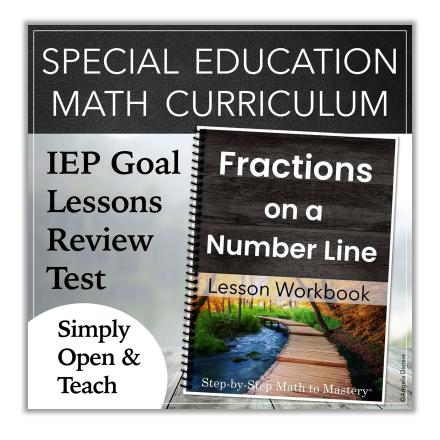
Step-by-Step ——

Math to Mastery

FOR SPECIAL EDUCATION & INTERVENTION

Preview & Sample Lesson



Hello!

I'm excited to show you my updated Step-by-Step Math to Mastery™ resources!

This preview will answer several frequently asked questions and give you a chance to see a sample lesson straight from the workbook.

If you have more questions or would like to request a product catalog don't hesitate to email me.

Angela Dansie angela@mathtomastery.com

Skip to Sample Lesson

Have a question? Click to the Answer

Are these resources standards-based? Evidence-based? ANSWER

Will they be a good fit for my students? **ANSWER**

Do students respond well to these lessons? ANSWER

How do you teach a lesson? ANSWER

How do you prep and organize materials? **ANSWER**

What is the recommended sequence of workbooks? ANSWER

Can I share this with another teacher? ANSWER

How can I get a discount? ANSWER

Standards-Based

K-5th grade standards addressing numbers, addition, subtraction, multiplication, division, fractions, and decimals are covered.

The lesson workbooks are linked to Common Core State Standards so the standards can be referenced when writing IEP goals. Not every math standard is taught. These resources are focused on mastering essential foundational skills in a straightforward way.

An example IEP goal and objectives are included in each lesson workbook, along with the corresponding standard(s).

Evidence-Based

High-Leverage Practices in Special Education found in Step-by-Step Math to Mastery materials include:

#12 Systematically Design Instruction Towards Learning Goals#14 Use Cognitive and Metacognitive Strategies (Schema Instruction)#15 Provide Scaffolded Supports#16 Use Explicit Instruction

Teacher-directed instruction is explicit and systematic. Skills are broken down into small steps, reducing cognitive load. Lessons progress incrementally from basic to more complex procedures. Clear, precise language is used so teachers and paraeducators can explain model problems simply and consistently.

Word problems are taught using schema-based instruction.

Special Learners

Step-by-Step Math to Mastery™ resources were created for students who need extra support, preferably in a small group or 1-on-1 setting. These lessons have been used in special education classrooms, intervention groups, Title 1 and English language learner programs, after school tutoring, and in homeschools.

Many math books simultaneously introduce two or more problem-solving strategies. This often confuses struggling students. In these lessons, only one strategy is taught at a time for students to master before moving to the next step.

These lessons could benefit all students, especially students who have:

- Attention difficulties—minimal visual clutter, short lessons, simple instructions, clear stopping point
- Learning disabilities—objectives are carefully sequenced in small chunks with explicit step-by-step instruction and many practice repetitions
- Slower processing speed—accuracy is emphasized rather than speed;
 mastering a skill will increase automaticity
- Language difficulties—

Receptive Language: Teacher directions and vocabulary are simple, consistent, and concise.

Expressive Language: Rather than asking students with limited verbal skills to 'explain their thinking', teach them how to state the steps they are following.

- Executive functioning difficulties—clear expectations and predictable routine, organized layout with white space and fewer problems per page
- Fine motor issues—larger font and space for writing answers; students are not asked to write many words or sentences

Student Success

I get feedback from teachers and parents of students in elementary, middle school, and high school. What I love most is hearing about a student's success.

I am using several of these units with a couple of students who experienced prenatal alcohol and drug exposure...I have seen them go from being completely overwhelmed and shut down in math to being excited to show me their progress each day. I cannot recommend these highly enough!

–Melissa H.

This is hands down the best math resource I have found. My daughter wasn't retaining info from our previous curriculum so we were in need of a new approach. She has actually retained what she is learning with this. –Shelly G.

I've been looking for a good math intervention program for my students and this one is awesome! My students are making so many gains! One of my students felt so successful that he asked for homework! I liked this so much I got the entire program!

–Jacqueline R.

This resource is amazing!! I have used it with my 3rd grade math intervention groups and my students are actually adding and subtracting with borrowing and regrouping. I have seen such a huge growth since using these pages! –Kelsie L.

I love the **confidence** this gives my students! –Kate S.

Amazing! Used in a resource room and students and their parents kept commenting how they wished the classroom teacher used this program.

Highly recommend! –Jennifer M.

My students really enjoy this math. It is easier for them to understand than the curriculum the school is using. They need something very clear and straightforward and this is IT! –Tracey M.

I love the approach and routine to your math units and the multiplication was no exception! Students with Intellectual Disability were multiplying with pride and parents were very tickled! Great evidenced-based structure.

–Melissa G.

Simple steps and explanations helped my ELL students tremendously. –L. G.

My intervention students have blossomed with using this resource. It is extremely thorough and guides the students through scaffolded steps to achieve competency. Couldn't ask for a better resource! –Lindsey D.

My 4th and 5th grader students with learning disabilities are **finally feeling** successful in math! –Kimberly D.

I used this resource to teach a child from Somalia how to regroup with subtraction. The explicit instruction was instrumental in helping the child conceptualize regrouping. I also appreciate the numerous sheets available for additional practice. Thank you! –Baudelina A.

This was exactly what I was going for. I've been using it all school-year and I've never seen my kids make progress like they have. —Danielle D.

Lesson Presentation

There is not just one right way to use the workbooks. They can be adapted to your student needs, your setting, and time constraints.

General guidelines for how to present model problems and prompt student responses are found on the next page.

Here is how I use the lesson workbooks:

My setting is a small group pull-out at the elementary level (mild/moderate). Students sit at a kidney table facing me and a white board behind me.

Warm-up:

- We begin with a number sense & place value warm-up.
- This may include skip counting, missing number flashcards, and a page from a daily practice workbook.

Model: 5 minutes

- I state the lesson objective and write one model problem on the white board at a time and think out loud while I demonstrate each step.
- I ask students to repeat and recite the steps, rules, and vocabulary with me.

Guided Practice: 10 minutes

- During guided practice I continue working problems on the board. I ask students for the next step as if they are coaching me through the problems.
- When they are answering confidently, I often have a student come to the board to work a problem. I've found students enjoy the chance to "be the teacher" and it gives the others a chance to practice being a respectful audience.

Independent Practice: 15 minutes (more or less)

- Students spread out and go to their individual tables/desks where they can focus quietly during this time.
- They work at their own pace, quietly, and raise their hands when finished so I can quickly check their work and give immediate feedback.
- Quick finishers might be given a set of fact flashcards or a fluency timing to practice while the others finish.

When I have a group that is answering accurately and flying at a faster pace, I reduce the number of practice problems and may do two lessons a day.

If we have time, we do a few word problems together or practice telling time or counting money—whatever I'd like to spend a few minutes reviewing.

Keep Students Engaged

"A responding student is a learning student."

Model each skill step-by-step and think out loud while you demonstrate. Give many opportunities for each student to respond during *guided practice*. Don't move to *independent practice* until students are confident with the skill.

Model: Teacher solves problems on the white board or on the paper so everyone can see. Talk through the problem out loud, step by step.

I look at ...I see that ...I remember ...I think ...I write ...I say ...

Have students recite the steps and any new rules or vocabulary as you work.

"I add the ones column. What do I do?"

"The rule is . . . Say it with me . . . "

"(Vocab word) means ... Say that with me ..."

Guided Practice: Teacher and students work problems together. Solve together on the white board, projector or teacher's paper.

- 1. Start → Teacher models correct response before asking a question "First we look at the sign. What do we do first, everyone?"
- 2. Fade to → Whole group choral responses "What is the next step, everyone?"
- 3. Fade to → Individual responses "What numbers are in the tens column, ... Andrew?"
- 4. Fade to → Solve on individual papers at the same time Individual responses as you go through the steps together and students write on their papers

"Count back, ... Hailey." "What is the difference, ... Max?" "Everyone write it."

More Options →

- Invite students to come to the board and demonstrate solving problems and talking through the steps. Give each student a chance to be the "teacher" while others practice being a respectful audience.
- Pair students up with a partner. Both solve the same problem, then they quickly compare answers. Or they may take turns demonstrating how to solve a problem while the other watches and checks the answer.

Independent Practice: Students work quietly at their own pace. They may ask for help if needed, but encourage and praise independent work.

Easy to Teach

I know how many things special education teachers have on their plates. It is important to me to make these resources as simple to use as possible.

"I was so scared to buy this [K-5 Math Bundle] because of the price but after 2 months it has easily saved me that much time spent after my contracted hours putting things together. I can just hand it to my paras and they can teach the students without me micromanaging." –Whitney H.

The practicality of these units is off the charts!!! They make math time so much easier for me to plan!!

–Janelle M.

As a special ed teacher who provides push-in support to students at a variety of levels, your math interventions have been a lifesaver this year! I'm able to pinpoint where to start my kids, can easily align it to the standards, and I don't end up spending hours sifting through websites online trying to find math work that will fit my kids' needs. Thank you! –Kimberly D.

This is a godsend for teachers who have to program for a wide range of abilities, simultaneously. –Juliana R.

I love all of your bundles. They make doing math a breeze with my kiddos. It used to take me hours to prep and think of what to do - because I have four different levels in my classroom. Now I just follow your curriculum for each different level. Thanks for your great stuff. -Marci G.

This resource is **easy to use for my students and paras**. Thanks! –Rachel W.

I was looking for a resource for my 1st and 2nd grade resource room. General education materials made teaching math cumbersome. I felt like I spent more time teaching the various components of the program and teaching math was secondary. This is just what I needed to make math manageable for my special learners. I love that examples are concrete and instruction is direct. Thank you so much! –Sherri H.

This is a great resource for math rotations. I teach 4-8 AU/ED/ID in a self-contained classroom in a public separate school. My capable para is able to implement this easily and it is effective in teaching the students. –Emily S.

This is an excellent resource for those self-contained special education teachers that have to reinvent the wheel to put together a curriculum to meet the needs of their students that are not low enough to take the alternate assessment.. –Success Beyond the Box Teaching Materials

I can't say enough about this resource. Best I've ever bought from TPT. I have four grades in my classroom, at the same time. This makes math time stress free, while everyone works on what they need to target. Thank you!

-Everyday I'm Teaching It

It works perfect for having a para work with the student. –Jennifer B.

Prep & Organize

Once you have decided which lessons to teach, you may want to print and bind individual student workbooks.

- 1. Print the student booklet cover onto colored cardstock for a bit of durability
- 2. Print the lesson pages double-sided. Black & white, no color ink needed.
- Bind the workbook together using what you have (staple, spiral binding, three-hole punched in a binder, or with binder rings)

In my classroom . . .

- I would plan what I would teach the coming month and spend an hour of my prep time printing and assembling student workbooks.
- The method I used was a double-hole-punch at the top, fastening booklets together with two 1" binder rings. I fastened workbooks at the top to avoid anything on the sides interfering with handwriting.
- Each math group had a separate Sterilite™ bin to store the workbooks in as well as any flashcards or base ten blocks or other manipulatives.
- After students finished a workbook I would take the binder rings out and staple the book to send home. Then I re-used the binder rings in the next workbook.

I know these lessons are a lot of pages, and it can be a concern when you are limited in the number of pages you may print and copy. If you live in an area with a print shop it may be worth looking into having them printed there if your school will reimburse you.

Printed coil-bound workbooks are available at mathtomastery.com so you can save your prep time for other things and have professionally printed workbooks delivered to your door. Just another option to consider!

Suggested Sequence

Placement Test

Visit mathtomastery.com to download a free placement test.

Step-by-Step Math to Mastery™ Lesson Workbook Sequence

 Basic Addition and Subtraction □ 1. Addition and Subtraction: Numbers to 10 □ 2. Addition and Subtraction: Word Problems □ 3. Addition and Subtraction: Three Addends and Teen Numbers □ 4. Addition and Subtraction: Fact Families, Missing Addends, Making Ten 		
 Multi-Digit Addition and Subtraction □ 5. Addition: Two- Three- and Four-Digit Numbers □ 6. Subtraction: Two- Three- and Four-Digit Numbers 		
 Basic Multiplication and Division □ 7. Multiplication: Concepts and Factors to 10 □ 8. Division: Concepts and Divisors to 10 □ 9. Multiply & Divide: Word Problems, Missing Factors, Fact Families 		
 Multi-Digit Multiplication and Division □ 10. Multiplication: One-Digit by Multi-Digit Factors □ 11. Multiplication: Multi-Digit Factors and Distributive Property □ 12. Division: Long Division with One-Digit Divisors □ 13. Division: Long Division with Two-Digit Divisors 		
 Fractions □ 14. Fractions: Basic Concepts □ 15. Fractions: Representing Fractions on a Number Line □ 16. Fractions: Add and Subtract Like Denominators □ 17. Fractions: Multiply Fractions and Convert to Mixed Numbers □ 18. Fractions: Add and Subtract Unlike Denominators □ 19. Fractions: Divide and Simplify Fractions 		
 Decimals □ 20. Decimals: Read, Write, Compare and Round □ 21. Decimals: Add and Subtract, Multiply and Divide □ 22. Decimals: Convert Between Percent, Decimals, and Fractions 		

Suggested Sequence

Supporting Resources

Number Sense & Place Value					
	Numbers 0 to 20 Count, Read, & Write Numbers				
	Numbers 1 to 120 Place Value & Number Sense Daily Practice				
	Numbers 120 to 999 Place Value & Number Sense Daily Practice				
	Hundreds: Expanded Form, Comparing, & Rounding Off				
	Thousands: Expanded Form, Comparing, & Rounding Off				
 Fact Fluency □ Addition & Subtraction Timings, Flashcards & Games □ Multiplication & Division Timings, Flashcards & Games 					
Other					
	Telling Time to the Nearest 5 Minutes				
	Counting Money: Coins and Dollar Bills				
	Shapes: Flat and Solid Practice Sheets				

These resources may be used alone or with the computation lesson workbooks on the previous page.

Number sense and place value practice sheets are a great daily warm-up routine or entrance activity.

Fact fluency timings: Addition timings may be started after students can add sums to 10. Multiplication timings can begin after students have learned to multiply by 5's, 2's, and 3's.

Telling time and counting money may be taught any time after students are confident skip counting by 5's.

Terms of Use

Math to Mastery

FOR SPECIAL EDUCATION & INTERVENTION

Contact Information

Step-by-Step Math to Mastery[™] materials are created by Angela Dansie Published by Dansie Curriculum Design, updated 2022

Email: angela@mathtomastery.com Website: https://mathtomastery.com

Terms of Use

Copyright © Angela Dansie, All Rights Reserved. Your integrity is essential to copyright protection. Thank you for following these terms of use.

Printed Workbook

Schools, tutoring centers, and co-ops may NOT photocopy any portion of this book. Educators must purchase one consumable workbook for each student.

PDF Download

By purchasing, you receive a limited individual license for personal and *single classroom use*. If more than one teacher would like to use this resource, please contact me at angela@mathtomastery.com to purchase the appropriate licenses.

You May: Print and use this product in your classroom; Allow paraeducators to use these materials with your students; Enjoy using this product year after year; Share the website URL with others who would like to acquire this product.

You May Not: Share or sell any part of this product; Edit or use any part of this product to create products for sharing or selling; Post any portion of these materials on the internet or shared drives.

Feedback

I appreciate your feedback. I love to hear about your students' experiences and progress. You can contact me with comments or questions by emailing angela@mathtomastery.com. I do my best to provide error-free materials, but if you find a typo feel free to email and tell me so I can quickly correct it. Thank you for your support!

How to Save

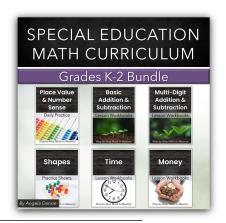
Bundle resources and save at least 20%.

K-2 Math Bundle

15 PDF Resources 2,400+ pages 3 years of math instruction!

Digital Download: \$149

Save 20% or \$38 off individual prices



3-5 Math Bundle

17 PDF Resources 2,800+ pages 3 years of math instruction!

Digital Download: \$169

Save 20% or \$43 off individual prices

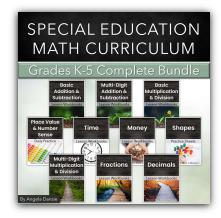
SPECIAL EDUCATION MATH CURRICULUM Grades 3-5 Bundle Basic Multi-Digit Multiplication & Division Busic Multiplication & Olivision Busic Mul

K-5 Math Bundle

All 32 PDF Resources 5,300+ pages 6 years of math instruction!

Digital Download: \$299

Save 25% or \$100 off individual prices



13

Buy the K-5 Math Bundle download for \$299 and Get \$1 off EACH printed workbook you order, for life!

For school district orders or large numbers of licenses, please see the product catalog or email me for a more personalized quote. angela@mathtomastery.com

Sample Lesson

In this sample you will see:

- Table of Contents
- Example IEP Goal & Objectives
- Overview & Suggestions for Use
- 2 Lessons

A few things to notice as you look at the lesson . . .

Consistent & Predictable Format:

- "I Can" statements at the top of each page state lesson objective
- Model (I do), Guided Practice (We do), Independent Practice (You do)
- Uncluttered. White space and fewer problems on each page

Open and Teach. Paraeducator-Friendly.

- There is no separate lesson plan or teacher manual. The lesson workbook contains all that is needed for both the student and teacher.
- Steps to follow are printed next to each model. These written steps can be used to help the teacher "think out loud" while demonstrating.
- This makes it easy to give to a paraeducator to use. S/he doesn't need a
 detailed script because the lessons are formatted to be predictable and
 simple. Once familiar with the format, adjustments can easily be made to
 the number of practice repetitions each student needs.

On some pages there may be quite a bit of text. Please realize that the written step-by-step instructions on each page are to help the teacher be clear and consistent during modeling and guided practice, not for the students to read and make sense of independently.



Step-by-Step Math to Mastery $^{\text{\tiny TM}}$

Fractions:

Represent Fractions on a Number Line

Table of Contents:

Introduction	Pages
Standards and IBP Goals	5
Overview and Suggestions for Use	6
Student Booklet Cover	7

Lessons	
Warm-Up: Reading Fractions	8
Count the Number of Parts in Each Whole	10
Write the Numerator	15
Write Fractions on a Number Line for Whole Units	19
Write a Fraction on a Number Line	23
Write a Fraction on a Vertical Number Line	27
Shade a Fraction on a Number Line	31
Shade a Fraction on a Vertical Number Line	35
Write a Fraction to Match a Picture	39
Make a Picture to Match a Fraction	43
Compare a Fraction to One (with Pictures)	47
Identify Fractions Equal to One	49
Compare a Fraction to One	Sy 51
Review	55
Test	57



Represent Fractions on a Number Line Standards & IEP Goal

Second Grade CCSS.MATH.CONTENT.2.G.A.3

Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

Third Grade CCSS.MATH.CONTENT.3.NF.A.1

Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.

Third Grade CCSS.MATH.CONTENT.3.NF.A.2

Understand a fraction as a number on the number line; represent fractions on a number line diagram.

IEP Goal Example:

By (month/year), when given a proper or improper fraction, student will represent the fraction by shading in circles or a number line with at least 85% accuracy over 3 trials. Progress will be monitored using classroom-based assessments.

Objectives:

- Read fractions aloud
- Identify whole units on a number line
- Count the parts in a whole unit
- Write a fraction to label a shaded horizontal and vertical number line
- Shade a horizontal and vertical number line to match a fraction
- Write a fraction to match a picture (shaded circles)
- Partition and shade circles to match a fraction
- Tell whether a fraction is more than, equal to, or less than one whole



Step-by-Step Math to Mastery™ Fractions: Represent Fractions on a Number Line

Overview and Suggestions for Use:

This workbook focuses on representing fractions on a number line and with partitioned circles. Number lines are presented both horizontally and vertically. Reading fractions on vertical number lines will be helpful when learning measurement skills (for example, using a liquid measuring cup).

Students warm-up before each lesson by reading fractions aloud in the traditional way (usually with "-ths" following the denominator). Refer back to pages 11 and 12 for this warm-up before each daily lesson.

Proper and improper fractions are introduced concurrently. This prevents students from learning the misrule that all fractions are always proper (less than one). Low-performing students often learn this misrule and are able to recognize 3/4 but not 4/3.

If a student has difficulty partitioning circles on his own, you can draw the dividing lines in advance and have the student merely shade. Likewise, if a student has trouble discriminating where the shading ends on a number line you can make it more obvious with a thick line or asterisk where it stops.

SPARK

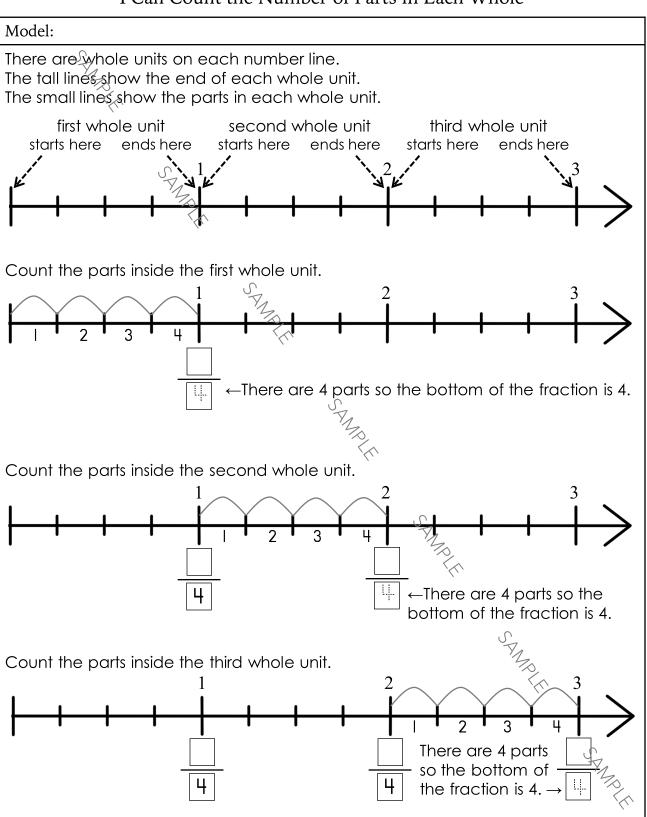
——Step-by-Step—— Math to Mastery Lesson Workbook

Representing Fractions

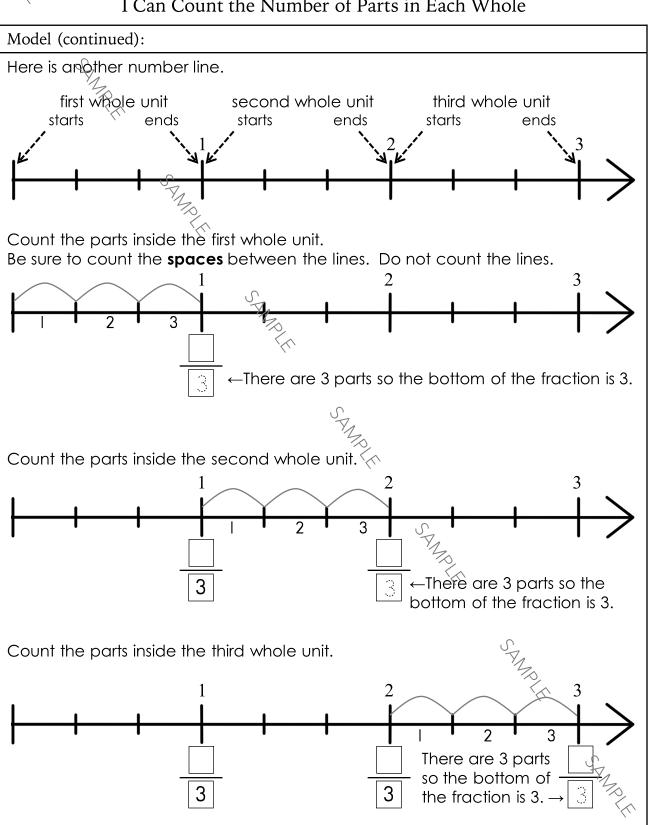
SPA

Name











Guided Practice: Steps: Look at one whole unit Count the parts inside the whole 3. Write the number of parts in the bottom of each fraction. first whole unit second whole unit third whole unit starts starts ends starts ends 1

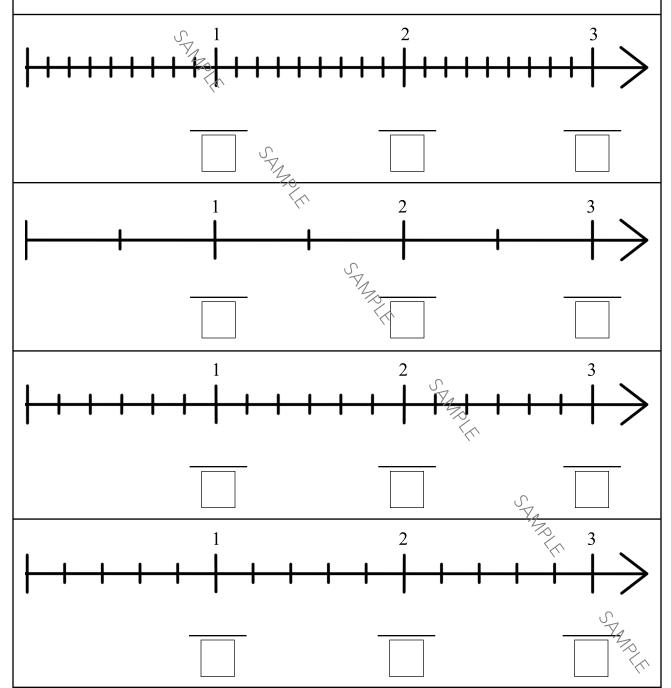


Independent Practice: Steps: Look at one whole unit Count the parts inside the whole 3. Write the number of parts in the bottom of each fraction. third whole unit first whole unit second whole unit starts starts ends starts ends

Independent Practice:

Steps:

- Look at one whole unit
 Count the parts inside the whole
- 3. Write the number of parts in the bottom of each fraction.





Model:

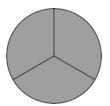
We are going to learn some rules so we can tell if a fraction equals one whole or equals more or less than one whole without looking at a picture.

The first rule is: A fraction equals one whole when the top number and bottom number are the same.

<u>4</u> 4



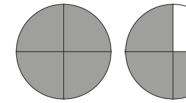
3



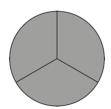
These fractions equal one whole because the top and bottom numbers are the same. \bigcirc

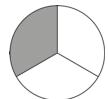
The second rule is: If the top number is more than the bottom number, the fraction equals more than one whole.

7



Sylve 4

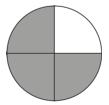




These fractions equal more than one whole because the top number is more than the bottom number.

The third rule is: If the top number is less than the bottom number, the fraction equals less than one whole.

3



3



These fractions equal less than one because the top number is smaller than the bottom number.



Step 1: Look at the fraction. Is the top number more or less than the bottom

number? 5 Step 2: Circle "less than" "equal to" or "more than" one whole unit	
less than 1 equal to 1 more than 1	less than 1 equal to 1 more than 1
less than 1 equal to 1 more than 1	less than 1 equal to 1 more than 1
less than 1 equal to 1 more than 1	less than 1 equal to 1 more than 1
less than 1 equal to 1 more than 1	less than 1 equal to 1 more than 1
less than 1 $\frac{3}{3}$ equal to 1 $\frac{3}{3}$ more than 1	less than 1 equal to 1 more than 1 $\frac{3}{2}$



Independent Practice:		
Step 1: Look at the fraction. Is the top number more or less than the bottom number? Step 2: Circle "less than" "equal to" or "more than" one whole unit		
less than 1 equal to 1 more than 1 $\frac{1}{2}$	less than 1 equal to 1 more than 1	
less than 1 equal to 1 more than 1	less than 1 equal to 1 more than 1	
less than 1 equal to 1 more than 1	less than 1 equal to 1 more than 1	
less than 1 equal to 1 more than 1	less than 1 equal to 1 more than 1	
less than 1 equal to 1 more than 1	less than 1 equal to 1 more than 1	



I Can Compare a Fraction to One		
Independent Practice:		
Step 1: Look at the fraction. Is the top number more or less than the bottom number? Step 2: Circle "less than" "equal to" or "more than" one whole unit		
less than 1 equal to 1 more than 1	less than 1 equal to 1 more than 1	
less than 1 equal to 1 more than 1	less than 1 equal to 1 more than 1	
less than 1 equal to 1 more than 1	less than 1 equal to 1 more than 1	
less than 1 equal to 1 more than 1	less than 1 equal to 1 more than 1	
less than 1 equal to 1 more than 1	less than 1 $\frac{3}{3}$ equal to 1 $\frac{3}{3}$ more than 1	