

Accommodations and Technology

Accommodations involve a wide range of techniques and support systems that assure that ALL students participate and are successful in the general curriculum. Accommodations are made to the way students learn and how they are assessed. They may be provided in five general areas as recommended by the Florida Department of Education www.fldoe.org : instructional methods and materials; assignments and classroom assessments; time demands and scheduling; learning environment; and use of special communication systems. The next section suggests accommodations and technology within each of the five general areas.

- Instructional methods and materials;
- Assignment and classroom assessments;
- Time demands and scheduling;
- Learning environment;
- Use of special communication systems.

Instructional methods and materials

- Enhance math vocabulary learning with LINCS (Kansas Strategy www.ku-crl.org), Word Wall, Vocab Cut-Ups, etc.
- Use raised-lined paper, tactile aides (LoTTie Math Kits) and math manipulates. The LoTTie Kits is a collection of over 50 low and mid tech tools that can help students with special needs be as independent and successful as possible.
- Orally read written material to students through the use of peers, audio, or video recordings. Recordings should be rich in details and explanation (also good for catching up students who have been absent).
- Give personal copies of board/overhead work so students can highlight key points. Handouts should be double spaced and no smaller than 12-font size with 14-font size for younger children.
- Overhead and PowerPoint presentation remain on the screen for 60 seconds for students to assimilate information.
- Provide assistance from an interpreter or note taker may be needed.

- ❑ Provide state directions orally and in written form, give them small and brief steps, number and sequence the steps in tasks, have students repeat directions, and show a model of the end product.
- ❑ Encourage students to ask for instructions/directions to be repeated or rephrased when not understood.
- ❑ Use Multiplication grid for multiplication, division, and/or fraction problems.
- ❑ Provide alternative instructional materials with simplified concepts such as PASS Materials.
- ❑ Use games to review instructional material.
- ❑ Demonstrate how to do something in addition to describing the process.
- ❑ To avoid computation errors turn lined paper sideways to facilitate number placement; graph paper can also be used.
- ❑ Allow students to highlight key points using highlight markers or tape.
- ❑ Use acetate to cover math problems; then have students use vis-à-vis pens to write answers thus eliminating the need to copy problems.
- ❑ Use window note card to narrow field of vision allowing the student to focus on the task at hand. Yellow cellophane in the window helps some learners to see the text more clearly.
- ❑ When students need to present to the class, allow them to practice in a small group.
- ❑ Provide individual Smart boards printout so students can save information from the board to be used on the computer. These can be used at school or be sent home for extra assistance.
- ❑ Cut math papers into strips. Students complete one strip at a time. Correct as strips are completed. This eliminates mistakes made per paper. Cut strips vertically to vary level of difficulty.

Assignments and classroom assessments

- ❑ Provide extra time to complete class work, homework, and assessments.
- ❑ Write assignments on board to assist with instruction and tasks.
- ❑ Provide alternative lessons/books with similar concepts explained at a lower level.

- ❑ Allow the use of calculators.
- ❑ Provide fewer items on the page to reduce visible distractions.
- ❑ Provide a table of math facts so the students can focus on higher-order processes
- ❑ Read orally to students and explain story problems, breaking them into smaller steps.
- ❑ Group together similar problems.

Time demands and scheduling

- ❑ Allow for flexible scheduling to allow students more time to complete a course.
- ❑ Give assignments ahead of time to allow students to start early.
- ❑ Provide extra time to complete class work, homework, and assessments.
- ❑ Reduce the amount of work or amount of time/energy needed to complete work.
- ❑ Shorten assignments/assessments based on mastery of key concepts

Learning environment

- ❑ Clear the workspace to reduce clutter: Reduction of clutter reduces stress, makes task more manageable giving student a sense of control.
- ❑ Arrange for a “check -in “ time to organize the day (math time).
- ❑ Seat students away from windows and doorways to reduce distraction.
- ❑ Use study carrels when it benefits. (Can be made by stapling file folders together.)
- ❑ Develop interventions for behaviors that are annoying but not deliberate, such as,
 - ◆ Foam rubber for pencil tappers,
 - ◆ Seat in back of the room for wiggle worms,
 - ◆ Allow movement around the room for those who cannot sit for an entire period, (collect and distribute papers, run errands, etc.),
 - ◆ Reward for remembering something rather than punishing for forgetting,
 - ◆ Ignore behaviors that are not seriously disruptive,
 - ◆ Alert students several minutes before a transition occurs,
 - ◆ Pair with a student with good behaviors to model appropriate classroom behavior,

- ◆ Develop an individual behavioral plan for the classroom that is consistent with student's ability,
 - ◆ Develop a code word to signal that behavior is not appropriate,
 - ◆ Arrange appropriate proximity to teacher,
 - ◆ For students who stand or kneel in seat. Allow students to stand if needed. It might be because of eyesight, developmental skills, or being nervous, and
 - ◆ Allow students to read out loud. Some students have not yet developed inner speech yet and need to read out loud.
- Provide Assistance in knowing where things are located in the classroom.
 - Allow extra desk space for enlarged print materials and special aids.
 - For students with small motor deficits:
 - ◆ Provide large keypad calculator.
 - ◆ Affix stiff plastic tabs in assorted colors to mark and help students turn pages.
 - ◆ Have students grip pencil/pen between index finger and middle finger (pencil extends up between first and second knuckles).
 - ◆ Use tactile aids (LoTTie Kit).

Use of special communication systems:

- Voice Recognition Computers will allow for communication of math concepts, word problems, and explanation of algorithms.
- Portable Keyboards such as an AlphaSmart will aid in spelling and writing speed.
- Video or audio tape record, Braille, and large print instructional materials and assessments assist with visual difficulties.
- Adaptive computers, low-vision optical aids and print-enlarging equipment will allow teachers to adjust instructional materials.
- Translators, transcribers, sign language, or portable microphones, which transmit directly to hearing aids and amplification systems will assist those who are hearing impaired.

The following tables provide to teachers a list of helpful accommodations and/or technology ideas to help assist students as they gain access to the algebraic thinking skills and concepts being presented in the classroom.

TARGET BEHAVIORS	ACCOMMODATIONS (least to most intrusive)	TECHNOLOGY
Excessively Active - (Exhibits behaviors such as tapping and other distracting noises)	<ul style="list-style-type: none"> ➤Fit a foam piece on the end of student’s pen or pencil to reduce the noise or disturbances to others. ➤Utilize stress balls to reduce fidgeting ➤Sensory seat DISC – 06 call 888-436-2622 	<ul style="list-style-type: none"> ➤Allow student to utilize a computer to take notes. ➤ ➤
Verbal students (Exhibits language behaviors such as calling out, out of turn talking)	<ul style="list-style-type: none"> ➤Self-monitoring chart– tally verbalization and set a reduction goal ➤Visual/non-obtrusive verbal cues/private cues 	<ul style="list-style-type: none"> ➤ ➤
Classroom movement (Out of seat behavior)	<ul style="list-style-type: none"> ➤Structured hall pass ➤Self managed timed, time out area in class area marked off within desk area allowing movement within this area only during designated times ➤Classroom tasks with movement assigned 	<ul style="list-style-type: none"> ➤ ➤ ➤ ➤ ➤
Class participation (Exhibits behaviors such as shyness, language barrier, lack of involvement)	<ul style="list-style-type: none"> ➤Utilize a bucket of names and allow designated students resisting class participation pull out names to assist teacher. ➤Token reward ➤Tangible rewards ➤Ask students to restate directions/key points ➤Pre-teach providing advanced organizer for students to preview ➤Give the student advanced warning that they are going to have a turn ➤Jigsaw (cooperative learning strategy) ➤Graphic organizers ➤Manipulatives 	<ul style="list-style-type: none"> ➤ ➤ ➤ ➤ ➤ ➤ ➤ ➤ ➤ ➤ ➤ ➤ ➤ ➤

Students have difficulty with:	ACCOMMODATIONS (least to most intrusive)	TECHNOLOGY
Following directions (Exhibits behaviors such as not completing assignments or not completing as assigned)	<ul style="list-style-type: none"> ➤ Read aloud ➤ Written directions ➤ Student paraphrasing ➤ Peer partners ➤ Directions in shortened steps ➤ Model steps and show end product ➤ Mnemonics ➤ Break down instructions ➤ Language Masters 	<ul style="list-style-type: none"> ➤ Tape instructions ➤ ➤ ➤ ➤ ➤ ➤ ➤ ➤
Remaining focused (Exhibits behaviors such as easily distracted and not completing assignments)	<ul style="list-style-type: none"> ➤ Model expectations ➤ Highlighter tape or pen to encourage tracking ➤ Close proximity 	<ul style="list-style-type: none"> ➤ ➤ ➤
Gaining information from lecture (Exhibits difficulty taking notes, understanding concepts presented orally)	<ul style="list-style-type: none"> ➤ Provide guided notes in outline form ➤ Provide visual representation 	<ul style="list-style-type: none"> ➤ ➤
Generalization (Exhibits difficulty understanding how concepts apply to different concepts or assignments)	<ul style="list-style-type: none"> ➤ Once proficient, set up guided opportunities for practice in multiple settings or circumstances. 	<ul style="list-style-type: none"> ➤ ➤
Hearing impairment	<ul style="list-style-type: none"> ➤ Preferential seating ➤ Interpreter ➤ Visual representations 	<ul style="list-style-type: none"> ➤ FM system ➤ ➤
Identifying critical content (Exhibits difficulty understanding main concepts vs. facts)	<ul style="list-style-type: none"> ➤ Graphic organizers ➤ Highlight key points ➤ Key visual cue to signal a key point during instruction 	<ul style="list-style-type: none"> ➤ ➤ ➤
Motivation (Exhibits lack of interest in learning, easily discouraged, doesn't complete homework assignments)	<ul style="list-style-type: none"> ➤ Offer points for participation ➤ Emphasize achievements with frequent and specific reinforcing statements ➤ Create opportunities for success 	<ul style="list-style-type: none"> ➤ ➤ ➤
Motor skills (fine motor) (Exhibits difficulty in writing or handling manipulatives)	<ul style="list-style-type: none"> ➤ Scribe ➤ Overhead transparency overlay for answer only ➤ Pencil grips and strategic position 	<ul style="list-style-type: none"> ➤ Alpha-Smart keyboard ➤ ➤

Students have difficulty with:	ACCOMMODATIONS (least to most intrusive)	TECHNOLOGY
Expected classroom behavior (Exhibits disruptive behavior, interrupting the learning environment in the classroom)	<ul style="list-style-type: none"> ➤ Point sheets for positive alternative behavioral as identified ➤ Behavior contracts ➤ Home to school communication (high frequency and specific) ➤ Planned ignoring ➤ Positive reinforcement ➤ Token economy ➤ Proximity 	<ul style="list-style-type: none"> ➤ ➤ ➤ ➤ ➤ ➤ ➤
Note taking (Exhibits difficulty writing notes, identifying important concepts, disorganized notes)	<ul style="list-style-type: none"> ➤ Provide copy of notes ➤ Allow to listen then copy ➤ Highlight key points ➤ Color code ➤ Guided notes ➤ Graphic organizers ➤ Skeletal notes ➤ NCR paper ➤ Scribe 	<ul style="list-style-type: none"> ➤ AlphaSmart ➤ Tape recorder ➤ ➤ ➤ ➤ ➤ ➤
Oral expression (Exhibits difficulty with explaining verbally answers)	<ul style="list-style-type: none"> ➤ Transparencies ➤ Whiteboards ➤ Manipulatives ➤ 	<ul style="list-style-type: none"> ➤ Computers ➤ AlphaSmart ➤ Board maker ➤ IntelliKeys
Organization (Exhibits difficulty in taking notes, storing work and formulas, unable to remember main concepts)	<ul style="list-style-type: none"> ➤ Graphic organizers ➤ Highlight key points ➤ Guided notes ➤ Reference sheets ➤ Enlarged font size ➤ Mnemonic devices 	<ul style="list-style-type: none"> ➤ ➤ ➤ ➤ ➤ ➤
Reading comprehension (Exhibits difficulty understanding concepts after reading content area materials or written directions)	<ul style="list-style-type: none"> ➤ Graphic organizers ➤ Highlighter tape ➤ Guided notes ➤ SIM Paraphrasing strategy ➤ Self-questioning ➤ 	<ul style="list-style-type: none"> ➤ ➤ ➤ ➤ ➤ ➤

Students have difficulty with:	ACCOMMODATIONS (least to most intrusive)	TECHNOLOGY
Acquiring and Retaining Information (Exhibits difficulty learning new concepts or remembering information.)	<ul style="list-style-type: none"> ➤ Mnemonic devices ➤ Repeated review and drill ➤ Link ideas to prior knowledge ➤ KWL instructional strategy 	<ul style="list-style-type: none"> ➤ ➤ ➤ ➤ ➤ ➤
Task completion (Exhibits inability to complete assignments)	<ul style="list-style-type: none"> ➤ Extended time, shortened assignments to show mastery ➤ Digital timer for self monitoring ➤ Time-lapse reminders ➤ ➤ 	<ul style="list-style-type: none"> ➤ ➤ ➤ ➤ ➤
Test taking skills (Exhibits anxiety when test taking, unable to perform satisfactory in tests)	<ul style="list-style-type: none"> ➤ Verbal tests ➤ Portfolios ➤ Journals ➤ Reduce # of questions ➤ Projects ➤ Extended time ➤ Open book/open note ➤ Isolate problems 	<ul style="list-style-type: none"> ➤ ➤ ➤ ➤ ➤ ➤ ➤ ➤ ➤
Time Management (Exhibits difficulty meeting deadlines, completing assignments, finishing tasks on time)	<ul style="list-style-type: none"> ➤ Timers and stopwatches ➤ Time logs ➤ Checklists ➤ Chunking tasks ➤ Self-monitoring 	<ul style="list-style-type: none"> ➤ ➤ ➤ ➤ ➤
Transitioning from one activity to another (Exhibits difficulty changing tasks or assignments)	<ul style="list-style-type: none"> ➤ Checklists ➤ Wait time ➤ Musical cues ➤ Materials management and organizational skills 	<ul style="list-style-type: none"> ➤ ➤ ➤ ➤ ➤

Students have difficulty with:	ACCOMMODATIONS (least to most intrusive)	TECHNOLOGY
Vision Impairments	<ul style="list-style-type: none"> ➤ Larger font size ➤ Braille 	<ul style="list-style-type: none"> ➤ Magnifier ➤
Difficulty with written expression	<ul style="list-style-type: none"> ➤ Shorten length of assignment ➤ Kinesthetic activities (foldables) ➤ Demonstrations through manipulatives ➤ Oral presentations 	<ul style="list-style-type: none"> ➤ Taped responses ➤ AlphaSmart ➤ ➤ ➤