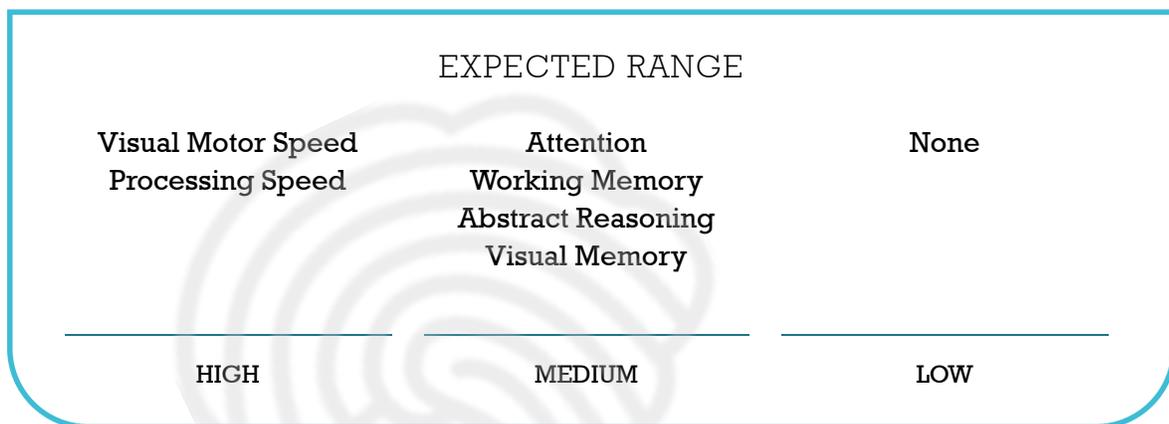


9 year old female

March 23, 2018

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Summary Results



Flexible Thinking
Verbal Reasoning
Verbal Memory

STRENGTHS



Spatial Perception

SKILLS TO SUPPORT

Based on standardized, normative data

- Ahead of peers, top 16% of peer group
- Developing appropriately for peer group
- High** 70th - 84th percentile
- Medium** 32nd - 69th percentile
- Low** 17th - 31st percentile
- Developing behind peer group, may require outside support, bottom 16% of peer group

Susan's Stronger Skills

- **Verbal Reasoning and Memory:** Susan's strength in verbal reasoning and memory suggests that she is very comfortable understanding, analyzing and remembering language-based concepts. Having a strong ability to understand and remember what you read is a key skill to support learning across subjects.
- **Flexible Thinking:** Susan's excellent flexible thinking shows she can effectively take feedback and shift her thinking to solve novel problems. This is an important skill for complex problem solving, even in topics she finds challenging.

Susan's Skills to Support

- **Spatial Perception:** Susan had some difficulty on the task of spatial perception, or the ability to visualize how objects relate in space. Spatial skills can impact performance in topics such as geometry, lengthy math problems where one must lay out problems on a page, and other hands-on activities.
- **Differences in Skills:** Susan might benefit from a greater understanding of how the relative differences in her skills can affect her learning efficiency. While Susan's abstract reasoning and visual memory are good, her verbal skills are excellent. This difference could be a source of confusion if understanding and remembering language-based concepts comes relatively easily, while understanding and remembering visual or abstract concepts, typically in math and science, requires more effort.
- **Processing Speed:** Susan worked at an above average pace on most tasks. Quick pace can be an asset provided it does not lead to scattered errors. Susan's quick speed could suggest that she is not having the depth of focus she needs to show her best work.

Recommendations for Susan

- **Support Spatial Perception:** Using graph paper or multi-colored pencils might help her organize multi-step math problems. Reading strips can help her eyes focus while reading lengthy texts.
- **Use Verbal Strengths:** When Susan encounters challenging problems, remind her to step back and use her strong flexible thinking to carefully consider her alternatives and identify the best solution. Encourage Susan to use her strong verbal skills to talk through and describe visual or abstract problems to help her understanding and retention.
- **Awareness of Pacing:** It will be important to build Susan's awareness of when to work quickly and when to slow down to ensure her best work. Some students benefit from using a visual timer so they are more aware of their pacing and recognize when they are working too quickly. If she finishes tasks early, you can remind her to go back and check her work. Many students benefit from being taught explicit strategies of how to check work under different scenarios.
- **Nurture Strengths:** You might want to provide Susan with authentic opportunities to nurture her excellent verbal reasoning and problem solving skills so she experiences new challenges, develops self-confidence and enjoys learning. Susan might enjoy creative activities in the social sciences.

More recommendations can be found in [Susan's Personalized Learning Plan](#)

Performance by Skill

This report is organized by the four major domains of learning: speed, executive functions, complex reasoning, and memory. Across the domains, 10 cognitive skills were assessed. You will find descriptions of these 10 cognitive skills grouped by domain, followed by a description of how Susan performed on a test of each skill. This description of how Susan learns will help you recognize which activities will come more easily to her and anticipate which may require more support. Mindprint uses the information from this report to tailor recommendations for supporting strategies and follow-up activities that you will find in Susan's Toolbox. You will find these recommendations when you log in to your Mindprint Learning account. We hope you will make good use of the Toolbox since exposure and practice could lead to cognitive improvements.

SPEED

- How fast students work can have a large impact on school performance. Students who work efficiently are able to complete thoughtful work within the expected time. They can use any extra time to check their work, take on more challenges, or relax before the next task.

Students who work at a slower pace might find that they simply cannot get all their work done in the allotted time. These students might not be able to finish tests or they might take a long time to complete homework. This can leave students feeling stressed or anxious.

Some students accept the slower pace. Others rush through their work too quickly, however, in an effort to finish on time, which can have an impact on accuracy.

There are two types of **speed** that affect performance: **visual motor speed** and **processing speed**.

Visual Motor Speed

Visual motor speed is the rate at which a student can see and physically respond. Athletes usually have excellent visual motor speed. In school, students with strong **visual motor speed** might be fast at typing, copying assignments from the board, or efficiently handling procedures in the science lab.

On a test of **visual motor speed**, Susan was shown one square on the screen and asked to click on it as quickly as possible each time it reappeared. The square changed locations and became smaller as the test progressed. This simple task was Susan's first test, designed to make her comfortable with the testing environment and to create a baseline for how quickly she can react when she does not need to think about answers.

Susan performed in the **high end of the expected range** on our test of visual motor speed. Good capability in visual motor speed supports efficiency in activities such as note taking, art projects, and science experiments. If you would like recommendations for Susan to further develop visual motor speed you can click on the link for visual motor speed in the Next Steps section of this report.

EXPECTED RANGE

Processing Speed

Processing speed is the rate at which a student takes in and analyzes information. Speed is a global process impacting all other learning. Students with efficient processing speed work quickly and accurately. Working quickly is not the same as working efficiently, however, as a fast pace but scattered errors can indicate that a student is processing information with insufficient depth. Students who work too quickly often have grades that do not reflect the student's best ability.

Conversely, students with slower **processing speed** take longer to read with full comprehension, finish assignments, or respond thoughtfully to questions. Sometimes a slower, more deliberative approach can be beneficial, especially for complex tasks. Other times, slower pace can be inefficient and interfere with the student's ability to keep up with the class or finish in an appropriate amount of time.

All of the tests in the Mindprint battery assess both accuracy and speed. One of the advantages of computerized testing is that it provides precise measurements of the child's working speed. We compare speed on fast-thinking tasks such as attention and memory to more deliberative tasks such as complex reasoning. This comparison enables us to assess if the student is efficiently working at an appropriate pace for the type of task.

Susan performed in the **high end of the expected range** on our measure of processing speed. Susan's quick pace could benefit her in many ways, particularly on timed tasks or as she needs to tackle greater quantities of work. However, at times she might benefit if she is encouraged to use extra time to think more deeply about challenging material or go back and check work. You can find suggestions on how to help Susan understand more about processing speed and how to make adjustments by clicking on the link for processing speed in the Next Steps section of this report.

EXPECTED RANGE

EXECUTIVE FUNCTIONS

What are Executive Functions?

You might be surprised to hear us talking about executive skills for your child, but not to worry. We are still talking about fundamental learning processes. **Executive functions** refers to a set of neuropsychological skills that involve the organization system for thinking. Just as the person in charge of a business has the powers of an executive, each person is in charge of his or her own thinking and actions. We consider abilities such as purposeful goal-directed activity, paying attention, evaluating, decision-making, planning, organizing, implementing, and following through. Succeeding in school, pursuing a hobby, learning athletic strategy and teamwork all require **executive functions**. We are particularly focused on the **executive functions** of **attention**, **working memory**, and **flexible thinking**.

Attention

If executive function is the commander at the top of the system, **attention** controls the flow of information in and out of the mind. If a student is actively focusing, the quality of work will likely be consistent. If a student tunes in and tunes out, she will miss details in the information and have more inconsistent results. A capable child whose attention is inconsistent is working with spotty information and therefore likely to produce inconsistent work. While it is easier to pay attention for tasks that we enjoy, such as a television show or a game, it is harder to maintain consistent focus for tasks that we might not find fun or interesting.

Susan performed in the expected range on efficiency for this task. Susan was able to maintain an age-appropriate level of attention. If you are interested in further developing Susan's attention skills, you can click on the link for attention in the Next Steps section of this report.

EXPECTED RANGE

Mindprint considers two aspects of performance in our measure of attention. We measure how accurate a child is on the task and also the working speed the child maintains to achieve that level of accuracy. The amount of time a child spends in order to maintain accuracy is important, as it indicates if the child is

lagging in processing information, slowing down efforts in order to compensate for difficulty, or impulsively responding. We also compare attention across different tasks, looking at whether a child can maintain sufficient depth of attention in order to solve problems or remember information.

On the test for attention, Susan was shown a seven segment display which changed every second. Susan had to press the space bar whenever the display formed a complete digit or a letter. This admittedly dull task challenges a child to control attention by continuing to focus as long as needed even if bored. This task creates a demand for sustained **attention** similar to that needed to follow through on a frustrating homework assignment, listen to a presentation by a teacher, or complete an extended reading task.

Working Memory

A second area of **executive function** that we tested was **working memory**. **Working memory** is the ability to hold information long enough to use it for completing a task. Remembering a phone number long enough to dial is a simple example of **working memory**. This type of memory is used for following multi-step directions, completing mental arithmetic, listening to a complex story, or answering reading comprehension questions.

On the **working memory test**, Susan was asked to do three conditions of a simple task. The test displays sequences of uppercase letters. In the first condition, Susan responded when she saw the letter X. In the second condition, she needed to respond if the letter in front of her was identical to that preceding it. In the final condition, she was asked to respond if the letter in front of her was identical to that presented two letters previously. This is seemingly simple, but it is actually a quite challenging task. Susan had to pay attention to constantly changing information, remember and mentally refresh relevant information, and simultaneously remember the instructions. Some students find that their minds start to get overloaded with the combination of letters and instructions, while other students complete this task more easily.

Susan performed in the **expected range** on this task. Susan had a fine ability to hold information in working memory and juggle an age-appropriate amount of information to solve a problem. If you would like recommendations for Susan to further develop working memory, you can find additional suggestions in the Next Steps section of this report.

EXPECTED RANGE

Flexible Thinking

Flexible thinking, or the ability to shift gears or change direction to adjust to unexpected changes in the surroundings, is an important problem solving skill. While working on a solution, a child must recognize when it may be necessary to try a new approach. Shifting is central to handling transitions, tolerating change, problem solving, and changing from one topic to the next. **Flexible thinking** relies on abstraction, or the ability to develop meaning, structure and order from complex information. Making connections, seeing the relationship between different events or topics, and meaningfully interpreting stories, are all experiences that help abstraction skills develop. Children strong in this skill will probably be good at changing tactics if their first attempt is unsuccessful. In contrast, people who get stuck often have trouble taking a new point of view, trying a new solution, or accepting redirection.

On the test of **flexible thinking**, Susan was presented with four objects at a time. Susan needed to select the object that did not belong with the others based on one of three sorting principles. Sorting principles changed, and feedback was given to guide correct identification of the principle. Susan had to

COMPLEX REASONING *

take feedback about being incorrect, shift gears, and find a new strategy. This test looks at whether Susan can think flexibly, impose order on new information, and efficiently problem solve.

What is Complex Reasoning?

Complex reasoning is the ability to analyze information and solve complicated problems. When children use reasoning skills, they are thinking through ideas in a logical way to arrive at a conclusion. This is often referred to as “higher order thinking.” **Complex reasoning** skills become increasingly important as children move through grades at school. The complex reasoning skills we assessed were **verbal reasoning**, **abstract reasoning**, and **spatial perception**.

* Verbal Reasoning

Verbal reasoning requires students to make connections, identify relationships, predict potential events, read between the lines, and make inferences when concepts are presented in words. Students with stronger **verbal reasoning** skills are often quick to make connections between prior knowledge and experiences and new information. When learning in class, reading a book, or going on an excursion they are quick to figure things out. Conversely, students with weaker skills might need to ask more questions and receive more guidance before they develop a full understanding of a concept or situation.

On the test for verbal reasoning, Susan was presented with two words that relate to each other in a specific way and then asked to find another pair of words that relate to each other in the same way. For example, cat and kitten have the same relationship as dog and puppy.

* Abstract Reasoning

A second area of **complex reasoning** we tested was **abstract reasoning**. **Abstract reasoning** is the use of critical thinking to solve problems that offer information in visual form, rather than words or numbers. Although the problem is visual, like a puzzle or a maze, the child might still use word-based reasoning. Children with a strength in this area can analyze novel problems and identify patterns and principles. They might readily understand new math concepts, come up with an insightful hypothesis in

Susan performed **above the expected range** on this task. Susan demonstrated a very good capability to find alternative problem solving techniques. This skill could be a great asset as she confronts novel problems that require adaptive thinking and do not have a single correct answer. If you would like suggestions to nurture flexible thinking, you can click on the link for flexible thinking in the Next Steps section of this report.

STRENGTH

Susan performed **above the expected range** on this task. Susan has a very good ability to reason through word-based information. You might find that she is often ahead of peers when she is asked to comprehend a story, read and understand written materials, or answer challenging questions. Susan's strength in this area could be a tremendous asset in all areas of school work, and you might want to continue to cultivate this strength. You can find specific recommendations for Susan by clicking on the link for verbal reasoning in the Next Steps section of this report.

STRENGTH

science, or understand a complex plot in a novel. Conversely, children with a weakness in this area often shy away from tasks that require visualizing how objects fit together in space or suggesting solutions in new situations.

On the **abstract reasoning** test, Susan was asked to identify the missing piece of a pattern. To figure out which answers fit best, Susan had to reason by analyzing and contrasting geometric and spatial principles.

Susan performed in the **expected range** on this task. Susan did a fine job of using good reasoning skills to understand the pattern. This skill will be important when she is asked to consider complex tasks that require her to analyze information, come up with solutions, or draw logical conclusions. If you are interested in finding products or strategies to further develop Susan's abstract reasoning, you will find links in the Next Steps section of this report.

EXPECTED RANGE

Spatial Perception

Spatial perception includes an understanding of direction, orientation, scale, and relationship between objects in space. People rely on spatial skills in art, maps, use of space on a page for writing, navigating screens on a computer, or planning a three-dimensional project, among other possibilities.

On the test of **spatial perception**, Susan was asked to view two lines at an angle. Susan had to make one line rotate until it had the same angle as the other. The relative location of the lines and their sizes differed in each example. This is a purely spatial task that does not involve thinking in words.

How is **memory** like the library? If books were shelved in no particular order, it would be nearly impossible to find a specific book when we need it. The library's filing system of subject area, Dewey decimal number and author's name, makes it straight-forward to efficiently find the book we need. But when someone replaces a book in the wrong spot, it is a frustrating and difficult process to locate it.

Memory is the mind's storage and retrieval system. Like the library, **memory** is efficient if information is entered in an organized manner so we can find the data we need when we need it. How a child takes in and organizes information in **memory** has a big impact on how easily that child is able to recall information under specific circumstances.

Mindprint tested Susan in two areas of **memory** central to learning, **verbal memory** and **visual memory**.

Susan performed **below the expected range** on this task. You might find that she might struggle with specific activities such as art, geometry and other subjects requiring her to sense how objects relate to each other in space. Weak spatial perception also could cause difficulty in multi-digit math problems where number alignment is important.

The Next Steps sections at the end of the report will provide you links to learn more about spatial perception as well as suggestions on how you might help Susan develop spatial perception.

SKILL TO SUPPORT

MEMORY

Verbal Memory

Verbal memory is the ability to acquire information through words. School emphasizes **verbal memory**, including remembering information read in a text book, written on a board, or discussed in class. Students with strong **verbal memory** often require less time to remember vocabulary words or study for a test. They are better at retaining and retrieving the information long after the test is over. Conversely, students with weak **verbal memory** often take longer to prepare for tests requiring memorization and are more likely to forget the information once the test is over.

On a test of **verbal memory**, Susan was asked to memorize 20 target words. Those words were then mixed with 20 similar but different words. Susan was asked to indicate whether a word presented was included in the original target list.

Susan performed **above the expected range** on this task. Verbal memory is important for tasks requiring her to remember definitions, stories, or other text-based information. This strength can be a great asset in studies. You might want to leverage Susan's strength in this area by encouraging her to use verbal descriptions when she needs to memorize visual information. If you would like recommendations on how to further bolster this skill, you can do click on the link for verbal memory in the Next Steps section of this report.

STRENGTH

Visual Memory

Visual memory is the ability to acquire information through images. In school, visual learning can include looking at demonstrations, diagrams, and illustrations. Books, posters, charts, and computers in the classroom all offer an abundance of visual information.

On a test of **visual memory**, Susan was shown 20 target complex geometric shapes. Those shapes were then mixed with 20 similar but different shapes. Susan was asked to indicate whether a shape presented was included in the original target list. Unlike many of the other tasks, there was little opportunity to use verbal mediation to talk through a solution. Visual memory is a strictly visual task.

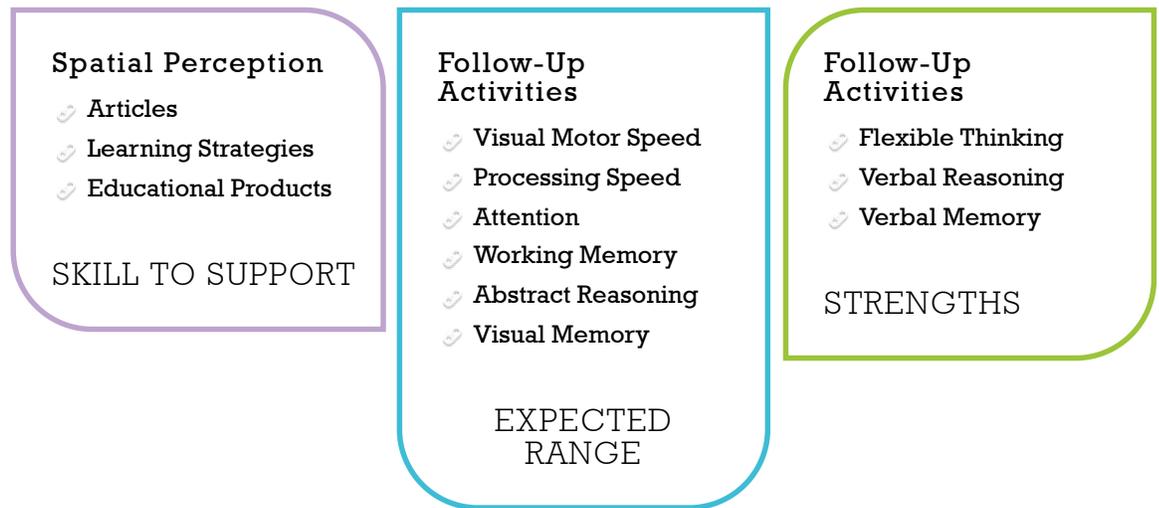
Susan performed in the **expected range** on this task. You might find that she does fine in activities that require remembering mostly visual information. If you would like specific strategies to develop visual memory, you can do a customized search for visual memory in Mindprint Toolbox.

EXPECTED RANGE

Next Steps

After you've had sufficient time to read and review this profile, we hope you make use of the extensive resources available to you on MindprintLearning.com. If you wish to read more about the Mindprint battery of tests administered to Susan, [click here](#). Our site also has more information on each of the skills we address in this report. You can learn how they might change over time, the importance of effort and attitude, and material on several other pertinent topics. We also have an ever-growing database of free professional-recommended learning strategies and product suggestions to supplement school work for you to use with Susan.

Susan's Toolbox is now tailored to Unique Learning Profile. Below are customized links to the Toolbox for Susan that we believe might be most helpful. Once you log in, you can search for products and strategies that meet your own specified criteria including products that will help with specific academic subjects.



When you are ready, there are two additional sections at the back of this report. The first provides helpful information on how you might consider approaching the use of the Toolbox. We also answer questions about the potential role of anxiety and depression on learning. We recommend that you read it before diving in. You might also have questions on what information in this report you should share with Susan. We address those questions as well.

Translating the Results into Successful Learning: The Mindprint Toolbox

Now that you understand how Susan learns, you probably want to know how she can be more efficient and productive in school and learning in general. We suggest approaching this process from different perspectives depending on whether your focus is on specific academic subjects or overall approach to life long learning.

Improving Academic Performance

If you want to supplement Susan’s schoolwork, we suggest that you look for academic products that do not require her to rely heavily on weaker skills to be successful. These products are likely to cause her unnecessary frustration. We also recommend that you choose products that are a natural fit with Susan’s interests and hobbies to increase the likelihood that she will find them engaging. When you go to your Mindprint Toolbox, you will see that we prioritize products that will be a good fit for Susan. For each product we review, we also highlight cognitive concerns, characteristics of a product that could create difficulties given a particular cognitive weakness.

Bolstering Cognitive Skills

In addition to product recommendations, you will find research-based learning strategies in Susan’s Mindprint Toolbox. These offer guidance on specific approaches for working with Susan on cognitive skills. We also recommend a broad variety of games and technologies that can be an enjoyable way to practice and develop particular skills. Be sure you update Susan’s interests on your account to ensure that you see the products that she is most likely to find interesting and fun.

Understanding the Impact of Anxiety and Mood Disorders

Anxiety, depression and other mood disorders can and often do have an impact on cognitive and academic performance. Fortunately, children suffering from emotional difficulties can often demonstrate their true capabilities on the Mindprint assessment given the test is relatively brief, low stakes relative to other standardized tests, and is often taken in a comfortable, familiar environment which minimizes stress.

If emotional difficulties do present, they are most likely to impact performance on the tests of working memory, attention and processing speed as mood can have an impact on the mind's ability to think efficiently. However, emotional difficulties can cause a decline on performance on any skill if a child is unable to maintain focus for even short periods of time or stops trying. If your child has taken the Mindprint assessment in the past and you see a significant decline in performance in one or more skills, you might want to consider if an emotional disorder could be the cause. While we expect cognitive abilities to change over time, significant declines in skills should be investigated.

At school, children suffering from anxiety or depression may show declines or inconsistencies in academic performance even if they do not have a learning disability. The child may perform better when feeling better, and worse when feeling worse. Given the direct impact emotions can have on attention, these children may exhibit many of the same symptoms of a child with cognitive attention deficits.

In addition, children with unaddressed learning difficulties or those who are discouraged about their learning differences might develop anxiety and depression as they struggle to understand why they are not doing well in school, feel pressure to keep up with their peers, or simply feel misunderstood. Without a clear understanding and acceptance of the reasons for their struggles, these children tend to suffer from lower self-esteem. It is one of several important reasons that experts recommend early identification and intervention for any type of learning problem. Understanding this complex interplay among cognitive and emotional skills may require an observation by a skilled professional.

We urge parents to investigate suspected anxiety and depression. The sooner any difficulties are understood and are addressed, the greater the likelihood that the potential impact can be minimized for a happier, more productive, and self-confident child. An anonymous, free first step can be the Child Mind Institute's symptom checker located [here](#). Alternatively, parents can consult a pediatrician for referral to a child psychologist or psychiatrist.

Sharing Results with Your Child

Many parents wonder if they should share this profile with their children. Our experience, and much research, shows that children are more successful when they have a good understanding of how they learn, or metacognition. With this understanding, they generally have more confidence and are more comfortable asking for help. We have many articles on metacognition available on our website if you would like to learn more.

The question of how and when to share the results of this assessment depends on when you think Susan is ready to use the information productively. Children develop this type of maturity at different ages. When you feel Susan is ready, you can share and discuss this report with her. Give her plenty of opportunity to ask questions. Alternatively, you might want to discuss some of the results over time. Please see the full guide to Sharing Results with a Child in the Free Guides section of the Mindprint website.

There is no right way to approach this. It very much depends on your personal preferences and which strategy you believe will most likely benefit Susan.