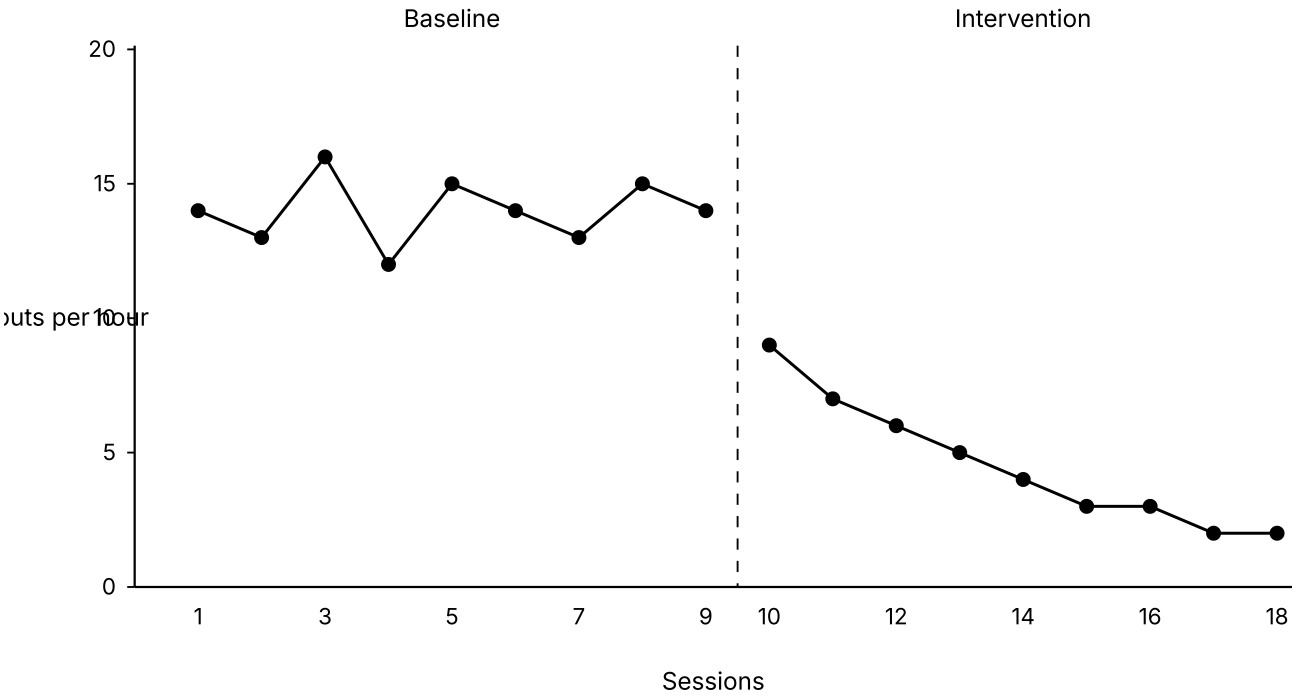
Equal spacing. Each session gets the same width. If two weeks were missed, leave the gap or break the axis with a marked break. Do not squeeze.

No colour needed. Filled and open dots tell two behaviors apart. The graph must survive a black-and-white photocopy.

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A worked example

MADE-UP DATA FOR MADE-UP STUDENT SAMPLE03. NINE SESSIONS OF BASELINE, NINE OF INTERVENTION. NO REAL PERSON APPEARS ON THIS SITE.

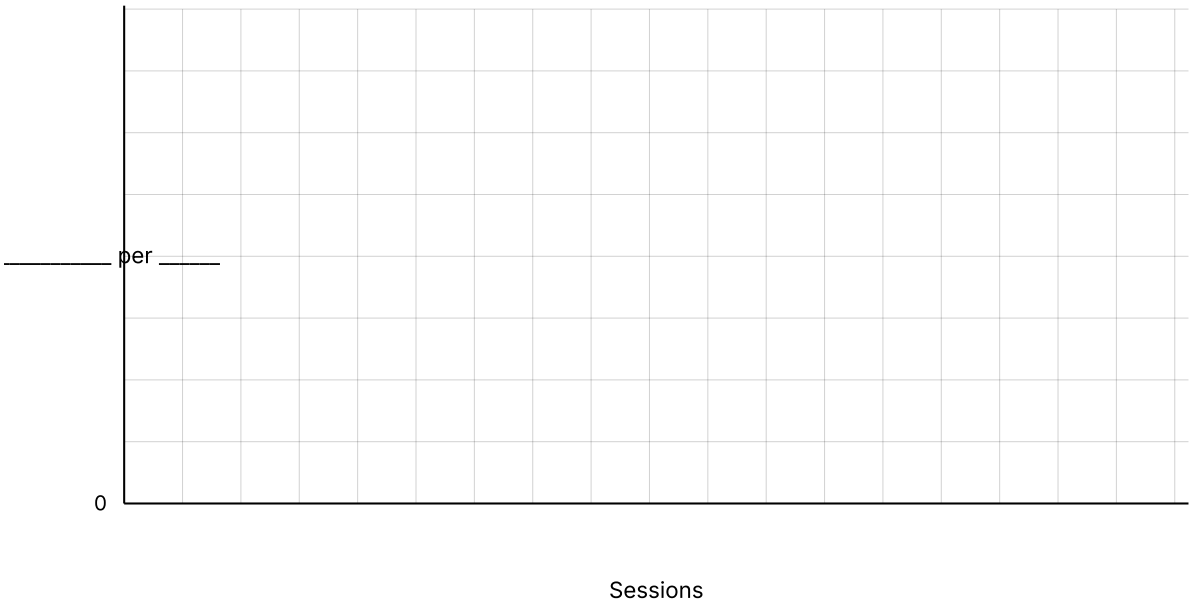


Look for	Baseline (sessions 1 to 9)	Intervention (sessions 10 to 18)
Level	About 14 call-outs per hour	Falls from 9 to 2
Trend	Flat. The dots wander but do not head anywhere	Down, steadily
Variability	Moderate: between 12 and 16	Low: each session is close to the last
Change at the line	Immediate. The first intervention session is already below every baseline session, and the drop holds.	

That is the whole reading, and it took four lines. Notice that the baseline was flat and long enough that nobody can say the behavior was already fading on its own. A baseline that was already trending down would make the same intervention hard to credit. That is why we wait for a steady baseline before we change anything.

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Something to keep: a blank graph and the six rules



1. The y-axis starts at zero.
2. One dot per session, joined within a phase only. Never across the dashed line.
3. Both axes labelled, with units.
4. Each phase named above the graph.
5. Equal spacing per session; mark any break.
6. Readable in black and white.

Try it

MADE-UP DATA FOR MADE-UP STUDENT SAMPLE04, MINUTES ON TASK IN A 20-MINUTE BLOCK.

Baseline, six sessions: 6, 9, 5, 10, 4, 9 minutes. Intervention, six sessions: 11, 12, 12, 14, 13, 15 minutes. Without drawing it, describe the baseline's level, trend and variability, then the change at the line. Then say the one thing that makes this graph harder to trust than the worked example.

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– Show the answer

Baseline level: about 7 minutes. **Trend:** flat; the dots alternate high and low without heading anywhere. **Variability:** high; it swings between 4 and 10, which is more than half the range.

Change at the line: immediate and upward. The first intervention session, 11, is above every baseline session, and the rise continues to 15.

The weak point: the baseline bounces. With swings that wide, six sessions is a thin baseline. The result still looks real because every intervention point is above every baseline point, but a careful reader will want to know why the baseline was so unsteady before crediting the plan.

Where DRAGEN helps

The DRAGENone hub draws these graphs from a session data file, following the six rules every time: zero on the y-axis, phase lines, no line across them, labelled axes. It is arithmetic and drawing, not AI, and it runs on your own computer. The BCBA still reads the graph, because the reading is the clinical judgment.

Source: the graphing conventions in Cooper, Heron and Heward, *Applied Behavior Analysis*, the standard textbook in the field. Every example on this page is invented. Written by Chase Alexander Hought, M.S., BCBA.

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