human esources®
Your potential. Our passion.

AchieveWorks® Aptitudes

# Counselor Handbook

A counselor/advisor's guide for
using *AchieveWorks Aptitudes* to
understand, counsel and advise students

human esources
Your potential. Our passion.

AchieveWorks Aptitudes

# Table of Contents



*Last revised August 7, 2025*

# Introduction

This handbook has been written specifically for you – the professional who uses *AchieveWorks® Aptitudes* with students. It is our hope that this resource will help both you and your pupils get the maximum benefit from this program. In preparation for using *AchieveWorks Aptitudes* with students, we suggest you begin by first reading this handbook in its entirety and then taking the assessment yourself. This will help you to understand the theory behind the program and provide you with experience and practical advice, ensuring the best possible results when administering *AchieveWorks Aptitudes* to your students. We hope you enjoy *AchieveWorks Aptitudes* and that you find this handbook informative and a helpful resource in using the program with your students. If you have feedback, questions or concerns, please don't hesitate to contact us.

# Background and Theory

*AchieveWorks Aptitudes* is an online assessment tool for high school students designed to help them achieve the following goals:

- Gain an understanding of what aptitudes are and why they matter.
- Identify their current developmental stage for each aptitude.
- Explore careers and pathways that align with their own aptitude profile.
- Consider specific opportunities to grow and develop all of their aptitudes.

*AchieveWorks Aptitudes* is founded on the premise that individuals who understand their unique abilities — and know the most effective ways to optimize and develop them — are better positioned to succeed at school and in the workplace. It complements the *AchieveWorks* suite (Personality, Intelligences, and Skills assessments) by focusing specifically on cognitive abilities. When used alongside these other tools, students and professionals gain a comprehensive picture of their current selves and future possibilities.

The assessment draws from multiple well-established foundations:

1. The cognitive abilities identified by the **O*NET Content Model**, a comprehensive, research-based framework developed by the U.S. Department of Labor. O*NET outlines the key attributes essential for success across occupations, including cognitive abilities, skills and knowledge areas. It integrates decades of research on workplace competencies—particularly cognitive abilities—into a theoretically and empirically sound system, providing a strong basis for selecting aptitudes that are both career-relevant and meaningful. (See Table 1.)
2. The history and evolution of aptitude assessments, beginning with the **General Aptitude Test Battery (GATB)** and extending to contemporary research on cognitive aptitudes. This body of research explores factors such as distinct neural pathways involved in information processing and is supported by empirical frameworks like the **Cattell-Horn-Carroll (CHC) theory**, which identifies independent factors of cognitive performance. (See Table 2.)
3. The practical constraints of an online, auto-scored assessment, which necessitate a focus on aptitudes that can be accurately measured in a digital, time-limited format. Careful attention is given to designing items that are well-suited for automated scoring and accessible to a wide range of students.

These considerations led to the selection of eight aptitudes, outlined in Table 1.

### Table 1. Aptitudes assessed by *AchieveWorks Aptitudes*

| Aptitude | Description |
|---|---|
| Computation | The ability to perform a variety of mathematical calculations quickly and accurately. |
| Fluid Reasoning | The ability to think flexibly, and recognize and predict patterns in information. |
| Logic | The ability to use deductive reasoning to solve novel problems efficiently. |
| Math Reasoning | The ability to select and use a variety of techniques to solve mathematical problems efficiently. |
| Memory | The ability to store and recall information quickly and accurately. |
| Processing Speed | The ability to quickly identify differences and similarities in text and images. |
| Spatial | The ability to accurately visualize the rotation, shifting and folding of various objects. |
| Vocabulary | The ability to understand and correctly use a wide range of words. |

The following table illustrates how each aptitude aligns with well-established models of cognitive abilities, including the O*NET Content Model, the Cattell-Horn-Carroll (CHC) theory, and the General Aptitude Test Battery (GATB). This alignment ensures that *AchieveWorks Aptitudes* is grounded in widely recognized, research-supported frameworks and reflects the theoretical rigor behind its design.

### Table 2. Alignment of *AchieveWorks Aptitudes* with established cognitive frameworks

| AchieveWorks Aptitude | O*NET Cognitive Ability | CHC Cognitive Ability | GATB Aptitude | Ball Aptitude Battery |
|---|---|---|---|---|
| Computation | Number Facility | Quantitative Knowledge (Gq) | Numerical | Numerical Computation |
| Math Reasoning | Mathematical Reasoning | Fluid Reasoning (Gf), Quantitative Knowledge (Gq) | Numerical | |
| Fluid Reasoning | Category Flexibility, Inductive Reasoning, Speed of Closure | Fluid Reasoning (Gf) | — | Inductive Reasoning |
| Logic | Deductive Reasoning, Information Ordering | Comprehension-Knowledge (Gc), | — | Sequential Reasoning |

| AchieveWorks Aptitude | O*NET Cognitive Ability | CHC Cognitive Ability | GATB Aptitude | Ball Aptitude Battery |
|---|---|---|---|---|
| Spatial | Visualization | Visual Processing (Gv) | Spatial | Spatial Visualization |
| Processing Speed | Flexibility of Closure, Perceptual Speed | Processing Speed (Gs) | Form Perception, Clerical Perception | Clerical Speed |
| Memory | Memorization, Selective Attention | Short-Term Memory (Gsm) | — | Associative and Visual Memory |
| Vocabulary | Written Comprehension | Comprehension-Knowledge (Gc), Reading and Writing Ability (Grw) | Verbal | Vocabulary |

The development of the *AchieveWorks Aptitudes* instrument also considers how information is presented. Three aptitudes—Fluid Reasoning, Memory, and Processing Speed—are assessed using two distinct modalities: perceptual and symbol-based (see Table 3). The perceptual modality involves direct visual perception, typically through images or shapes, while the symbol-based modality uses abstract representations such as words or numbers. This separation allows for more targeted measurement of each aptitude and offers greater flexibility for neurodiverse learners, including those with visual or reading challenges.

### Table 3. Modalities Used to Assess Each Aptitude

| Aptitude | Perceptual Modality | Symbol-based Modality |
|---|---|---|
| Computation | | ✓ |
| Fluid Reasoning | ✓ | ✓ |
| Logic | | ✓ |
| Math Reasoning | | ✓ |
| Memory | ✓ | ✓ |
| Processing Speed | ✓ | ✓ |
| Spatial | ✓ | |
| Vocabulary | | ✓ |

# Assessment Structure

*AchieveWorks Aptitudes* consists of distinct but related assessment sections, which together measure eight core aptitudes. Some aptitudes are assessed through more than one format, specifically those with both perceptual and symbol-based components. Each one has a unique question format, item count, and time limit. See Table 4 for how the assessment sections are distributed across the eight aptitudes.

### Table 4. Structure of Assessment Sections by Aptitude[1]

| | Perceptual | | Symbol-based | |
|---|---|---|---|---|
| | Items | Time (min) | Items | Time (min) |
| Computation | | | 40 | 13 |
| Fluid Reasoning | 13 | 10 | 23 | 14 |
| Logic | | | 16 | 20 |
| Math Reasoning | | | 22 | 20 |
| Memory[2] | 14 | 5[2] | 20 | 8[2] |
| Processing Speed | 16 | 5 | 30 | 6 |
| Spatial | 15 | 10 | | |
| Vocabulary | | | 26 | 9 |

*Notes*

1. Number of items and time limits are subject to change based on ongoing results analysis.

2. Memory sections do not limit response time, so approximate durations are provided.

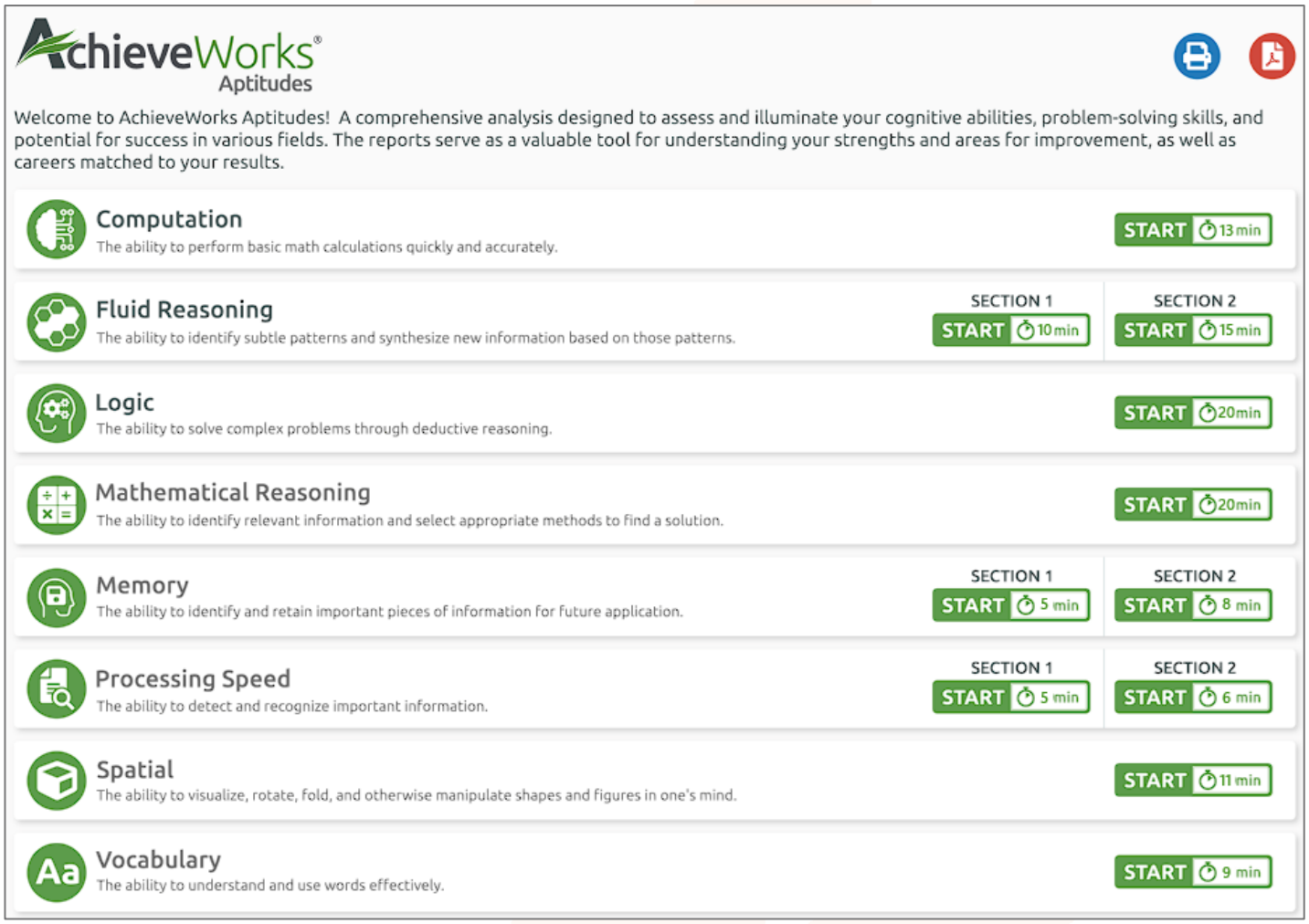
## Main Screen

Students begin on the main screen of the *AchieveWorks Aptitudes* platform, where they can choose from the available assessment sections. There is no required sequence; students may complete the assessment in any order. Selection can be guided by discussions with a counselor, teacher or other supporting professional, depending on the student's needs or goals.

To encourage a positive experience and build confidence, it is recommended that students start with an aptitude area in which they feel most comfortable. This approach can help reduce anxiety and improve performance.

An example of the main screen interface is shown on the next page.

### Main Screen Example




## Introductions

Each assessment section begins with a sequence of three introduction screens designed to prepare students and support their best performance. These screens provide essential information about the structure, content and expectations of the section they are about to complete.

- **Screen 1** gives an overview, including what specific aptitude it measures and the expected time required to complete it.
- **Screen 2** presents example questions and sample instructions to help students become familiar with the question format and the types of tasks they will encounter.
- **Screen 3** offers final reminders regarding the time limit, navigation and permitted tools. Students are advised to have paper and pencil available for most sections. Calculators may be used for the Math Reasoning portion but are not permitted for Computation.

For sections that rely on image-based questions (those using perceptual modalities), students are strongly encouraged to use a desktop, tablet or laptop. These devices offer larger screens that allow for better

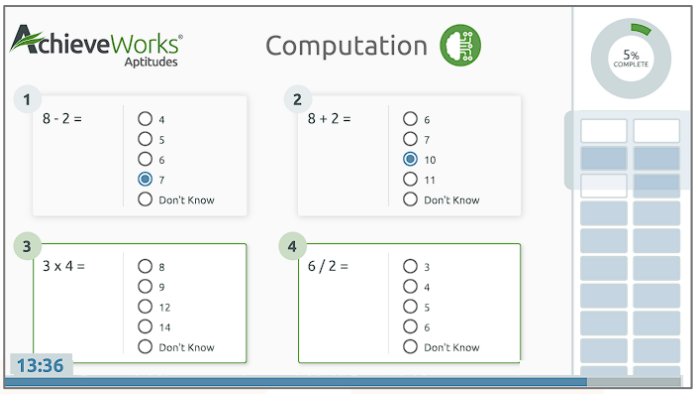
visibility of visual details. Using a smartphone for these sections may hinder performance, as critical elements could be difficult to view on smaller screens, potentially adversely impacting results.

## Navigation and Question Format

After the third and final introduction screen, students are presented with a Start button. Once they begin, the timer—visible on screen and not able to be paused—will immediately start counting down. Exiting the assessment section before completion will trigger a final score based on the responses submitted up to that point.

With the exception of the two Memory sections, all assessment questions are presented on a single, scrollable page. A timer overlay, typically located at the bottom of the screen, helps students manage their remaining time. A question tracker appears along the right side of the screen, allowing students to monitor which questions have been answered. This tool also serves as a navigation aid, enabling students to quickly return to unanswered questions.

### Question Navigation Example




Questions generally increase in difficulty as the student progresses through them. Because of time constraints, the recommended strategy is to work through questions sequentially but to skip those that are too time-consuming. If time permits, students can return to skipped questions using the question tracker.

All questions are multiple choice, with five response options and only one correct answer. The scoring system is designed to discourage random guessing:

- A correct answer earns **1 point**
- An incorrect answer deducts **0.25 points**
- Selecting **"Don't know"** results in **0 points** (no penalty)

If a student has no idea of the correct answer, choosing the **"Don't know"** option is preferable to guessing. However, if the student can confidently eliminate some options and narrow it down to two, it may be mathematically beneficial to guess. Unanswered questions are also scored as zero. Selecting "Don't know" marks the question as answered in the tracker, helping students accurately gauge their progress.

## Memory Questions

The two assessment sections that measure Memory differ in format from the others in *AchieveWorks Aptitudes*. For Memory, questions are presented one at a time and must be completed in a fixed sequence. Students cannot skip questions or return to previous ones once they have moved forward.

Each memory question begins by displaying a stimulus, such as a brief passage of text or an image, for a limited time—typically around 10 seconds. After the stimulus disappears, the student is prompted to select the correct answer based on what they recall from the initial display.

Because of this design, the Memory sections require students to rely on short-term recall without the opportunity to review or revisit earlier information. This format helps ensure that the results accurately reflect a student's immediate memory performance under timed conditions.

# Results and Report

To generate results for a specific aptitude, all related assessment sections must be completed. For five of the eight aptitudes, only one section is required, allowing students to view their results immediately upon completion. However, three aptitudes—Fluid Reasoning, Memory, and Processing Speed—are assessed through both perceptual and symbol-based formats. In these cases, both assessment sections must be completed before results are available.

This structure ensures that each aptitude is measured comprehensively and accurately, particularly when multiple modalities are involved.

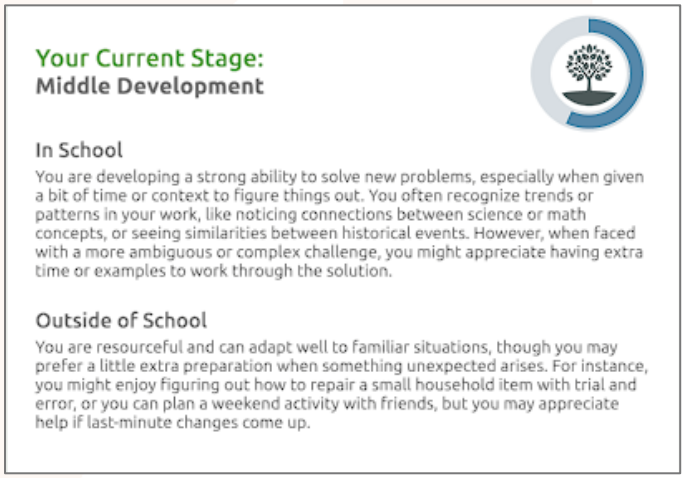
The results are presented in a personalized report that includes several key components: an aptitude measure, an explanation of why the aptitude is important, a list of related career pathways, and practical strategies for developing the aptitude further.

## Aptitude Measure

The aptitude measure is visualized as a circular progress bar, which fills in proportion to the student's score. A numerical score is *not* displayed—this is intentional, as the precision implied by a specific number cannot be supported by the nature of the assessment. Instead, the report focuses on developmental stages, such as emerging, moderate or strong development. For example, a progress bar filled slightly more than halfway would suggest the student is currently in a middle stage of development for that aptitude.

This format emphasizes growth and potential as opposed to fixed scores, aligning with the developmental purpose of *AchieveWorks Aptitudes*.

### Aptitude Measure Example

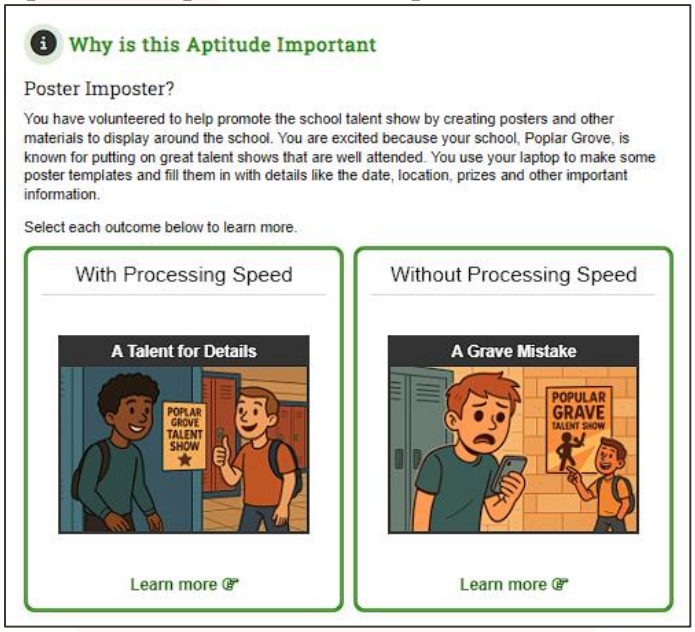



## Aptitude Importance

Beneath the aptitude measure, the report provides two contextual descriptions that illustrate how the aptitude may currently be expressed—one in an academic setting and the other in everyday life outside of school. This section is labeled "Your Current Stage" to emphasize that aptitude development is ongoing and can improve over time with intentional effort and practice.

Following this, the report includes a section titled "Why is this Aptitude Important?" This part presents a relatable, real-life scenario to help students understand the practical impact of the aptitude. The scenario outlines two possible outcomes: one in which the aptitude is underdeveloped or unused, and one in which it is well-developed and effectively applied. This interactive component is designed to demonstrate the real-world value of developing each aptitude and to help students connect their results to meaningful, everyday situations.

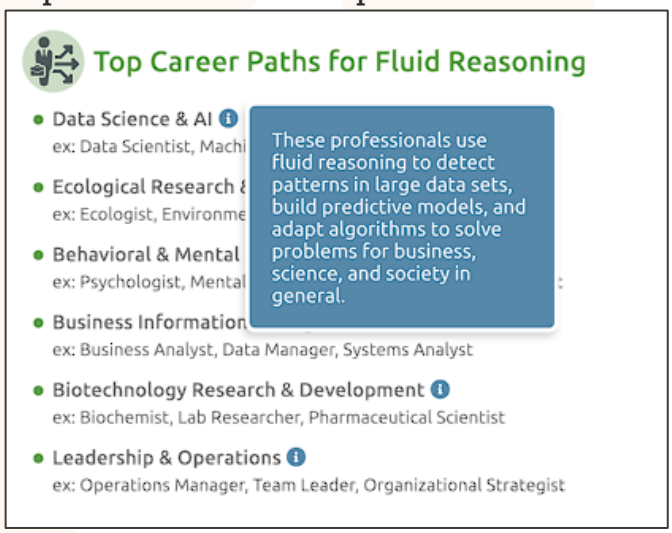
## Aptitude Importance Example




## Career Paths by Aptitude

The report also includes a section titled "Top Career Paths" that highlights careers commonly associated with the aptitude. These pathways are aligned with the nationally recognized Career Clusters framework. For each career path, the report provides concrete examples of how the aptitude is applied in real-world settings, helping students better understand its relevance and potential impact in various fields.

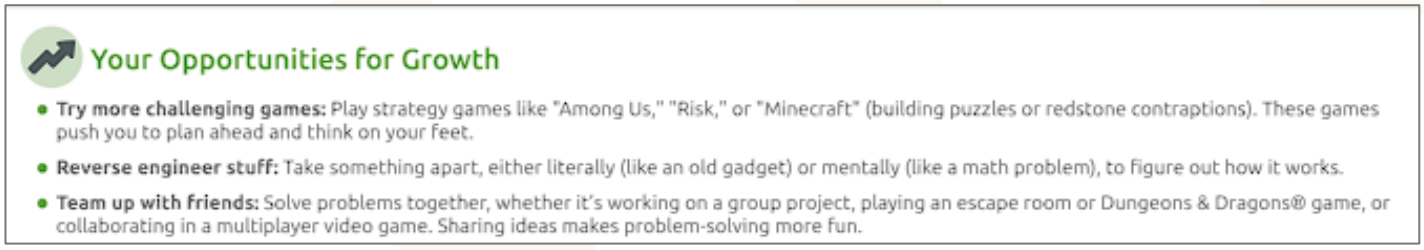
## Top Career Paths Example



## Aptitude Development

Finally, the report includes “Opportunities for Growth”, which are recommendations for developing the aptitude. The recommendations are specifically designed to be engaging for high school students.

### Top Career Paths Example




## Careers

When at least one aptitude is completed, students can access their matching careers list. The list is based on all completed aptitudes to that point. The more aptitudes that get completed, the more precise the matching calculation is. The calculation works by comparing the aptitude measures of the student to what is typically expected for each career. The best 200 career matches, out of close to 900, are shown with the best matches sorted to the top of the list. Students should equally consider any of the careers in their list, not just the top few. Students should also be encouraged to use other filters to narrow the list of 200. For example, they can use Career Cluster, expected education level, and outlook to help narrow their list of considerations. Students can also view career matches based on the results of multiple assessments, which should be a shorter list.

# Frequently Asked Questions

## Why are there so many different parts to the assessment?

The 11 individual assessment sections reflect the complex and multi-dimensional nature of cognitive abilities. By measuring each aspect independently, *AchieveWorks Aptitudes* provides a more detailed and accurate picture of a student's current strengths. This structure also supports more meaningful alignment with career pathways that suit a student's aptitude profile. Additionally, the varied assessment formats offer greater accessibility for students with different learning needs, as some assessment types may be more suitable than others for particular individuals.

## Do students need to complete all of the assessment sections?

Students are not required to complete all 11 sections at once, and in some cases, not all of them may be necessary. Completing the full set typically takes about two hours, so we recommend spreading this out over multiple sessions. Results are available for each aptitude as soon as all related sections for that aptitude are completed, offering valuable insights along the way. Completing the full set does allow for better matching to career opportunities.

For students with specific learning difficulties, it may be appropriate to omit certain sections based on individual needs. Educators and support staff are encouraged to use professional judgment when adapting the assessment experience.

## Why do some aptitudes have two parts?

Five of the eight aptitudes are measured using a single assessment section. However, Fluid Reasoning, Processing Speed, and Memory are each measured using two distinct sections—one in a perceptual modality and one in a symbol-based modality.

- The perceptual modality involves direct interpretation of images or shapes—information that is processed visually and literally.
- The symbol-based modality uses abstract symbols such as letters, numbers or words—systems of meaning that must be learned and interpreted.

By assessing these aptitudes in both modalities, the tool provides a more complete and differentiated picture of a student's cognitive strengths. Only these three aptitudes were found to be practically and meaningfully measurable in both formats. For example, mathematical reasoning relies heavily on symbolic processing, so a perceptual version of that assessment would not provide a valid or distinct measure.

## What is considered a "good" score?

There is no "good" or "bad" score when it comes to aptitudes—only a reflection of your current stage of development. Think of it like a snapshot of your height at a certain age: it simply shows where you are right now. The key difference is that, unlike height, aptitudes can continue to grow and improve with focused effort and practice.

The goal of the assessment is not to rank or label students, but to help them understand their strengths and identify areas for further development. Every student has the potential to build their aptitudes over time.

### Why are there time limits?

Time limits are an essential part of the assessment process for several reasons. First, they contribute directly to the accuracy of what is being measured. For aptitudes such as fluid reasoning or spatial ability, response speed is a key component. If two individuals arrive at the correct answer, the one who does so more quickly demonstrates a higher aptitude in that area.

Time limits also help preserve the integrity of the assessment. The limited timeframe discourages students from seeking outside help—such as using online searches, AI tools or assistance from others—because doing so would likely prevent them from completing the assessment on time.

In addition, time constraints help students stay focused. Research has shown that when people know they have a set amount of time to complete a task, they are more likely to remain engaged and perform to their potential. Without time limits, students may be more prone to distractions, which can reduce the reliability of the results.

That said, time pressure may affect some learners differently. For students with specific learning needs, counselors and educators can modify time limits to ensure a more equitable and accessible assessment experience.

### What if a student doesn't achieve the results they expected?

It's important to remember that there is no such thing as a "good" or "bad" score on the *AchieveWorks Aptitudes* assessment—only a snapshot of the student's current stage of development in specific areas. Each aptitude reflects just one dimension of a much broader set of abilities, and a low measure in one or more aptitudes does not define a student's overall academic or career potential.

If a student receives results that seem unexpectedly low, a conversation with a counselor, teacher or other educational professional is strongly recommended. The report includes development tips for each aptitude, and the results can serve as a starting point for goal setting and skill building.

When multiple aptitudes appear underdeveloped, it may be helpful to consider the following questions:

- Was the student rested, focused and ready to engage with the assessment that day?
- Did they read the instructions and examples carefully?
- Were they aware of and prepared for the time limits?
- Could they benefit from strategies for taking timed assessments?
- Are any testing accommodations appropriate for this student?
- How do the results compare with the student's performance in related school tasks?

Assessment results are most useful when interpreted in context and used as a tool for reflection and growth, not as a judgment.

### Can students retake the assessment, and if so, when is it appropriate?

Retakes are permitted in certain cases but should be approached with caution. If a student feels that their results do not accurately reflect their abilities, they should discuss the concern with a counselor or other educational professional. If both agree that a retake is appropriate, the professional can reset the assessment.

However, retaking an assessment too soon can compromise the validity of the results. Once a student has seen the questions, familiarity with the content may artificially inflate their score on a second attempt. A retake should only be considered after enough time has passed that the student is unlikely to recall specific items—this may vary by individual, but a general guideline might be around a month.

Retaking the assessment in subsequent school years to measure growth is appropriate. This can provide a meaningful view of how a student's aptitudes have developed over time.

### Is the assessment accessible for students with special learning needs?

*AchieveWorks Aptitudes* is designed with accessibility in mind and adheres to WCAG guidelines for digital accessibility. However, due to the nature of some assessment content, not all sections can be fully adapted to meet every need. For example, certain questions in the spatial aptitude section rely on interpreting three-dimensional images that cannot be read by screen readers or meaningfully translated into alternative formats.

In such cases, professionals are encouraged to disable assessment sections that may present barriers and focus on those that are more adaptable for the student's abilities. Time limits for individual sections can also be adjusted to better support students who require additional processing time.

In general, *AchieveWorks Aptitudes* may not be appropriate for students who require extensive accommodations or have highly modified learning plans or IEPs. Final decisions about whether to administer the assessment should be made collaboratively by educational professionals and the student's parent or guardian, with the student's best interest in mind.

### What happens if a student exits an assessment section before finishing?

If a student exits an individual assessment section before completing it, the system will automatically lock that section. Any responses submitted up to that point will be scored, and a final result will be calculated based on the completed portion. The student will not be able to return to or resume the same section once it has been exited.

Students are reminded during the introduction screens to set aside uninterrupted time before beginning each assessment section. This design helps maintain the validity of the results and protects the integrity of the content by discouraging workarounds or attempts to seek outside help during testing.

If a student is unable to complete an assessment section due to extenuating circumstances, a counselor or other educational professional may choose to reset that specific section. For guidance on retake procedures, please refer to the related FAQ: "Can students retake the assessment, and if so, when is it appropriate?"

### What should a student do if they don't know the answer to a question?

This is an important conversation to have before a student begins the assessment. Each question offers five response options: four content-based choices and a fifth option, "Don't know." This option is included to discourage random guessing and ensure results reflect what the student truly knows or can do.

The scoring system is designed to account for the chance of guessing. A correct answer earns +1.0 point, but an incorrect answer results in a deduction of -0.25 points. The reason for this penalty is statistical: with

four content options, a random guess has a 25% chance of being correct, which could unfairly inflate scores over time.

If a student genuinely does not know the answer and cannot eliminate any options, they are encouraged to select "Don't know," which is scored as 0 points—no gain, but no penalty. However, if the student can confidently narrow the options down to two, it may be worth making an informed guess, as the odds of selecting the correct answer increase to 50%.

This approach rewards knowledge and thoughtful decision-making while discouraging pure guessing, helping to produce more accurate and meaningful results.

### A student seems unhappy with their top matching careers. What is going on?

The career list is based only on the completed aptitudes. If only a few are complete, there is not very much information available to determine matching careers. And, more importantly, aptitudes do not necessarily predict whether someone will *enjoy* a particular job. Aptitudes indicate the likelihood that specific cognitive abilities can be developed to *perform* a certain job. The matching list for Aptitudes is intentionally long. It is best to combine aptitude with other career filters, such interests, career clusters and personality, which then shortens the list to careers that align with *both* capability and preference.

### What if a student is interested in a career that does not appear in their career matches?

Aptitudes can be developed to some degree and while they are a strong predictor of one's ability to develop the specific skills needed in a career, they are not an absolute predictor. Motivated and hard-working individuals can find a way to be successful with almost any career goal. The matching list is more meant for students needing guidance. If a student already has a specific career goal in mind, they can use their aptitude measures as a benchmark to identify any aptitudes needing development for their specific career goals.

## Conclusion

The *AchieveWorks Aptitudes* assessment provides valuable insights into students' cognitive strengths and areas for growth, helping to build a foundation for informed academic and career planning. When paired with thoughtful interpretation and professional guidance, the tool becomes a powerful resource for supporting each student's unique potential.

As with all educational tools, continued collaboration and feedback from professionals in the field are essential. We invite you to share your experiences and insights so we can continue to evolve *AchieveWorks Aptitudes* to better serve the needs of students and educators across a wide range of learning goals and environment