

Third Grade Math Teaching Guidelines

RECITATION

Students stand and skip count (i.e., count by 2's, 5's, 10's, etc.). As multiplication facts are learned, students will learn additional skip counting. Students recite previously learned math facts. (At the beginning of the year, review addition where needed, i.e., $6+1=7$, $6+2=8$, etc. Later, as students learn multiplication facts, recite facts $1\times 2=2$, $2\times 2=4$, $3\times 2=6$, $4\times 2=8$, etc.)

REVIEW

Refer to the Drill Time activities in the *Teacher Manual*.

LESSON

Identify any new material that is introduced in the *Teacher Manual*. Teach the new material as outlined in the manual; you may need to change the lesson format to suit your students.

On the first page of the lesson (usually rows 1-7), complete the first few rows orally with your students. Students should complete one or two rows independently as the teacher circulates around the room aiding those who may need additional help. (In a regular classroom setting, one or two rows should be reserved to use for a homework assignment.) Re-teach as necessary. Correct together.

Complete the second page of the lesson together. Have students write the answers in their books.

Game: With any remaining time, play Around the World, Math Facts Baseball, or other math games.

DAILY ASSIGNMENTS

Students review flashcards for previous and current facts learned. In a regular classroom setting, assign one or two rows of problems from the first page of the lesson. These can be completed in the textbook, or they can be copied and completed neatly in a spiral notebook. Copying them into a separate notebook helps the student develop skills in organization, accurate copying, and neatness.*

**We use the 3rd grade math book as a consumable item in our classrooms even though Rod & Staff's Teacher Manual instructs students not to write in their books. We find that copying the problems in 3rd grade takes up time we want to spend on teaching and practice. Our 4th grade year is the first year we do not use the math books as consumable. This is a decision that you can make based on your personal preference.*

SPEED DRILLS

The speed drills are designed to be used with each even-numbered lesson, and we have scheduled them in the lesson plans following this plan. Read the Teaching Guidelines in the front of the Speed Drills booklet before using the drills.

You may also include a timed Math Facts Speed Drill from the *Blackline Masters: Fact Forms and Reading Problems* booklet as often as you desire. Give the students five minutes to complete the problems. Correct answers together. Record the scores as an indicator of progress. (An appropriate goal for multiplication is to achieve 80% accuracy in a 5-minute drill by the end of the school year.)

Tests are given after approximately 15 lessons and are included in the back of this Curriculum Guide.

WORKSHEETS

Rod & Staff is in the process of revising their third grade math book, but in the meantime, they have released worksheets to supplement the current book. These worksheets begin in Lesson 25, and there are one or two worksheets for every lesson after that.

Simply Classical Levels 5 & 6 Math Teaching Guidelines

Arithmetic: A Commitment

We encourage you to maintain a daily commitment to arithmetic. Arithmetic and Latin form the foundation for mathematics and logic in later years. All builds slowly but steadily and with purpose.

Arithmetic is the first subject or art in the *quadrivium*, the four mathematical liberal arts. We teach arithmetic for knowledge and appreciation of numbers, mastery of computation, and the improved ability to solve problems. "Arithmetic," though sometimes neglected in modern education, is the historic, dutiful, and necessary servant of advanced mathematics including music, geometry, and astronomy.

While gaining an appreciation for order in time and number, the student may also find that arithmetic helps to order his own mind. Many students, especially those who struggle in the language arts, find the predictable order of numbers soothing. Arithmetic may become a young student's favorite subject even if he cannot articulate why.

Other students fear numbers and approach arithmetic with trepidation. For such students, our mastery approach will be welcome. Practice, practice, practice, and drill those math facts as indicated in your lesson plans. Mastery will promote automaticity; automaticity will improve competence; and competence will beget confidence.

Rod and Staff Arithmetic 3

In Levels 5 & 6, the student covers the entire course of *Rod and Staff Arithmetic Book 3*. Steady, daily arithmetic lessons serve a cognitive purpose in themselves, as students' number awareness, mental computation, and problem solving improve.

Recitation

Begin each math class with a skip counting recitation. This should just take a few minutes and is a great way to get students alert and ready for math. Students stand and skip count (i.e., count by 2's, 5's, 10's, etc.). As multiplication facts are learned, students will learn additional skip counting. Students recite previously learned math facts. (At the beginning of the year, review addition where needed, i.e., $6+1=7$, $6+2=8$, etc. Later, as students learn multiplication facts, recite facts $1\times 2=2$, $2\times 2=4$, $3\times 2=6$, $4\times 2=8$, etc.)

Review

Refer to the Drill Time activities in the *Teacher's Manual*.

Lesson

Identify any new material that is introduced in the *Teacher's Manual*. Teach the new material as outlined in the manual; you may need to change the lesson format to suit your students.

On the first page of the lesson (usually rows 1-7), complete the first few rows orally with your students. Students should complete one or two rows independently as the teacher circulates around the room aiding those who may need additional help. (In a regular classroom setting, one or two rows should be reserved to use for a homework assignment.) Re-teach as necessary. Correct together.

Complete the second page of the lesson together. Have students write the answers in their books.

Daily Assignments

Students review flashcards for previous and current facts learned. In a regular classroom setting, assign one or two rows of problems from the first page of the lesson. These can be completed in the textbook, or they can be copied and completed neatly in a spiral notebook. Copying them into a separate notebook helps the student develop skills in organization, accurate copying, and neatness.

We use *Rod and Staff Arithmetic Book 3* as a consumable item even though the *Teacher's Manual* instructs students to copy problems onto separate paper. You may allow your SC student to write in the books. We find that copying the problems in *Arithmetic 3* requires too much time and mental stamina that will be better spent on teaching, practice, and review. You can make this decision based on your preference and your student's needs. If the student's writing is large or if he needs more space to show his work, you can use a separate blank notebook. Then he can write the answer into his *Rod and Staff Arithmetic Book 3*.

Speed Drills

The speed drills are designed to be used with each even-numbered lesson, and we have scheduled them in the lesson plans following this plan. Read the Teaching Guidelines in the front of the Speed Drills booklet before using the drills. You may also include a timed Math Facts Speed Drill from the Blacklines booklet as often as you desire. Give the students five minutes to complete the problems. Correct answers together. Record the scores as an indicator of progress. (An appropriate goal for multiplication is to achieve 80% accuracy in a five-minute drill by the end of the school year.)

Tests

Tests are given after approximately 15 lessons and are included in the *SC Levels 5 & 6 Reviews & Tests*. You may notice that tests do not immediately follow the lessons covered. This is intentional. By placing the test a few lessons after the covered material, we allow students additional review and practice to promote success.

Visual Aids, Movement, & More

Teach from all of the visual aids described in the *Teacher's Manual*. Teach with the simple movement activities provided below and scheduled in your lesson plans. All will assist continued advancement in arithmetic.

Full Lessons

Plan to teach the Before Class and After Class lessons, the Speed Drills, and the Blacklines. Adapt, if needed, but include them all for best results. When students encounter multiplication facts, practice these just as you continue to practice +/- facts.

Tips for Teaching with Flashcards

1. Hold up the first card, so students can see the front but not the back.
2. Read the front of the card. This pairs auditory and visual information.
3. If the student gives the correct answer the first time, place that flashcard in a "mastered" pile.
4. If your student gives an incorrect response or no response the first time, say the answer yourself and place that card in a "review" pile.
5. Plan to review the "review" pile daily. Plan to review the "mastered" pile weekly.
6. Be encouraging. Flashcards can be very difficult for students with processing difficulties! Show progress with charts or with the visually diminishing "review" pile. If the student becomes discouraged, begin with a deck containing 25-40% or fewer challenging cards and 60-75% or more mastered cards.
7. Add movement through Sit & Stand Flashcards described below.

Movement Activities

Bounce Pass Facts

Good for coordination and rhythm, Bounce Pass involves standing several feet from the other player, picturing or marking an x on the floor or ground in the center between the players. Then push the ball from the chest to hit the x and bounce up to the player. Practice a few times. When ready, bounce pass with the assigned math facts. The first player (teacher or leader) bounces the ball while saying "1x1." The other player (student) catches the ball and says "1." The leader bounces the ball and says "1x2," and so on.

Clock Hop

Draw or tape a circle on the floor. Mark dots at each 15-minute interval but no numerals. The caller announces these in random order:

thirty (easy) or "half past" (advanced)

fifteen or "quarter past"

o'clock or "top of the hour"

forty-five or "quarter till"

Student hops on one foot to the corresponding dot. When the caller has cycled through all four options, the next student takes a turn or becomes the caller. Points can be awarded if desired.

Concentric Multipliers

Setting Up:

1. With sidewalk chalk, make five concentric circles.
2. Beginning with the outermost circle, have students label with chalk or with a numeral card each concentric circle 1 to 5. (Label the outer ring 1, the next ring 2, the next 3, the next 4, and the inner circle 5.)
3. Choose a multiplier based on the lesson. Example: 3.
4. Assign each student paper and pencil for keeping score.

Play:

1. The person to the left of the leader tosses a rock or beanbag into the circles. Using the chosen multiplier, the student calls out his points. (Example: Multiplier is 3. He tosses the beanbag into the 4 circle. He says, "12!" If preferred, have the student call out the equation: "3 x 4 is 12!")
2. He records his 12 points on his score pad.
3. Play continues until each player has taken 5 turns. Each student totals his points. Highest score wins.
4. Repeat with a new multiplier if time permits. (Example: Multiplier is now 2. Numbers in the ring remain the same. If he tosses into the 2 circle, he calls out "4!" and so on.) Changing the multiplier will help flexible thinking as well as math facts!

Demo Clock

Use the hour and minute hands to demonstrate times based on the lessons as indicated in your planner (if :15, set 3:15, 2:45, 6:30, and so on). For more challenge, state the time for the student to demonstrate on the clock.

Dice Facts

Needed: two dice and a scorepad or board

The first player rolls two dice and quickly adds them together. He receives all the points on the dice if he announces the correct **sum**. Players continue taking turns through five rounds of play. The one with the most points wins. Then play five more rounds subtracting the dots on the smaller

die from the larger. The player receives all the points on the dice if he announces the correct **difference**. The player with the most points wins.

Note: This game can be played anywhere (e.g., therapy waiting rooms) as +/- review.

Hot Potato Facts

Sit in a circle on chairs closely placed or on the floor. Pass a small ball or beanbag back and forth or clockwise (if more than two players) in a rhythm while saying full multiplication facts in order from 1-9. First player says "1x1=1" (fast pass to next player). Next player says "1x2=2" and passes quickly to the next player. See how high the group can go without missing. If someone misses, the direction changes to counterclockwise (if more than two players), and play resumes from the missed fact. When someone misses, return to clockwise. Keep play going until all facts are recited. If more challenge or interest is needed, stand at 5's and continue the play standing.

Jumping Multipliers

Students take turns jumping rope while counting to 100 by 2's, 3's, 4's, 5's, and so on. If the student is unable to jump rope, fasten one end of the rope and move the other end back and forth so the student can jump in a rhythm.

Real Money Matters

Distribute real coins according to the lesson. Call out an amount for students to match with their coins. If time permits, create a store by affixing prices to household or classroom items (globe \$2.00, pencil \$0.40). Students take turns "purchasing" the item with their coins. One student could be storekeeper.

Roman Numeral Match-Up

Write Roman numerals in order vertically on the left-hand side of the board. Write corresponding numbers on the right side of the board in scrambled order. Students draw connecting lines to correct numerals.

Example:

I	4
II	3
III	1
IV	5
V	2

You will add these with corresponding numerals after they have been introduced: VI, VII, VIII, IX, X.

Sit & Stand Flashcards

Students stand to begin the game. The leader presents flashcards one at a time. Students may remain standing so long as answers are correct. If a student misses a card, he must sit until his next turn, and the leader places the card back into the deck. On his next turn, if he answers correctly he stands. Play continues until the deck finishes. All players who are still standing at the last card win. Note: As mentioned above, if a student is sitting so frequently as to be discouraging, create smaller decks with only 25% challenging cards and 75% mastered cards.