



# Fraction Nation


Aligns to IDEA, Part B

## EDUCATION OF CHILDREN WITH DISABILITIES

The purpose of *IDEA, Part B—Formula Grant Programs* is to assist states in providing a free, appropriate public education (FAPE) in the least restrictive environment for children with disabilities ages 3 through 21. The following chart shows how **Fraction Nation** can support children with disabilities under IDEA, based on key components and recommendations from IDEA, Part B, Section 611. The criteria are drawn from the Federal *IDEA, Part B Final Rules and Regulations*, posted at:

<http://www2.ed.gov/programs/osepgts/index.html>

| Components of a<br>IDEA, Part B Program                                  | Fraction Nation  |
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| <p>Provide research-based and scientifically validated interventions</p> | <p><b>Fraction Nation</b>, Grades 4-8, is designed to develop the critical foundations of fraction and decimal fluency—conceptual understanding and procedural knowledge. <i>Fraction Nation</i> delivers fraction and decimal fluency through explicit instruction, adaptive software, extensive practice, and ongoing assessments. The adaptive technology develops students’ skills in rational number comparison, estimation, equivalence, addition, and subtraction.</p> <p><i>Fraction Nation</i> is organized into 9 topics and 64 lessons, which systematically build students’ fraction fluency. In manageable chunks, each self-paced lesson focuses on one skill or concept to gradually build students’ fluency. Topics A through D establish student understanding of fraction quantity, and build skills in estimating and comparing fraction quantities. Topics E through G teach students about equivalence. Finally, building on quantity and equivalence, Topics H and I teach students about the computation procedures for addition and subtraction. Each topic is introduced with visual representations to provide a concrete anchoring for symbolic work.</p> <p><b>RESEARCH</b></p> <p><i>Fraction Nation</i> is grounded in research-validated principles that drive fraction instruction and deliver fraction fluency. The program is anchored in four core research foundations:</p> <p><u>Strong Visual Models</u></p> <p><i>Fraction Nation</i> builds students’ understanding of rational number concepts through powerful visual models including number lines, fraction strips, circles, rectangles, and sets. To build an integrated understanding of the number system, <i>Fraction Nation</i> focuses on the proven-effective number line to help students to transition from concrete to abstract models.</p> <p><u>Worked Examples</u></p> <p><i>Fraction Nation</i> lessons combine worked examples, in a step-by-step tutorial format, with practice to help students master key skills and strategies. Lessons are approximately 15 minutes and focus narrowly on individual skills or strategies, ensuring that students can practice each new skill immediately after it is modeled.</p> <p style="text-align: right;">CONTINUED</p> |

| Components of a<br>IDEA, Part B Program   | <i>Fraction Nation</i>   |
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| <p>Provide research-based and scientifically validated interventions<br/><i>Continued</i></p> | <p><u>Computation with Understanding</u></p> <p><i>Fraction Nation</i> integrates conceptual and procedural understanding, linking visual representations with fraction symbols and procedures. To prepare students for the symbolic procedures necessary for fraction equivalence tasks, the program carefully introduces sub-skills in earlier lessons using fraction strips and other visual models. Subsequent lessons gradually move students to exclusive use of symbolic procedures.</p> <p><u>Support for Cognitive Processing</u></p> <p><i>Fraction Nation</i> provides an environment that takes into account the working memory demands of fractions and decimals. The program avoids cognitive overload with a careful sequence of small steps; each lesson introduces a constrained amount of new information and skills.</p> <p> For more information regarding the research foundations and content advisors for <i>Fraction Nation</i>, please see:<br/><a href="http://teacher.scholastic.com/fraction-fluency/fraction-nation/research-foundation.html">http://teacher.scholastic.com/fraction-fluency/fraction-nation/research-foundation.html</a></p>  |
| <p>Provide access to the Core Curriculum taught in General Education classrooms</p>           | <p>The <i>Fraction Nation</i> student software delivers targeted instruction and step-by-step guided practice in three key areas—fraction &amp; decimal quantity, equivalence, and addition &amp; subtraction. Instruction is divided into 64 lessons grouped into the following nine topic areas:</p> <ul style="list-style-type: none"> <li>▪ Introduction to Fractions</li> <li>▪ Learning About Fractions</li> <li>▪ Number Lines &amp; Other Models</li> <li>▪ Learning About Decimals</li> <li>▪ Introduction to Equivalence</li> <li>▪ Equivalent Fractions</li> <li>▪ Equivalent Decimals</li> <li>▪ Adding &amp; Subtracting</li> <li>▪ More Adding &amp; Subtracting</li> </ul> <p>Each of the program’s lessons begins with a multimedia tutorial that introduces or extends fractions and decimal concepts through animated visual models. Lessons also include guided practice activities, which allow students to explore visual models in a hands-on manipulative environment through interactive fraction strips and number lines.</p> <p>Since the program is self-paced and can be used independent of the teacher, students can use <i>Fraction Nation</i> in the following instructional settings:</p> <ul style="list-style-type: none"> <li>▪ Daily instructional math block</li> <li>▪ Pull-out intervention</li> <li>▪ Computer lab classes</li> <li>▪ Homeroom</li> <li>▪ Before or after-school programs</li> <li>▪ Summer School</li> </ul> |

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| <p>Use Supplemental Instructional materials, where appropriate, to strengthen the efficacy of the comprehensive core curriculum</p>   | <p>Teachers use the <i>Fraction Nation</i> Software Review Library and the Teacher’s Guide to support individual students or small groups of student who are struggling with the same lesson concept or skill. The program includes the following teacher resources:</p> <p><u>Reports</u></p> <p>Through the <i>Scholastic Achievement Manager (SAM)</i>, teachers can easily generate student- and class-level reports to monitor student progress, group for instruction, and provide intervention as needed.</p> <p><u>Lesson Review</u></p> <p>The software Lesson Review Library provides on-demand access to the Learn and Practice software activities for all 64 lessons, enabling teachers to assist students one-on-one or in small groups. Teachers can also preview lessons when planning instruction. Using an Interactive Whiteboard, teachers are able to demonstrate lessons and practice sets for Small- or Whole-Group class instruction.</p> <p><u>Teacher’s Guide</u></p> <p>The Teacher’s Guide includes lesson overviews, as well as recommendations for instruction when students need deeper intervention. The Lesson Guides include instructional activities for Small- or Whole-Group that enhance or extend students’ understanding of the lesson concept or skill. Teachers are able to use a video with Play-by-Play mode for the <i>Learn</i> activity to allow for class discussion. Lessons also include suggestions for <i>Correct &amp; Redirect</i>, as well as <i>Extend</i> activities.</p> |
| <p>Educate students in the least restrictive environment consistent with their educational needs</p>  | <p><i>Fraction Nation</i> provides an individualized, self-paced experience for each student. Students will achieve the best results when they complete at least one 15-minute lesson on the software, 3-5 times per week. The lessons have no pre-set time limit, but the average time is 15 minutes per lesson. Students may exit a lesson early and then return to the activity on which they were working. The program allows students to take the time they need to achieve fraction fluency; students may complete multiple lessons per day or break one lesson into multiple sessions.</p>   |
| <p>Implement a multi-tiered strategy designed to provide increasingly intensive interventions to those students who are not making adequate progress in the Core Curriculum</p> | <p><i>Fraction Nation</i> includes a Response to Intervention report that can be generated to monitor and compare students’ response to <i>Fraction Nation</i> intervention over time. Teachers and administrators can use the Median RTI as a benchmark for each student’s mastery relative to his/her peers. Frequent performance assessments track students’ level of mastery in each lesson. All assessment data is immediately tracked in the reports. Educators can quickly and accurately monitor student progress and performance.</p>  |

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| <p>Provide ongoing progress monitoring of students' responses to high-quality, research-based intervention, and use it to guide the Individualized Education Plan (IEP)</p> | <p><i>Fraction Nation</i> provides placement and ongoing assessments to track student performance and help teachers target those students who are in need of additional support.</p> <ul style="list-style-type: none"> <li>▪ <u>Pre- &amp; Post-Assessments</u>—In the initial placement assessment, <i>Fraction Nation</i> measures a student's baseline of fraction fluency, and then systematically places students into the program to provide each student with an instructional path. In both the initial and final assessments, students are assessed in three key areas—quantity, equivalence, and addition &amp; subtraction.</li> <li>▪ <u>Continuous Assessment</u>—<i>Fraction Nation</i> regularly checks for mastery in the <i>Perform</i> section of each lesson. As students move through each topic, the program tracks student performance. At the end of a topic, the program either promotes a student to the next topic, or guides the student through additional instruction and practice. The student will receive new practice sets, with new problems, and different assessments.</li> </ul> <p><i>Fraction Nation</i>, with the assistance of the <i>Scholastic Achievement Manager</i> (SAM), tracks students' progress and performance throughout their use of the program. SAM allows teachers and district leaders to produce reports on individual students, specific groups, an entire school, or district. A variety of reports display a range of performance measures, including fraction proficiency, fluency growth, and program usage. These reports help ensure that <i>Fraction Nation</i> is implemented correctly throughout the year and to monitor students' fraction fluency growth.</p> |
| <p>Include literacy instruction that targets English Language Learners who have not yet been identified as needing Special Education services</p>                           | <p><i>Fraction Nation</i> provides an environment that takes into consideration the cognitive processing demands of fractions and decimals. The program avoids cognitive overload with a careful sequence of small steps. Each lesson introduces a constrained amount of new information and skills. The instruction uses a limited number of representations and definitions for fractions and is consistent and coherent. Pacing is self-directed by each student, who can take as much or little time on a task as needed. The supports and real-time feedback create a supportive environment to reduce math anxiety, and therefore create a positive cycle for students building competence and confidence.</p> <p><i>Fraction Nation</i> includes many support strategies for English-Language Learners. Throughout the program, students can utilize the Closed Captioning option, which can be turned on or off. Students can also utilize a control called "Play-by-Play" which slows the pace of instruction and allows students to see and hear instruction sentence-by-sentence. Students can listen repeatedly to any <i>Learn</i>, or targeted instruction, that they need to review. Students are also able to use the English-Spanish Glossary of Terms that will assist English-Language Learners with the understanding of the consistent mathematical language used throughout the program.</p>   |

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| <p>Inform parents of General Education services that would be provided and strategies to support their child’s rate of learning</p>                     | <p>A Parent Letter, available in English and Spanish, explains the goal of the <i>Fraction Nation</i> program and outlines where the student is on the roadmap to fraction fluency. Student reports that display students’ progress and usage in the program can be shared with parents during conferences or sent home as progress indicators. Teachers are able to print Award Certificates as students master different topics in <i>Fraction Nation</i>. The certificates can be shared with parents, as well as used as examples of student achievement and progress.</p>  |
| <p>Provide a high-quality professional development plan to support teachers providing Special Education services, as well as those implementing RtI</p> | <p><u><i>Fraction Nation</i> Implementation Training</u></p> <p>In this training, teachers, coaches, and administrators learn how to effectively implement <i>Fraction Nation</i>, including exploring the software and navigating the management system, analyzing data-rich reports to inform instruction and monitor progress, and differentiating instruction.</p> <p><u><i>Fraction Nation</i> Interactive Webinar</u></p> <p>This interactive webinar provides teachers, coaches, and administrators with the tools to successfully get started using <i>Fraction Nation</i>.</p> <p><u>In-Classroom Support</u>—RECOMMENDED, at an additional cost</p> <p>Scholastic consultants provide teachers with individualized support and focused strategies side-by-side in the classroom. They build relationships with teachers to support on-model implementation, classroom management, program monitoring, and data-driven instruction. A year-long customized plan of in-classroom visits provides teachers with in-person, individualized support and focused strategies for the classroom. For the best results, Scholastic recommends monthly visits for all teachers.</p> |
| <p>Coordinate with activities funded by and carried out under the Elementary and Secondary Education Act (ESEA)</p>                                     | <p><i>Fraction Nation</i> can be integrated with funds from state, local, private, and other sources. The federal funding programs for which it qualifies include:</p> <ul style="list-style-type: none"> <li>▪ Title IA—Improving Basic Programs</li> <li>▪ Title I—School Improvement Grants (SIG)</li> <li>▪ Title I—Supplemental Education Services (SES)</li> <li>▪ Title III—English Language Acquisition</li> <li>▪ IDEA, Part B</li> <li>▪ IDEA, <i>Response to Intervention</i></li> <li>▪ 21<sup>st</sup> Century Community Learning Centers (21CCLC)</li> <li>▪ Race to the Top—District (RTT-D)</li> <li>▪ Investing In Innovation (i3)</li> </ul>  |