

Bloom's Taxonomy

A Framework for Deeper Learning, Better Thinking, and Real-World Results



What is Bloom's Taxonomy?

An educational framework that organizes learning objectives by levels of cognitive complexity. It helps you understand how people acquire knowledge, develop understanding, apply what they know, and eventually evaluate or create something new.



"Can I remember it, explain it, use it, analyze it, evaluate it, and create something with it?"



The Six Pillars

Cognitive levels from lower to higher-order thinking.

1

Remember



Retrieve facts, definitions, concepts, and previously learned information.

Key Question
What do I know?

Example: List the OSI model layers.

2

Understand



Explain ideas, interpret information, and connect concepts.

Key Question
Can I explain it?

Example: Explain how DNS resolves to an IP address.

3

Apply



Use knowledge, procedures, and principles in a new situation.

Key Question
Can I use it?

Example: Configure a Docker container.

4

Analyze



Break information into parts, identify relationships.

Key Question
How does it work?

Example: Analyze why one HAOS instance redirects to another.

5

Evaluate



Make evidence-based judgments using defined criteria.

Key Question
Is this effective?

Example: Evaluate Cloudflare Tunnel vs Tailscale.

6

Create



Combine knowledge and skills to design, build, or produce something new.

Key Question
What can I design?

Example: Design a hybrid-cloud clinic infrastructure.



22 Practical Guidelines

Actionable principles based on Bloom's framework.

- 01 Start with clear learning objectives
- 02 Build a foundation of knowledge
- 03 Explain concepts in your own words
- 04 Connect new knowledge to existing knowledge
- 05 Use active recall
- 06 Practice using knowledge
- 07 Move beyond memorization
- 08 Break complex problems into smaller parts
- 09 Identify cause-and-effect relationships
- 10 Compare multiple approaches
- 11 Question assumptions
- 12 Use evidence to test hypotheses
- 13 Establish evaluation criteria
- 14 Distinguish facts from interpretations
- 15 Evaluate solutions against real constraints
- 16 Design solutions rather than only consume information
- 17 Experiment and iterate
- 18 Create artifacts that demonstrate understanding
- 19 Explain and teach others
- 20 Reflect on your learning process
- 21 Transfer knowledge to unfamiliar situations
- 22 Continue improving through feedback



Apply to Real-World Projects

Example: Build a reliable, remotely accessible Home Assistant solar monitoring system.

1

Remember



Learn key terms: PVSS, microinverter, LAN, API, Docker, HAOS, IP address.

2

Understand



Explain how data moves from the solar controller to Home Assistant.

3

Apply



Install HAOS, configure networking, add integration.

4

Analyze



Investigate missing data, HTTP errors, network issues, device failures.

5

Evaluate



Assess reliability and security against remote management requirements.

6

Create



Build a documented system with dashboard, alerting, and a recovery plan.



Learning Plans for Different Topics

The same six-level progression can be applied to any topic.



Home Assistant

- 1 List components and terms
- 2 Explain communication
- 3 Install and configure
- 4 Investigate issues
- 5 Assess reliability and security
- 6 Design a full system



Networking

- 1 Recall IP, DNS, DHCP, TCP/UDP
- 2 Explain client-to-service flow
- 3 Configure addressing/routing
- 4 Trace connection failures
- 5 Compare remote access options
- 6 Design a secure topology



Investing

- 1 Define key terms
- 2 Explain risk and exposure
- 3 Calculate or compare
- 4 Analyze portfolio and assumptions
- 5 Assess strategy with evidence
- 6 Develop investment policy



Solar Troubleshooting

- 1 List system components
- 2 Explain system relationships
- 3 Perform diagnostic checks
- 4 Separate different hypotheses
- 5 Assess proposed repairs
- 6 Build a fault tree and workflow

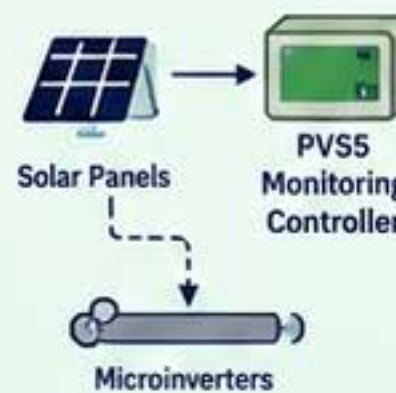


Example System Architecture

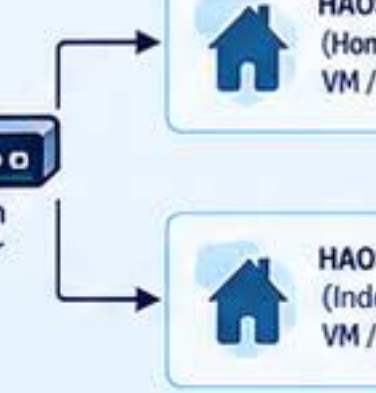
(Home Assistant Solar Monitoring)

A typical architecture based on the conversation context.

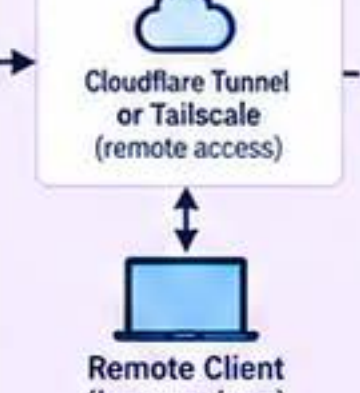
Solar Power System (Field)



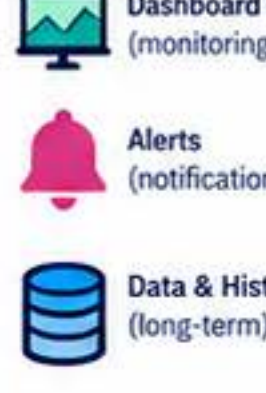
Home Lab / Local Network



Remote Access (Optional)



Outputs / Results



Key Takeaways

- Bloom's Taxonomy measures the depth of learning, not just the amount of information.
- Move from knowing something to doing something with it.
- Higher-order learning involves diagnosing, adapting, justifying, and designing.
- Use the framework for education, self-directed learning, professional development, and problem-solving.



The Learning Cycle

Remember → Understand → Apply → Analyze → Evaluate → Create

A useful progression, not a rigid staircase. Real learning often involves moving between levels.



Final Thought

"Learning becomes more powerful when you can move from knowing something to doing something with it."