



Dino Abstraction Test – Performance Report

Abstraction plays an important role in many fields, including art and music. In STEM, however, abstract thought is a foundational competency for the acquisition and advancement of knowledge and for problem-solving.

At its core, abstract thinking is a gradual process of making ideas more familiar and easier to understand. It helps us organize information by simplifying and enriching it, allowing us to form new concepts and build lasting knowledge. This repeated use of abstract thinking plays a key role in how we learn over time.

Your Overall Test Results

On _____, we tested your abstraction skills using our Dino Abstraction Test. You answered 31 puzzles that were carefully designed to assess your abstraction skills across a wide range of dimensions. Our model uses Item Response Theory to analyze your response patterns and compare them to those of other participants.

Your Abstraction Quotient (AQ) is:

The model maps to a construct of abstract thought in STEM education. We distinguish five levels of abstraction proficiency. The table below shows where you are currently positioned:

Level	Description	You
0	Pre-abstraction	
1	Recognize basic patterns and similarities and extend them within the same context. Categorize representations as rather abstract or concrete.	
2	Transfer a pattern or process and recognize similarities across contexts. Identify the essence and appropriate context for a representation.	
3	Identify patterns and adapt them (and processes) to new contexts. Create and manipulate groups based on multiple attributes.	
4	Combine abstract concepts and navigate freely between levels of abstraction.	

DISCLAIMER: The Dino Abstraction Test is part of an ongoing research project. The results provided by this test should be interpreted as an approximation and should not be used to make any decisions.



Your AQ in Detail

Abstract thought operates through two complementary mechanisms: empirical abstraction, based on experience, and reflective abstraction, based on internal reflection. These modes help us turn perception into structured knowledge.

We evaluate your skill across five key abstraction facets:

Abstraction Facet	Points
Reflective Abstraction Through reflective abstraction, you can remove sensory information from its original context and integrate it with your existing knowledge into “objects of thought” that will remain available to you in the future. With reflective abstraction, you build and manipulate increasingly abstract ideas, for example, mathematical knowledge.	
Pattern Recognition (empirical) Pattern recognition is a key ability to recognize similarities in large quantities of data, spread across different contexts. It is one of the most fundamental elements of abstraction, and you use it to aid other processes.	
Generalisation (empirical) Generalisation aids you in the process of recognizing the essence of empirically won information. Thanks to generalisation, you can focus your attention on the most important information, and you can identify commonalities and create new group categories. Generalisation always shifts knowledge away from its original context.	
Reduction (empirical) Reduction is the counterforce to generalisation. Through this strategy, you can deconstruct information and instantiate knowledge into new contexts. Reductive strategies make empirical knowledge more concrete.	
Levels and Context As a combination of all other strategies, this facet looks at how well you recognize absolute and relative levels of abstraction, and how well you navigate these different levels at the same time. It also measures your ability to identify the appropriate context for knowledge and representations.	

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