SCAFFOLDING IEP GOALS
AS A CULMINATING EXPERIENCE

A graduate project submitted in partial fulfillment of the requirements
For the degree of Master of Arts in Special Education,
Mild/Moderate Disabilities

By
Michelle Marie Estrada

May 2012
The graduate project of Michelle Estrada is approved:

<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Shawna Manis, M.A.</td>
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ABSTRACT

SCAFFOLDING IEP GOALS
AS A CULMINATING EXPERIENCE

By

Michelle Marie Estrada

Master of Arts in Special of Education,
Mild / Moderate Disabilities

The enactment of No Child Left Behind (NCLB, 2001) and the reauthorization of the Individuals with Disabilities Education Improvement Act (IDEIA, 2004) emphasize and support access to the general education curriculum with quality programming and accountability. The author has found a general problem in producing IEP goals related to the student’s current grade level standard, which may not be accessible by the student’s current skill level. In response to the general problem, the author has developed a Web-based goal bank focusing on providing objectives that will successfully scaffold skill acquisition leading to the student’s goal achievement. This graduate project focuses on the theoretical framework, which assumes that grade level standards feed into one another. It is also based on the theory that acquisitions of objectives must be met before reaching the goal.

Keywords: IEP goals, Common Core Content Standards, LAUSD, professional development, Scaffolding Common Core Content Standards website
CHAPTER I

INTRODUCTION

Statement of the Problem

As a first year teacher, the author has struggled to acquire the necessary skills pertaining to writing compliant Individualized Education Programs (IEPs) that truly reflect individualized goals for students while upholding legal requirements. The general problem in producing IEP goals pertains to the fact that they must be related to the student’s current grade level standard, which may not be accessible by the student’s current skill level. To explicate, in order for an IEP case manager to remain in compliance with IDEIA (2004), an educational goal must be in accord with the student’s present level of performance; which may not be at his/her grade level. As a result, educators are oftentimes faced with assigning standards-based grade level goals with low expectancy measures due to the perceived high level of difficulty.

Purpose of the Graduate Project

In response to the general problem, the author has developed a Web-based goal bank focusing on providing objectives that will successfully scaffold skill acquisition leading to the student’s goal achievement.

Definitions

Within this article, scaffolding is being referred to as a form of benchmarking where objectives are the support system that allows students to attain the overall goal. To explicate, the IEP process requires one goal and two objectives for each performance area (IDEIA, 2004); this article focuses on presenting a website that allows the IEP team to
choose proper grade level goals (with high expectancy measures) while making the objectives relevant to the student’s skill level.

The website was designed to make scaffolding IEP goals more accessible by allowing the IEP team to choose standards-based objectives (at current ability level, not at grade level) that feed into the grade level standard. The scaffolded standards are based on California’s Common Core Content Standards, for Mathematics and ELA, and have been identified as standards that feed into one another, within the different grade levels.

Theoretical Framework

This graduate project focuses on the theoretical framework, which assumes that grade level standards feed into one another. It is also based on the theory that acquisitions of objectives must be met before reaching the goal.

Contribution to the Profession

The IEP goal website will benefit educators by providing a digital goal bank allowing the IEP team to choose objectives that are within the student’s zone of proximal development (ZPD). By having a digital document that provides standards-based objectives, educators will be able to make the annual goals more attainable because the objectives are truly individualized and based on each student’s ability level, not grade level. Moreover, by having a digital goal bank, educators can personalize the goals and objectives; as compared to the Welligent goal bank, which is available through Los Angeles Unified School District (LAUSD), where educators are not allowed to modify the given goals and objectives (Welligent Integrated System, 2011).

Limitations
The limitations to this project include the lack of research that supports scaffolding techniques in an IEP. A Los Angeles Unified School District teacher trainer, Le Anderson, has informed the author that this is the recommended method in writing annual goals; however, the author did not find research to support this method. The other limitation includes limitations in determining the website success rate after the project has been completed.
CHAPTER II
LITERATURE REVIEW

Background

The consideration and inclusion of students with special needs was triggered by the U.S. Civil Rights movement and began with the Brown v. Board of Education (1954) lawsuit, which allowed African-American children the right to equal educational opportunities in public education without segregation. The author believes this triggered the Elementary and Secondary Education Act of 1965 (PL 89-10), which created the Bureau of Education for the Handicapped (now the Office of Special Education Programs or OSEP). In response to requested accommodations, Section 504 of the Rehabilitation Act of 1973 (Section 504) was passed and required for accommodations to be made for a full public education experience. Twenty-one years following Brown v. Board of Education, The Education For All Handicapped Children Act of 1975 (PL 94-142) was passed on November 29, 1975; this gave children with disabilities the legal right to public education.

In 1990, PL 94-142 was amended and renamed the Individuals with Disabilities Education Act (IDEA). After two reauthorizations, in 1997 and 2004, The Individuals with Disabilities Education Improvement Act (IDEIA) protects the rights of students with disabilities by stating that the main goal is to provide a free and appropriate public education (FAPE) to children with disabilities, with their non-disabled peers to the greatest extent possible, in their least restrictive environment (LRE) (IDEIA, 2004). IDEIA is now considered a powerhouse consisting of robust procedural requirements that allow for the utmost benefit and equal access to a FAPE in their LRE, which can include
full inclusion in general education with the possibility of having other related services (e.g., counseling, physical therapy) to help access a FAPE in the LRE (Taylor, 2010) (+ to refs). It is also worth mentioning that IDEIA counts special education students in state and district-wide assessments; this correlates with No Child Left Behind (NCLB, 2001) because it emphasizes that all students are general education students, and requires all students to be proficient in English and Math by 2014. Inclusion in the general education setting is of utmost importance because special education students are being held accountable by the general education curriculum. Moreover, parents have the right to challenge school districts based on IDEIA’s rigid provisions of FAPE, which make this a rich area for litigation (IDEIA, 2004; Wagner & Katsiyannis, 2010). Overall, IDEIA and NCLB emphasize and support access to the general education curriculum with quality programming and accountability (Yell, Katsiyannis, Ryan, McDuffie, & Mattocks, 2008).

According to IDEIA, this quality programming and accountability should be supported by an IEP, which is a written document that is developed, reviewed, and revised annually in accordance with the student’s present levels of academic achievements and functional performance. The IEP must also contain a statement of measureable annual goals, including academic and functional goals, which must be designed to meet the student’s individualized needs (IDEIA, 2004). As per NCLB (2001), these goals must be driven by the student’s current grade level while also being attainable by the student; however, a study focusing on the outcomes of inclusion found that most students with disabilities are not functioning at grade level (Goodman, Haz elkorn, Bucholz, Duffy, & Kitta, 2011). Since NCLB focuses on raising the achievement of all students while ensuring IDEIA’s availability of reasonable adaptations
and accommodations for students with disabilities, IEP goals must be scaffolded through the objectives to allow for greater goal attainment (IDEIA; NCLB).

**Scaffolding Applied to Teaching**

Although there is no research to support the effectiveness of scaffolding IEP goals to make content more attainable, the foundation for scaffolding was first applied to teaching through Vygotsky’s Zone of Proximal Development (ZPD) where a child learns best by receiving instruction within the discrepancy level found between the child’s mental age and the level he or she reaches when solving problems with assistance (Vygotsky, 1986).

Coffey (2009) and Cumming-Potvin (2007) have reported on the applications for Vygotsky’s ZPD within the classroom and found that, when applied to teaching, the ZPD is defined as the difference between students’ independent and potential levels of development; this potential level of development is to be attained through scaffolding. That is, when teaching a new goal, educators must develop instruction through small steps based on skills the students are capable of completing independently (Coffey; Cumming-Potvin). When applied to scaffolding IEP goals, the potential level of functioning is the student’s grade level goal and the objectives (i.e., being at the student’s current ability level) are the scaffolds, which will facilitate goal acquisition.

Because NCLB considers all students to be general education students and IDEIA requires students to be in a FAPE that is in the students LRE, the inclusion of students with disabilities within a general education setting has been stressed (Goodman et al., 2011). Goodman et al. also emphasize the need for different instructional strategies and opportunities for students with disabilities because data show individual options for
specialized instruction are being eliminated; thus, students with disabilities are not receiving the scaffolded lessons that allow their strengths and abilities to be supported and enhanced. By scaffolding the IEP goals through the two objectives, the goals are compliant to the given requirements, while also being individualized for students who are functioning well below the grade level standards.

**Common Core Content Standards**

NCLB requires that content standards ensure high quality instruction for students; whereas all students are to reach proficiency levels on academic standards and assessments, given sufficient time and accommodations (NCLB, 2002). In order to measure progress against common expectations for academic achievement, as per NCLB, LAUSD is currently utilizing the Content Standards for California (LAUSD, 2002). However, California adopted the Common Core Content Standards (CCCS) on August 2, 2010 (California State Board of Education, 2011), and LAUSD will be providing school-based full implementation of the CCCS by Fall 2013 (LAUSD, 2011).

The CCCS is an initiative made by the National Governors Association Center for Best Practices and the Council of Chief State School Officers to develop state led standards for English Language Arts (ELA) and Math (Common Core State Standards Initiative, 2011). The standards were developed in collaboration with teachers, school administrators, and experts, to provide a clear and consistent framework to prepare students for college and the workforce (Common Core State Standards Initiative). The CCCS initiative “Will help ensure that students are receiving a high quality education consistently, from school to school and state to state” (Common Core State Standards Initiative).
Overall, consistent standards are widely thought of as a supporting curriculum that is a powerful aid in building on students’ thinking and sense-making activities (Ross, McDougall, Hogaboam-Gray, LeSage, 2003; Schoen, Cebulla, Finn, & Fi, 2003). In order to make the standards attainable for all students, including those with special needs, NCLB and IDEIA both support the use of proper accommodations. Others have also found the use of accommodations to allow for educators to effectively and efficiently integrate the standards and ensure rigorous instruction (Jeweler, Barnes-Robinson, Shevits, & Weinfeld, 2008). Accommodations also allow students with special needs to demonstrate their knowledge without being set back by their differences (Jeweler et al.). Moreover, by differentiating implementations of the same curriculum, through accommodations, educators will facilitate to students’ different levels and the overall growth in student achievement (Schoen et al.). Therefore, by scaffolding the objectives within each IEP goal, students are being provided with the proper accommodations needed to reach goal attainment.

Research Question

The purpose of this graduate project was to study the CCCS state standards and provide a website that presents the standards from the highest grade level to the lowest grade level, for ELA and Mathematics. The website will allow IEP team members to scaffold IEP goals, which are at the student’s grade level, with the objectives, which are within the student’s ZPD. The research question guiding this graduate project is: How can educators scaffold IEP goals to allow for greater access to the general education curriculum?
CHAPTER III

METHODS AND PROCEDURES

Intended Audience

This graduate project was created for Special Education teachers who are responsible for writing IEPs. It is meant to assist educators with the transition from the Content Standards for California to the CCCS by providing a digital goal bank, which scaffolds High School core standards to the primary level standard for ELA and Mathematics. When writing IEP goals, educators are able to choose the base level high school standard, and then use two of the applicable scaffolded standards as goal objectives.

Development of the Website

The website titled Scaffolding IEP Goals (Appendix A) active hyperlink is: https://sites.google.com/site/scaffoldingiepgoals. This website was created using a free service provided by Google Sites. The website is organized by listing the Reading, Writing, and Math core standards along the sidebar and inserting its pertaining key standards within the subpages. Moreover, the home page contains active hyperlinks to the CCCS for ELA and Mathematics.

The ELA standards listed on the website were taken directly from the CCCS, organized in a descending order from grade twelve to the grade in which the standard is introduced. The scaffolded Math standards listed on the website are also in descending order; however, only the base level core standards were chosen. These standards were analytically identified by the author and were determined to be the base level standards and part of the common mathematics curriculum, which all teachers should cover. The
standards that fall within the High School level strand and require skill acquisition of other High School level standards were not chosen because the base level standards need to be acquired before moving onto the higher level standards.
CHAPTER IV

EVALUATION

The author plans to evaluate the usefulness of the website by providing a professional development presentation at her worksite. For this presentation, the author intends to invite all Special Education teachers to the school computer lab and ask teachers to follow along as they are given a tour of the website. The author will take notes of the teacher’s initial reactions and will also ask teachers to take an online survey (Appendix B), link is provided through the website. After evaluating the survey responses and initial reactions, the author will reflect on any possible changes that might be necessary.

After the website’s fine tuning, the author will consider forwarding the website address to Meredith Adams and Gabriel Arrequin, LAUSD Special Education Coordinators, for the proper dissemination of the website.
REFERENCES


ensure compliance with the Individuals with Disabilities Education Improvement

Act of 2004. *Intervention in School and Clinic, 44* (1), 45-51. doi:

10.1177/1053451208318875

Scaffolding IEP Goals

Common Core Content Standards

Reading Standards

1. Comprehend and analyze complex texts
2. Synthesize and integrate text evidence to support conclusions drawn from the text
3. Analyze how ideas, events, and ideas develop over the course of a text

Writing Standards

1. Write a well-structured essay
2. Develop and support the main ideas with reliable, relevant, and specific evidence
3. Organize ideas coherently and provide a clear introduction and conclusion

Math Standards

1. Solve multi-step problems involving fractions and decimals
2. Use algebraic expressions to represent and solve real-world situations

Appendix A

This website was created by a teacher and is meant to meet graduate school requirements.
This website is not intended to provide professional feedback.
### Key Ideas and Details

#### Cite Strong and thorough textual evidence

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12th–11th Grade</td>
<td>Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.</td>
</tr>
<tr>
<td>10th–9th Grade</td>
<td>Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.</td>
</tr>
<tr>
<td>8th grade</td>
<td>Cite the text evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.</td>
</tr>
<tr>
<td>7th grade</td>
<td>Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.</td>
</tr>
<tr>
<td>6th grade</td>
<td>Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.</td>
</tr>
<tr>
<td>5th Grade</td>
<td>Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.</td>
</tr>
<tr>
<td>4th Grade</td>
<td>Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.</td>
</tr>
<tr>
<td>3rd Grade</td>
<td>Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.</td>
</tr>
<tr>
<td>2nd Grade</td>
<td>Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.</td>
</tr>
<tr>
<td>1st Grade</td>
<td>Ask and answer questions about key details in a text.</td>
</tr>
<tr>
<td>Grade K</td>
<td>With prompting and support, ask and answer questions about key details in a text.</td>
</tr>
</tbody>
</table>

#### Analyze two or more themes

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12th–11th Grade</td>
<td>Determine two or more themes or central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to produce a complex account; provide an objective summary of the text.</td>
</tr>
<tr>
<td>10th–9th Grade</td>
<td>Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.</td>
</tr>
<tr>
<td>8th grade</td>
<td>Determine a theme or central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.</td>
</tr>
<tr>
<td>7th grade</td>
<td>Determine a theme or central idea of a text and analyze its development over the course of the text; provide an objective summary of the text.</td>
</tr>
<tr>
<td>6th grade</td>
<td>Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.</td>
</tr>
<tr>
<td>5th grade</td>
<td>Determine a theme of a story, drama, or poem from details in the text, including how characters in a story or drama respond to challenges or how the speaker in a poem reflects upon a topic; summarize how specific points in the text support each other.</td>
</tr>
</tbody>
</table>
# Scaffolding IEP Goals

## Foundational Skills

### Contents

1. Print Concepts
2. Phonological Awareness
3. Phonics and Word Recognition
4. Fluency

### Print Concepts

<table>
<thead>
<tr>
<th>Grade</th>
<th>Demonstrate understanding of print and basic features of print.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Grade</td>
<td>Demonstrate understanding of print and basic features of print.</td>
</tr>
<tr>
<td></td>
<td>a. Recognize and distinguish features of a sentence (e.g., first word, capitalization, ending punctuation).</td>
</tr>
</tbody>
</table>

### Phonological Awareness

<table>
<thead>
<tr>
<th>Grade</th>
<th>Demonstrate understanding of spoken words, syllables, and sounds (phonemes).</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Grade</td>
<td>Demonstrate understanding of spoken words, syllables, and sounds (phonemes).</td>
</tr>
<tr>
<td></td>
<td>a. Distinguish long from short vowel sounds in spoken single-syllable words.</td>
</tr>
<tr>
<td></td>
<td>b. Group single-syllable words by blending sounds (phonemes), including consonant blends.</td>
</tr>
<tr>
<td></td>
<td>c. Isolate and pronounce initial, medial vowel, and final sounds (phonemes) in spoken single-syllable words.</td>
</tr>
<tr>
<td></td>
<td>d. Segment spoken single-syllable words into their complete sequence of individual sounds (phonemes).</td>
</tr>
</tbody>
</table>

### Phonics and Word Recognition

<table>
<thead>
<tr>
<th>Grade</th>
<th>Know and apply grade-level phonics and word analysis skills in decoding words.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Grade</td>
<td>Know and apply grade-level phonics and word analysis skills in decoding words.</td>
</tr>
<tr>
<td></td>
<td>a. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>Know and apply grade-level phonics and word analysis skills in decoding words.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Grade</td>
<td>Know and apply grade-level phonics and word analysis skills in decoding words.</td>
</tr>
<tr>
<td></td>
<td>a. Distinguish long and short vowels when reading regularly spelled one-syllable words.</td>
</tr>
<tr>
<td></td>
<td>b. Know spelling sound correspondences for additional common vowel teams.</td>
</tr>
<tr>
<td></td>
<td>c. Decode regularly spelled two-syllable words with long vowels.</td>
</tr>
<tr>
<td></td>
<td>d. Decode words with common prefixes and suffixes.</td>
</tr>
<tr>
<td></td>
<td>e. Identify words with inconsistent but common spelling sound correspondences.</td>
</tr>
<tr>
<td></td>
<td>f. Recognize and read grade-appropriate irregularly spelled words.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>Know and apply grade-level phonics and word analysis skills in decoding words.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd Grade</td>
<td>Know and apply grade-level phonics and word analysis skills in decoding words.</td>
</tr>
<tr>
<td></td>
<td>a. Identify and know the meaning of the most common prefixes and derivational suffixes.</td>
</tr>
<tr>
<td></td>
<td>b. Decode words with common Latin suffixes.</td>
</tr>
<tr>
<td></td>
<td>c. Decode multisyllable words.</td>
</tr>
<tr>
<td></td>
<td>d. Read grade-appropriate irregularly spelled words.</td>
</tr>
</tbody>
</table>
Writing Standards

College and Career Readiness Anchor Standards for Writing

The K-12 standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below by number. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

*As found in the Common Core Content Standards

Subgenres (IN) Production and Distribution of Writing Range of Writing Research to Build and Present Knowledge Text Types and Purposes

Text Types and Purposes
1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rethinking, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge
7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrates the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

*As found in the Common Core Content Standards
Scaffolding IEP Goals

Text Types and Purposes

Contents
1. Write arguments to support claims.
2. Write informational/expository texts
3. Write narratives

Write arguments to support claims

12th - 11th Grade
Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claims, counters, reasons, and evidence.
- Develop claim(s) and counters/alternatives fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.
- Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counters.
- Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
- Provide a concluding statement or section that follows from and supports the argument presented.

10th - 9th Grade
Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claims, counters, reasons, and evidence.
- Develop claim(s) and counters/alternatives fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns.
- Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counters.
- Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
- Provide a concluding statement or section that follows from and supports the argument presented.

8th Grade
Write arguments to support claims with clear reasons and relevant evidence.
- Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.
- Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.
- Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counters, reasons, and evidence.
- Establish and maintain a formal style.
- Provide a concluding statement or section that follows from and supports the argument presented.

7th Grade
Write arguments to support claims with clear reasons and relevant evidence.
- Introduce claim(s), acknowledge alternate or opposing claims, and organize the reasons and evidence logically.
- Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.
- Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), reasons, and evidence.
- Establish and maintain a formal style.
- Provide a concluding statement or section that follows from and supports the argument presented.

6th Grade
Write arguments to support claims with clear reasons and relevant evidence.
- Introduce claim(s) and organize the reasons and evidence clearly.
- Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text.
- Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons.
- Establish and maintain a formal style.
- Provide a concluding statement or section that follows from the argument presented.

5th Grade
Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
- Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose.
- Provide logically ordered reasons that are supported by facts and details.
Scaffolding IEP Goals

Production and Distribution of Writing

Contents
1. Produce clear and coherent writing
2. Develop and strengthen writing
3. Use technology to produce products

Produce clear and coherent writing

12th - 11th Grade
Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 3-8 above.)

10th - 9th Grade
Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 3-8 above.)

8th Grade
Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 3-8 above.)

6th Grade
Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 3-8 above.)

5th Grade
Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3 above.)

Develop and strengthen writing

12th - 11th Grade
Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of language standards 1-9 up to and including grades 13-15 on page 94.)

10th - 9th Grade
Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of language standards 1-9 up to and including grades 9-10 on page 94.)

8th Grade
With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of language standards 1-9 up to and including grade 8 on page 92.)

6th Grade
With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editors for conventions should demonstrate command of language standards 1-9 up to and including grade 7 on page 92.)

4th Grade
With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editors for conventions should demonstrate command of language standards 1-9 up to and including grade 3 on pages 18 and 20.)

2nd Grade
With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, and rewriting. (Editors for conventions should demonstrate command of language standards 1-9 up to and including grade 2 on pages 18 and 20.)

1st Grade
With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.

1st Grade
With guidance and support from adults, focus on a topic and strengthen writing as needed by revising and editing.
Scaffolding IEP Goals

Production and Distribution of Writing

Produce clear and coherent writing

12th -11th Grade
Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-8 above.)

10th -9th Grade
Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-8 above.)

9th Grade
Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-8 above.)

8th Grade
Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-8 above.)

7th Grade
Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-8 above.)

6th Grade
Produce clear and coherent writing in which the development, organization and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-8 above.)

5th Grade
Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-8 above.)

4th Grade
Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-8 above.)

3rd Grade
With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1-8 above.)

Develop and strengthen writing

12th -11th Grade
Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of language standards 1-3 up to and including grades 11-12 on page 64.)

10th -9th Grade
Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. (Editing for conventions should demonstrate command of language standards 1-3 up to and including grades 9-10 on page 54.)

9th Grade
With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of language standards 1-3 up to and including grade 9 on page 53.)

8th Grade
With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of language standards 1-3 up to and including grades 7-8 on page 52.)

7th Grade
With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of language standards 1-3 up to and including grade 7 on page 52.)

6th Grade
With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of language standards 1-3 up to and including grades 6-5 on page 52.)

5th Grade
With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach. (Editing for conventions should demonstrate command of language standards 1-9 up to and including grade 5 on pages 39 and 29.)

4th Grade
With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of language standards 1-9 up to and including grade 4 on pages 39 and 29.)

3rd Grade
With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by marking and editing.
## Research to Build and Present Knowledge

### Conduct research projects

<table>
<thead>
<tr>
<th>Grade</th>
<th>Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12th-11th Grade</td>
<td>Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem, narrow or broaden the inquiry when appropriate, synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</td>
</tr>
<tr>
<td>10th-9th Grade</td>
<td>Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem, narrow or broaden the inquiry when appropriate, synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.</td>
</tr>
<tr>
<td>8th grade</td>
<td>Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.</td>
</tr>
<tr>
<td>7th grade</td>
<td>Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.</td>
</tr>
<tr>
<td>6th grade</td>
<td>Conduct short research projects to answer a question, drawing on several sources and rephrasing the inquiry when appropriate.</td>
</tr>
<tr>
<td>5th Grade</td>
<td>Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.</td>
</tr>
<tr>
<td>4th Grade</td>
<td>Conduct short research projects that build knowledge through investigation of different aspects of a topic.</td>
</tr>
<tr>
<td>3rd Grade</td>
<td>Conduct short research projects that build knowledge about a topic.</td>
</tr>
<tr>
<td>2nd Grade</td>
<td>Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).</td>
</tr>
<tr>
<td>1st Grade</td>
<td>Participate in shared research and writing projects (e.g., explore a number of &quot;how-to&quot; books on a given topic and use them to write a sequence of instructions).</td>
</tr>
<tr>
<td>Grade K</td>
<td>Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).</td>
</tr>
</tbody>
</table>

### Gather relevant information

<table>
<thead>
<tr>
<th>Grade</th>
<th>Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12th-11th Grade</td>
<td>Gather relevant information from multiple authoritative print and digital sources, using advanced search strategies to assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and over reliance on any one source and following a standard format for citations.</td>
</tr>
<tr>
<td>10th-9th Grade</td>
<td>Gather relevant information from multiple authoritative print and digital sources, using advanced search strategies to assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and over reliance on any one source and following a standard format for citations.</td>
</tr>
<tr>
<td>8th grade</td>
<td>Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.</td>
</tr>
<tr>
<td>7th grade</td>
<td>Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.</td>
</tr>
<tr>
<td>6th grade</td>
<td>Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.</td>
</tr>
<tr>
<td>5th Grade</td>
<td>Research relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.</td>
</tr>
<tr>
<td>4th Grade</td>
<td>Research relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.</td>
</tr>
<tr>
<td>3rd Grade</td>
<td>Research information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.</td>
</tr>
<tr>
<td>2nd Grade</td>
<td>Research information from experiences or gather information from provided sources to answer a question.</td>
</tr>
<tr>
<td>1st Grade</td>
<td>With guidance and support from adults, research information from experiences or gather information...</td>
</tr>
</tbody>
</table>
### Writing Standards

#### Range of Writing

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10th-11th Grade</td>
<td>We write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.</td>
</tr>
<tr>
<td>10th Grade</td>
<td>We write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.</td>
</tr>
<tr>
<td>9th Grade</td>
<td>We write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.</td>
</tr>
<tr>
<td>8th Grade</td>
<td>We write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.</td>
</tr>
<tr>
<td>7th Grade</td>
<td>We write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.</td>
</tr>
<tr>
<td>6th Grade</td>
<td>We write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.</td>
</tr>
</tbody>
</table>

Begins in the 3rd grade

### Math Standards

The scaffolding Math standards listed on this website are in descending order, from 12th grade to grade 1; however, only the base level core standards were chosen. These standards were analytically identified by the author and were determined to be the base level standards and part of the common mathematics curriculum, which all teachers should cover. The standards that fall within the High School level strand require skill acquisition of other High School level standards were not chosen because the base level standards need to be acquired before moving onto the higher level standards.

#### Subcategories
- Algebra
- Functions
- Geometry
- Number System
- Statistics and Probability
### Number System

#### 7th/8th Grade
Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually to a rational number.

#### 6th Grade
- Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.
  a. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself (e.g., -(-3) = 3, and that 0 is its own opposite).
  b. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related through reflections across one or both axes.
  c. Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

#### 5th Grade
- Recognize the value of a digit is 10 times as much in the place to its left and 1/10 of what it represents in the place to its right.
  a. Examine patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
  b. Read, write, and compare decimals to thousandths.
    - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.925 = 3 × 100 + 4 × 10 + 7 × (1/10) + 9 × (1/100) + 2 × (1/1000).
    - Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

#### 4th Grade
- Recognize the value of a digit is 10 times as much in the place to its left and 1/10 of what it represents in the place to its right. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.
  a. Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.
  b. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

#### 3rd Grade
- Multiply and divide within 100, using strategies such as the relationship between multiplication and division and properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
  a. Fluently multiply and divide within 100, using strategies such as: the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8); properties of operations (e.g., in 3 × 5 = 15, 30 ÷ 5 = 6 because 30 is 3 tens, and 3 tens ÷ 5 equals 6 tens, 6); and/or the relationship between addition and subtraction (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8).
  b. Use place value understanding to round whole numbers to the nearest 10 or 100.
    - 3.1 Understand that the four digits of a four-digit number represent amounts of thousands, hundreds, tens, and ones, e.g., 3,704 = 3,000 + 700 + 40 + 4.
    - Use place value understanding and properties of operations to perform multi-digit arithmetic (e.g., using the expanded form 34,562 = 30,000 + 4,000 + 500 + 60 + 2, and the associative property of addition to find that 3,456 + 101 = 3,557).

#### 2nd Grade
- Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.
  a. Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
  b. Compare two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.

#### 1st Grade
- Compare two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
  a. Compare two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
Create equations that describe numbers or relationships

High School

Create equations and inequalities in one variable including ones with absolute value and use them to solve problems in and out of context, including equations arising from linear functions.

7th grade

Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?

b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example: As a bus driver, Antonella's route takes 1 hour and 30 minutes. How fast must she average to maintain an average speed of 60 km/hour?

8th grade

Write a linear inequality in one variable and give special attention to solutions and boundaries. Write an inequality for the number of sales you need to make, and describe the solutions.

9th grade

Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

10th grade

Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 x n = 48, 95 = m x 5, and 6 = n x 2/3.

11th grade

Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + n = 12, 9 - n = 2, and n - 3 = 4.

Grade X

Describe numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and represent each decomposition by a drawing or equation (e.g., 3 = 1 + 2 and 3 = 2 + 1).

Understanding solving equations as a process of reasoning and explaining the reasoning

High School

Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

7th grade

Understand that solving an equation in one variable is the process of answering a question: which numbers from a specified set make the equation true? For example, the answer to 4x + 9 = 45 is 9, because it is the number from the specified set of whole numbers or integers that makes the equation true.

8th grade

Write and solve simple equations that express numerical relationships.

10th grade

Interpret a multiplication equation as a comparison, e.g., interpret 36/6 = 6 as a statement that 36 is 6 times as many as 6. Represent verbal statements of multiplicative comparisons as multiplication equations.

11th grade

Apply properties of operations as strategies to multiply and divide. For example, if 6 x 4 = 24 is known, then 4 x 6 = 24 is also known. (Commutative property of multiplication.) Know that 3 x 4 = 12 and 3 x (4 + 5) = (3 x 4) + (3 x 5) using properties of operations. In general, the distributive property of multiplication over addition.

12th grade

Apply properties of operations as strategies to add and subtract. (Examples: If 8 x 6 = 48 is known, then 9 x 6 = 54 is also known, (commutative property of multiplication).) If a + 9 = 16 and a + 11 = 18, then by the associative property of addition, a + 9 + 2 = 16 + 2 = 18, and so 11 + 2 = a + 10.

Solve linear equations and inequalities in one variable

High school

Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

8th grade

Solve linear equations in one variable.

a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results.
Represent transformations

**High School**
- Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs.
- Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).

**8th grade**
- Verify experimentally the properties of rotations, reflections, and translations.

**7th grade**
- Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

**6th grade**
- Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

**5th Grade**
- Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.

**4th Grade**
- Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional objects.

**3rd Grade**
- Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

**2nd Grade**
- Recognize and draw shapes having specified attributes, such as given number of angles or a given number of equal faces.
- Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

**1st Grade**
- Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size).
- Build and draw shapes to possess defining attributes.

**Grade K**
- Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

Describe rotations and reflections

**Describe the rotations and reflections**

**High School**
- Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.

**8th grade**
- Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; describe a sequence that exhibits the congruence between them.

**7th grade**
- Draw (freehand) with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, two triangles, or no triangle.

**6th grade**
- Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V= lwh and V=Bh to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.

**5th Grade**
- Derive and use the formula for the area of a triangle and of a parallelogram by comparing it with the formula for the area of a rectangle (i.e., two of the same triangle make a parallelogram with twice the area of the triangle; compare this with using transparencies to see the area of a triangle).
### Scaffolding IEP Goals

**Math Standards → Functions**

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<td>1. Understand the concept of a function and use function notation.</td>
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<td>2. Function that models a relationship between two quantities.</td>
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<tr>
<td>3. Relate the domain of a function to its graph.</td>
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<td>4. Calculate and interpret the average rate of change of a function.</td>
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<tr>
<td>5. Analyze functions using different representations.</td>
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</table>

#### Understand the concept of a function and use function notation

<table>
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<tr>
<th>Grade</th>
<th>Description</th>
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<tbody>
<tr>
<td>High School</td>
<td>Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).</td>
</tr>
<tr>
<td>6th grade</td>
<td>Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input x and the corresponding output. (Common Core Standard 8.F.1)</td>
</tr>
</tbody>
</table>

#### Function that models a relationship between two quantities

<table>
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<tr>
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<tbody>
<tr>
<td>High School</td>
<td>For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; points of inflection; and end behavior.</td>
</tr>
<tr>
<td>6th grade</td>
<td>Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values. (Common Core Standard 8.F.4)</td>
</tr>
</tbody>
</table>

#### Relate the domain of a function to its graph

<table>
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<tbody>
<tr>
<td>High School</td>
<td>Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if a function represents the number of person hours it takes to assemble two models, then the positive integers would be an appropriate domain for the function.</td>
</tr>
<tr>
<td>6th grade</td>
<td>Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally. (Common Core Standard 8.F.5)</td>
</tr>
</tbody>
</table>

#### Calculate and interpret the average rate of change of a function

<table>
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<tbody>
<tr>
<td>High School</td>
<td>Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.</td>
</tr>
<tr>
<td>6th grade</td>
<td>Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change. (Common Core Standard 8.F.7)</td>
</tr>
</tbody>
</table>

#### Analyze functions using different representations

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>High School</td>
<td>Graph linear and quadratic functions and show intercepts, maxima, and minima.</td>
</tr>
<tr>
<td>6th grade</td>
<td>Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function A = s^2 giving the area of a square as a function of its side length, is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line. (Common Core Standard 8.F.3)</td>
</tr>
</tbody>
</table>
Statistics and Probability

Summarize categorical data for two categories

<table>
<thead>
<tr>
<th>High School</th>
<th>Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.</th>
</tr>
</thead>
</table>

8th grade

1. Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores? [Common Core Standard 8.SP.4]

7th grade

3. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 20 cm greater than the mean height of players on the soccer team, so the variability of players' heights is greater for the basketball team. (Common Core Standard 7.SP.3)

4. Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the results in a report on a new drug help you decide that the drug should be approved. (Common Core Standard 7.SP.2)

6th grade

2. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.

3. Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

Represent data on two quantitative variables

<table>
<thead>
<tr>
<th>High School</th>
<th>Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.</th>
</tr>
</thead>
</table>

8th grade

1. Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and non-linear association. (Common Core Standard 8.SP.1)

2. Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line. (Common Core Standard 8.SP.2)

7th grade

1. Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences. (Common Core Standard 7.SP.1)

6th grade

1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages.

Interpret the slope and intercept

<table>
<thead>
<tr>
<th>High School</th>
<th>Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.</th>
</tr>
</thead>
</table>

8th grade

1. Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 2 as indicating that, for every additional hour of sunlight each day, the number of bubbles floating in a fixed volume of water increases by 2.
Survey - Scaffolding IEP Goals

* Required

**Navigation**
What is the ease of navigating through the website?

1 2 3 4 5

not easy 0 0 0 0 Very easy

**Standards**
Do you see a logical flow to the scaffolded standards

- Yes, the strands make sense and fall perfectly
- Yes, however some standards belong within another strand
- No, I would prefer additional information
- Other: __________

**Comprehensiveness**
How comprehensive was the website?

1 2 3 4 5

Not comprehensive 0 0 0 0 Very comprehensive

**Scaffolded standards**
How useful is this website? Do you require the need to scaffold grade standards on IEPs to match your student's ability level?

**Additional information**
Would you like any additional information?

Submit

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