

Introduction to Foundations of Arithmetic (Grades K-3)

Foundations of Arithmetic K-3 teaches arithmetic for grades K-3rd grade in 180 daily lessons per grade.

Here's what makes our curriculum different:

- **Arithmetic teaches children that YHWH is orderly and that His laws govern all of His creation.** Unlike some math curriculum that teach “fuzzy” math, which says there are no absolutes and that it's more important to encourage self esteem than correct answers, our curriculum emphasizes right and wrong, proper procedures, and orderly, incremental learning.
- **Your children will learn to be precise, exact, neat, and disciplined in their work.** In the book of Proverbs, this is called “diligence,” a character quality upon which YHWH places great importance.
- **Some math curriculum de-emphasize memorization and drill.** However, we believe that Scripture places a premium on memorization. Learning math facts is one way to improve our children's memory. Our goal is to help your children know their arithmetic facts automatically.
- **Our goal is to continually review math concepts,** rather than teach them in units. Scripture teaches that we learn better when we constantly bring things to our remembrance.
- In Scripture, YHWH chose “the work of skilled craftsman” to build His tabernacle and temple. **We include plenty of real-life “story problems”** so that your children can apply their arithmetic skills to life and learn to become “skilled craftsman” in service of their Creator.

Here are some features of our math curriculum:

- **Together Math Drills** — For 3 days each week, all your children can play math games together, do math drills, and enjoy some fun competition. (Only one child? That's okay! He or she will enjoy doing the drills with the Teacher!) For the other 2 days, we provide “story problems” from the Bible, such as the size and mass of Noah's ark, the dimensions of the tabernacle or temple, timelines and dates, the size of people groups, money, weights and measurements, distances between locations, and more. We also study biblical and historical characters who excelled at math, and we learn why YHWH chose to use them for His purposes.
- **Daily Arithmetic Instruction and Review** — We choose arithmetic “themes” each week so that all your children can be learning similar concepts at once, but we provide daily worksheets, tests, and individualized instruction (as well as answer keys for the Teacher).

Scope and Sequence

Once a concept, skill, or fact has been introduced, it will be reviewed for the remainder of the year.

As much as possible, K-3rd will be related to the concepts being learned in 4th-8th.

Weeks 1-6

- Count to 200 forward and backward by ones, twos, fives, and tens
- Use a number line
- Money
- Even and odd numbers, ordinal numbers
- Place value – ones, tens, hundreds
- Addition/Subtraction Families – 0-8
- Addition/Subtraction terminology
- Adding two digits without carrying
- Half and Double
- Geometric shapes
- Graphs, calendars, clocks, thermometers

Weeks 7-12

- Count to 1,000
- Count by threes and twenty-fives
- Place value – thousands
- Addition/Subtraction Families – 1-11
- Adding three digits with carrying
- Subtracting two digits without borrowing
- Problem solving methods
- Measuring and drawing lines
- One-fourth

Weeks 13-17

- Count by fours
- Place value – ten thousands
- Addition/Subtraction Families – 1-13
- Adding four digits with carrying
- Subtracting three digits with borrowing
- Identifying mixed numbers (fractions)

Weeks 18-24

- Count to 2,000
- Addition/Subtraction Families – 1-15
- Subtracting with zeros in the minuend
- Roman numerals
- Multiplication/Division concepts
- Multiplication/Division Tables – 0-2

Weeks 25-29

- Count beyond 10,000
- Round to the nearest ten
- Addition/Subtraction Families – 1-17
- Estimating sums
- One-half, one-third, one-fourth
- Multiplication/Division Tables – 0-4

Weeks 30-36

- Round to the nearest dollar
- Place value – hundred thousands
- Addition/Subtraction Families – 1-18
- Addition/Subtraction with dollars and cents
- Multiplication/Division Tables – 0-5

Notes from Anne:

I'm excited to tell you about our arithmetic program! It is divided into two levels, and although we have given them grade levels, please don't feel tied to artificial grades. **The lower level teaches adding and subtracting, and the higher level teaches multiplication and division.**

- In the lower level, K-1 math introduces the numbers, coins, telling time, and simple adding and subtracting. 2-3 math reinforces adding and subtracting skills, so that it becomes EASY for your child, and it also introduces the concept of simple multiplication.
- In the higher level, 4-8 math teaches multiplication and division, and it applies everything learned to fractions, decimals, percentages, ratios, and real-life math. Once your child has mastered these concepts, no matter how old he is or what official "grade" he's in, he can go on to advanced math, such as Algebra and Geometry.

I have been homeschooling officially since the year 2001, when my oldest son was 5, but I've struggled in math to be consistent in drilling my children and checking their work in math. I would have good intentions, but I wouldn't be able to keep it up, as I added more and more children to my day. Planning, drilling, teaching, checking, and grading six different levels of math each day was more than I could consistently do. Unfortunately, Scripture says that a child left to himself brings his mother to shame, and I have been ashamed many times at my children's lack of ability to do simple math calculations in their heads, to remember their multiplication tables, or even catching them trying to cheat or to simply not finish their work, because they gambled with the idea that I wouldn't check up on them anyway.

YHVH really been convicting me on this over the years, so as we've been building this curriculum, my prayer has been to be able to combine the children together as much as possible. I believe that **YHVH's yoke is easy and His burden is light**. I also don't believe that we mothers and fathers should exasperate our children or provoke them, giving them more worksheets and more practice problems than they are able to bear. For that reason, if you feel our worksheets have too many problems, then feel free to only assign half — or whatever you (as teacher) feel is best for your child!

I think you will be pleased with how YHVH has guided this curriculum. First of all, with the help of many advisors much wiser than I, we have scoured textbooks from the mid-1800s through the most modern secular, public-school, common-core textbooks. I think we've found the best examples, ones which are built on godly principles, not on secular ideas. Secondly, we have carefully reviewed and used common homeschooling curriculum, from the very advanced ABeka curriculum, to Rod and Staff and Horizons, Alpha Omega and PACE, Saxon math and Singapore Math, MathUSee and Systematic Math. We've studied books by authors such as Sam Blumenfield, Ruth Beechick, and Harvey Bluedorn. This curriculum is the result. We're pretty excited about it.

One thing we have noticed. **There is a specific body of facts to be learned, and after that, it's all about reviewing concepts until they become automatic.** It's a lot like grammar in that way. Once you know it, you know it. **But you can't really use it in life until you *over-learn* it.** Math needs to become more than an abstract concept. It needs to become automatic.

For that reason, we now firmly believe that you really can teach all your children together. For instance, on a Monday morning, a 10-year might be introduced to decimals for the first time, while his 13-year-old sibling can have the same lesson and review it. Both need to study it over and over, but for the 10-

year-old, it is for the purpose of learning the concept. For the 13-year-old, the purpose is for review and to help the concept become automatic and second-nature.

Do you remember the exact math problem you did in 7th grade on the 43rd day? No, I don't either. I firmly believe that **your children can do much of the same work each year**, repeating it over and over, without getting bored. Especially if time is spent with Mom each day, who customizes and explains the lessons for her own children, making it unique to their needs.

So here is how our curriculum works. **Mom has a meeting with her children on the first 3 days of each week.** She reviews and drills them on rote arithmetic facts: addition, subtraction, multiplication, division, and practical life skills, such as measurement problems. Our curriculum has tried to make this fun! She then teaches and reviews a new concept, usually one or two per week. She might teach them with a white board. (I love white boards!) She watches them solve the problem, first with her help then independently.

After that, the students do a worksheet on their own. I think it's ideal if they copy it from the assignment sheet (or a tablet or Kindle, if you want to get high-tech and use less ink). Copying gives their hand practice in being neat and tidy, an essential skill in life as well as arithmetic! Besides, it saves money. We just use simple notebook paper. However, you are welcome to just print the worksheets and let them write directly on them.

Mom has an answer key, or if you have several children, they could exchange papers the next morning and check each others' work.

Once a week (beginning in Week 2), we have a test for your children. YHVH tested the children of Israel in the wilderness, and we believe in testing in math as well. In addition, we believe in expecting good grades. If your children get a 100% score, then reward them handsomely. I give my kids a piece of candy, which is a special treat in our home. As we tell our children often, an architect building a bridge over a body of water would not be rewarded for 95% accuracy. Actually, the bridge depends entirely upon 100% accuracy – or people will die. So we only give candy or a reward if they get all of the answers correct.

On the other hand, some children have not had a good foundation in arithmetic. In that case, Mom, use your best judgment, and praise your children for improvement, for neatness, for a good attitude and character that is godly. We suggest praise and hugs – but save prizes and physical rewards for the ultimate goal of a 100% on a test.

So in a nutshell, drill with your children 3 times a week. (The other 2 days, we'll supply word problems for them to solve, usually from Scripture). Then give them homework assignments or tests to do independently, on their own time, 5 days a week.

- You'll have a Together Time with your younger children, and a second one with your older children (if you have various ages of children.)
- You'll need a system for checking their work consistently.
- You'll be teaching your children to be careful, to be accurate, and to know their facts quickly.
- You'll show them how to apply math to daily life through word problems.

- And you'll prepare them for life as well as advanced math in high school and college, if you should so choose.

May YHVH put His hand of blessing on our children, as we seek them to be skilled workmen for Him. And may His yoke be easy and His burden light.

~Anne

How to Use This Curriculum

LESSON PLAN FORMAT

The curriculum includes:

- Lesson plans plus answer keys for the teacher, designed to be printed and placed in her 3-ring binder.
- Student worksheets, designed to be printed and placed in their 3-ring binders.

SUPPLIES NEEDED

- Students may need **notebook paper** for writing their answers or for scrap paper.
- The supplies will vary from week to week, but we tried to include **things you should already have around your house** (like buttons, straws, coins, rubber bands, and crayons).
- **Rulers, yardsticks, and tape measures** are wonderful to have. These are number lines! Have them handy, and use them often.
- Be sure to have **calendar on the wall**. We like keeping the Torah calendar in our home. Dry-erase calendars are a great way to keep track of the biblical calendar, but you can also print a blank calendar on our website. You can also see the current month's calendar at <https://homeschoolingtorah.com/members/biblical-calendar>.
- **Flashcards for addition, subtraction, multiplication, and division** are handy. You could make these yourself, or you could purchase them inexpensively at a dollar store. I like having the fact on one side and the answer on the other, so that I can sort them by number family — but this isn't required.
- **Legos®** are wonderful manipulatives to have. They are not required, of course — but if you have them, keep some in your school area.
- Some lessons require charts.
 - **Hundreds Chart** – Print this and display on your wall.
 - **Addition Chart** and **Multiplication Chart** – Print these for each child, and keep in a plastic sheet protector (or laminate them) in his notebook.

Younger children need to color – a lot! Have children through Grade 3 color a picture in a coloring book several times a week. Coloring a picture with crayons teaches valuable hand-eye coordination skills. Check these:

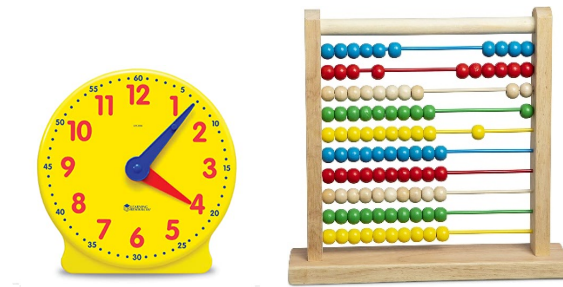
1. Can your child (or will he) carefully and patiently stay in the lines?
2. Does he have good enough eye-hand coordination to begin to learn to form his numbers smaller and yet neatly?
3. Does he have self-control?
4. Is he patient?

Note that many of these are character qualities, all of which will be needed in arithmetic. If he is lacking in an area, begin to work on it throughout the day, proactively teaching before these things become an issue during daily math time. This will make school more pleasant!

The Teacher should check the lesson plans for the week early enough to collect the supplies and charts needed.

Manipulatives:

- If you were to purchase anything, we would recommend a clock and an abacus. *However, these are not required*, as long as you have a clock in your home you could look at and simple objects your child can manipulate and count.



- **Flashcards** for addition, subtraction, multiplication, and division are handy. You could make these yourself, or you could purchase them inexpensively at a dollar store.

Other:

- A dry-erase board hung on the wall comes in very handy for math each day.
- Dry-erase markers and an eraser.
- A 12-inch ruler.
- Each child will need a pencil with an attached eraser, plus crayons.

If money is tight, be creative with what you have on hand!

AGES

This curriculum is intended primarily for children from kindergarten through 3rd grade.

Need Help Teaching Arithmetic?

If you are struggling with explaining an arithmetic concept, don't be nervous. Send us an email at support@homeschoolingtorah.com if you're having trouble understanding or explaining a topic. We'll make a video and show you how we teach it at our house. That's what community is for!

About Foundations of Arithmetic

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Scripture taken from the King James Version of the Bible, unless otherwise noted.

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***“Therefore all things whatsoever ye would that men should do to you, do ye even so to them”
(Matthew 7:12).***

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Arithmetic Teacher Guide

Week 1

K-3rd Grades

Goals

- **K-1st** – To write numbers clearly; to have good eye-hand coordination and self-control to color carefully and within the lines; to recognize number words from zero to five; to count to 50; to begin learning Addition Family 1.
- **2nd-3rd** – To review counting to 100; to know number words from zero to twenty; to know the terms of an addition problem; to know addition twins; to begin learning Addition Families 1-2.

Supplies

- *General Supplies Needed This Year –*
 - Counting objects
 - Crayons
 - Lego® bricks
 - Straws (110 straws) and 10 rubber bands
 - Corn meal or sand in a 9"x13" pan
 - White board or chalkboard
 - [A clock](#)
 - An [abacus](#) (not required, but very nice to have)
 - A 12-inch ruler
 - Board games and card games

Easy counting objects:

- Buttons - I bought a few dollars' worth of buttons and placed them in a ziplock bag with 10 paper Dixie® cups. That was 17 years ago – and we're still using them!
- Marbles – These are very inexpensive at a dollar store.
- Popsicle sticks
- Rigatoni or Penne pasta. Add shoestring or yarn to the bag you store it in.
- Crayons – Because they're always close at hand, crayons get used more often than any other counting object in our home.

(Keep counting objects out of reach of small children!)

About Lego® Bricks:

- Lego® bricks – Because we have three boys in our home, we use Lego bricks rather than purchasing math manipulatives. Since they stack into numerous geometric shapes, maybe they're even better! (Shhh... don't tell how much money you've now saved!)

- **K-1st** –
 - Student is asked to color a picture in a coloring book daily. You could also print a coloring page from a website like these:



- [Aish.com - Torah portions \(Jewish\)](#)
- [Calvary Chapel - from Old and New Testament \(Christian\)](#)

☐ You may print a [Hundreds Chart](#) here.

- **2nd-3rd –**
 - 100 pennies and 1 one-dollar bill. Store money in a ziplock bag to be used during school time. (We'll be using dimes, nickels, and quarters soon.)
 - You may print a [Hundreds Chart](#) here.

Day 1

- **Math Drill Together**
 - Note: These drills will be very easy for Grades 2-3, but their difficulty will increase very soon. We recommend doing them anyway. Your student will love it!

Using Counting Objects, count from 1 to 10.



String the following amounts of pasta on a shoestring, and ask your child to count them.

3 1 5 4 6

Stack Lego bricks (or other toys with these colors), continuing the following pattern:

Red
Blue
Red
Blue

Try various other patterns now. Let your child choose patterns, too.

Play a game together!

- **K-1st –**
 - Be sure that your child consistently forms his numbers the same way every time, always starting at the top. If better hand coordination is needed, then sprinkle cornmeal or sand in a baking pan, and have your child form his numbers first in cornmeal.
 - Why is it important to do a coloring page daily? We are checking several things for your child this week. (1) Can he (or will he) carefully and patiently stay in the lines? (2) Does he have good enough eye-hand coordination to begin to learn to form his numbers smaller and yet neatly? (3) Does he have self-control? (4) Is he patient? Note that many of these are character qualities, all of which will be needed in arithmetic. If he is lacking in an area, begin to work on it throughout the day, proactively teaching *before* these things become an issue during daily math time. This will make school more pleasant!



- **2nd-3rd –**
 - Review how to set up an arithmetic assignment on notebook paper. (See p. 7 of this guide.)
 - If your child struggles with neat handwriting or eye-hand coordination, consider having him color a picture each day, too. (See note above, for K-1st.)

Day 2

- **Math Drill Together**
Show your child a clock that has numbers and hands. Point to each number, and count together to 12.



Write the numbers 1-12 on twelve individual pieces of paper. Lay them on a floor in the pattern of a clock. Make it a BIG clock!

Holding your child's hand, start at 1:00 and hop from number to number, saying the time as you go.

1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00

Now play the Clock Game. Call out various times, and have your child jump to each one, always going clockwise, the way the hands of the clock would go. (In other words, don't go backwards or counter-clockwise.) Applaud when your child jumps to the correct time!

For instance:

4:00
7:00
2:00
9:00
etc.

(Save the number cards to be used again.)

Play "I Spy" with a real clock. (Say, "I spy the number 4," and clap when your child finds the four.)



- **K-1st** –
 - See Day 1.
- **2nd-3rd** –
 - See Day 1.

Day 3

- **Math Drill Together**

Lay all the number cards on the floor and play the Clock Game again!

Now hold your child’s hand and stand at 12:00 together. Tell your child that you’re going to go backwards around the clock.

12:00
11:00
10:00
9:00
8:00
7:00
6:00
5:00
4:00
3:00
2:00
1:00

Ask your child to stand at 2:00. Ask your child to run as fast as he can to 10:00, running forwards.

Start at 2:00. Run fast to 10:00, running backwards.

Start at 10:00. Run fast to 4:00, running backwards.

Start at 4:00. Run fast to 8:00, running forwards.

Continue playing, making up times to run to.

Ask your child to run to the time that they:

- wake up in the morning
- go to bed at night
- start school
- eat lunch
- etc.

Count out 10 straws and put a rubber band around them. (For 2nd grade, count out 20 straws, but only put a rubber band around 10, leaving 10 loose.)

- **K-1st** –
 - See Day 1.
- **2nd-3rd** –
 - Does your child know what the word **greater** means, when asked to circle the greater of two numbers? (Circle the **larger** number. Talk about how YHWH is greater than we are.)



- Does your child know what the word **vertical** means, when asked to write an addition problem vertically?
- When writing amounts less than a dollar, have your child write a zero before the decimal place. This will help him hold the place and keep things neat, and it will often remind him to use a decimal point in case he might forget.

Day 4

- **Math Drill Together**

Today you'll teach your child how to write the number zero. Pour corn meal or sand into a 9"x13" pan. Using your finger, illustrate how to write a zero:

- Start where 2:00 would be.
- Go backwards around the clock to 10:00.
- Continue around the clock until you're back at 2:00.

Allow your child to practice zeros in the pan.

Now draw zeros up in the air. (Keep your arms straight.)

Go to the kitchen and bake something together. As you dump ingredients into a mixing bowl, count down to zero. For instance, say:

**Let's fill up 1 cup of flour.
Now dump it in the bowl.
How many cups of flour do we have now?
That's right! Zero!**



Count to 10 on a ruler. Count to 10 in many other ways, using counting objects.

Display 2 straws. Ask, "How many more do I need to make 3?"

Display 3 straws. Ask, "How many more do I need to make 4?"

Display 4 straws. Ask, "How many more do I need to make 5?"

(For older children, display the set of 10 straws with a rubber band around it, *plus display 2 more* straws. Ask, "How many more do I need to make 13?" etc.)

- **K-1st** –
 - See Day 1.
- **2nd-3rd** –
 - Does your child know what **even** and **odd** mean? Draw a picture of a teeter-totter, and add children to each side, making it even or odd. You may want to count with him using a Hundreds Chart.
 - Be sure your child knows how to write times correctly.
 - Learning "twins" will reduce the number of facts your child needs to memorize.



Day 5

- **Math Drills Together**

On a big white board or chalkboard, write zeros with your child. Make them big!

As you write, each of you should say:

Start at 2:00
Go backwards to 10:00
Keep going around to 2:00

Now try writing zeros on notebook paper. Write ten zeros. Count the zeros together.

1 2 3 4 5 6 7 8 9 10

Using your hand or a piece of paper, cover one zero at a time and count backwards down to zero.

9 8 7 6 5 4 3 2 1 0

Hold two crayons behind your back. Pull them out in front of you. Ask your child, “How many crayons do I have?”

Hold one crayon behind your back. Pull it out in front of you. Ask your child, “How many crayons do I have?”

Hold zero crayons behind your back. Pull none out in front of you. Ask your child, “How many crayons do I have?”
etc.

Play a game together!

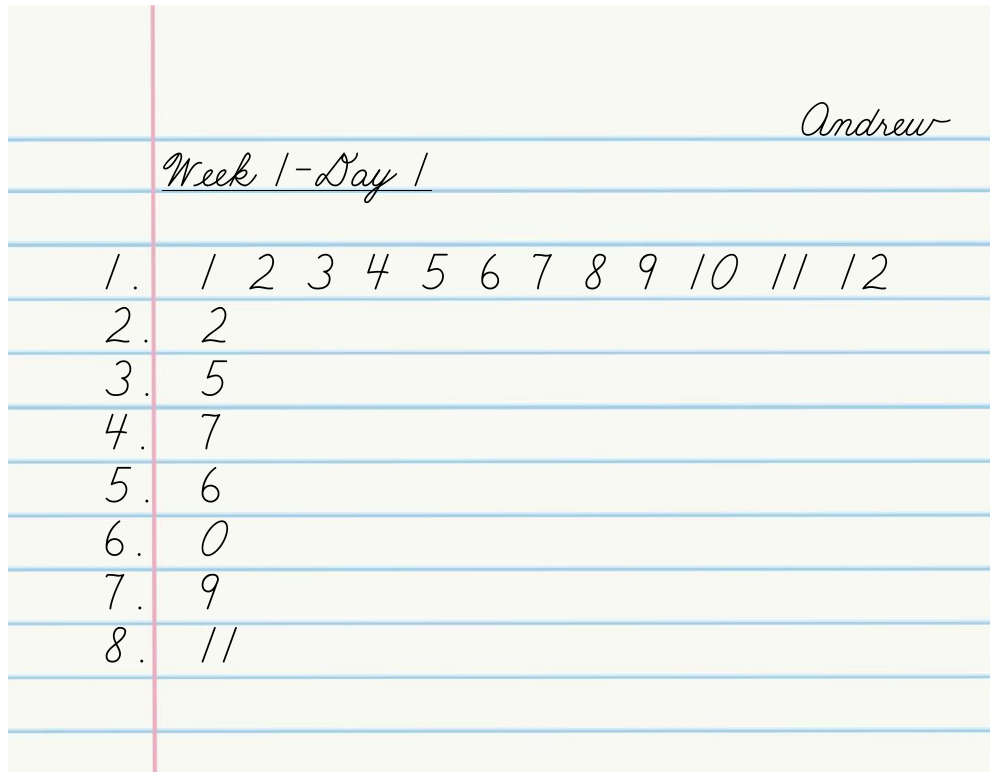
- **K-1st** –
 - See Day 1.
- **2nd-3rd** –
 - To determine when the last new moon was sighted in Israel, you can visit http://www.karaite-korner.org/holiday_dates.shtml. This will be Day 1 on the calendar. (Remember that day begins at sunset, but your child would write Day 1 on the next day. If the moon was sighted on the evening of the 4th day, for instance, Day 1 would be written on the 5th day of the week.) More information is available at <http://www.nazareneisrael.org/category/studies/torah-calendar/> Feel free to adapt this activity to your family’s beliefs.



Preparing Your Paper Each Day

You will do your work each day on a sheet of notebook paper. If you have brothers and sisters doing school each day, you should learn to put your name on the top line of your paper, so that your assignments won't get mixed up with others' papers.

Here is an example from second grade.



As you do your arithmetic assignment, remember to do three things:

1. Always **number** your problems.
2. As your problems get bigger, you should **circle each answer** so that it won't be confused with your work.
3. Always be **neat and tidy**. Accuracy is one of the most important things in arithmetic, and sloppy papers tend to cause us to make mistakes.

“Whoever is slack in his work is a brother to him who destroys” (Proverbs 18:9, ESV).

“Do you see a man skillful in his work? He will stand before kings; he will not stand before obscure men” (Proverbs 22:29, ESV).



Arithmetic Teacher Guide

Week 2

K-3rd Grades

Goals

- **K-1st** – To write numbers clearly; to have good eye-hand coordination and self-control to color carefully and within the lines; to recognize number words from zero to nine; to count to 100; to continue learning Addition Family 1.
- **2nd-3rd** – To review counting to 100; to know number words from zero to twenty; to know the terms of an addition problem; to know addition twins; to begin learning Addition Families 1-2.

Supplies

- **K-1st** –
 - As a reminder, student is asked to color a picture in a coloring book daily. You could also print a coloring page from a website like these:
 - Aish.com - Torah portions (Jewish)
 - [Calvary Chapel](#) - from Old and New Testament (Christian)
 - You may print a [Hundreds Chart](#) here.
- **2nd-3rd** –
 - 100 pennies and 1 one-dollar bill. Store money in a ziplock bag to be used during school time. (We'll be using dimes, nickels, and quarters soon.)
 - You may print a [Hundreds Chart](#) here.

Day 1

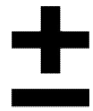
- **Math Drills Together**

Go to the kitchen. Count the following:

- 3 plates
- 2 forks
- 1 spoon
- 3 knives
- 2 napkins
- 1 bowl
- 3 pans
- 2 salt & pepper shakers
- 1 teapot

Go to the bathroom. Ask your child how many they see of each of these:

- towels
- faucet handles
- bottles or bars of soap



- toothbrushes
- toilet paper rolls
- hairbrushes
- rugs

Go outside. Ask your child to count how many they see of each of these:

- clouds
- birds
- trees
- sidewalks
- driveways
- doors
- windows
- animals
- flowers

- ***K-1st*** –

- Be sure that your child consistently forms his numbers the same way every time, always starting at the top. If better hand coordination is needed, then sprinkle cornmeal or sand in a baking pan, and have your child form his numbers first in cornmeal.
- How well is your student recognizing number words? For beginning readers who haven't even learned all their letters yet, this will be learning sight words. (We're not big "sight word" fans, but we've found it practical for math. They can often figure out some of the easier words, like today's *six* or *seven*. *One*, *two*, and *eight* are harder.)

- ***2nd-3rd*** –

- It is easy to make mistakes when copying from the assignment sheet to notebook paper. Encourage your child to check his work after each section. Did he copy correctly?

Day 2

- ***Math Drills Together***

At the whiteboard, ask your child to draw circles to show how many:

4 1 2 5 3 0

Using a large teddy bear, doll, or other stuffed animal, measure how long things are.

How many bears long is the couch?

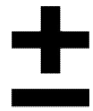
How many bears high is the table?

How many bears tall is Mommy?

etc.

Using the number cards you used to make the clock (Week 1), draw one card at a time. Ask your child to count out that many buttons (or other manipulative you have handy).

Line up 10 buttons. Count them from 1 to 10. Now count them from 10 to 1. Take them all away. Now how many buttons are there? (Zero)



- **K-1st** –
 - See Day 1.
- **2nd-3rd** –
 - When writing numbers (on assignments #1-2, for instance), encourage your child to line up his numbers neatly on his paper. It will help him see patterns in numbers.
 - Assignments #12-21 – Would it help your child to hold a small card or piece of paper under each number while rewriting, to help him keep his place?
 - Assignments #22-25 – Be sure the decimal points are clearly written.

Day 3

- **Math Drills Together**
On a [Hundreds Chart](#), count to 10.

Looking at the 10's column, count from 1 to 10:

10	(point to 1 and say 1)
20	(point to 2 and say 2)
30	(point to 3 and say 3)
40	(point to 4 and say 4)
50	(point to 5 and say 5)
60	(point to 6 and say 6)
70	(point to 7 and say 7)
80	(point to 8 and say 8)
90	(point to 9 and say 9)
100	(point to 10 and say 10)

Say:

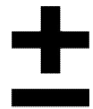
Find all the 0's.
Find all the 1's.
Find all the 2's.
Find all the 3's.
etc.

Ask your child if he can stack 10 pennies.

Ask your child if he can stack 10 books.

Ask your child if he can stack 10 shoes. ☺

- **K-1st** –
 - The number words on today's worksheet are very small. Does your child need more practice? Can you write words on a white board for him? Make flashcards? Put them all over the refrigerator? ☺
- **2nd-3rd** –
 - When writing numbers (on assignments #1-4, for instance), encourage your child to line up his numbers neatly on his paper. It will help him see patterns in numbers.
 - Assignments #7-10 – It might help the student to circle the problem number on his page.
 - Assignments #11-15 – Does your child see the patterns?
 - Assignments #26-27 – If you don't have a thermometer, you can download an app for your computer or phone, such as



<https://play.google.com/store/apps/details?id=com.xiaad.android.thermometertrial&hl=en>

Day 4

- **Math Drills Together**

Today you'll teach your child how to write the number one. Pour corn meal or sand into a 9"x13" pan. Using your finger, illustrate how to write a one:

- Begin at the top line.
- Make a straight line down to the bottom line.

Show your child some crayons. Ask your child to count the crayons. Add one more crayon. Now how many crayons do you have?

Go to the kitchen and bake something together. As you dump ingredients into a mixing bowl, talk about adding 1 to something. For instance, say:

We're going to measure 3 cups of flour.

One cup.

How many cups of flour do we have now?

That's right! One!

Now another cup.

How many cups of flour do we have now?

That's right! Two!

etc.

- **K-1st** –
 - Does your child understand the concept of "one more"? If not, have your child spend time baking and cooking with you as often as possible, adding "one more" ingredient to recipes you are making. Count often, forwards and backwards.
- **2nd-3rd** –
 - Assignments #25-33 – Does your child know how to spell each word correctly?
 - Assignments #34-35 – If you're not sure, you can check weather history at <http://www.wunderground.com/>

Day 5

- **Math Drills Together**

Play a game together that involves counting.

- **K-1st** –
 - Today is a "test" day. You may wish to reward a perfect paper with a special prize.
- **2nd-3rd** –
 - Today is a "test" day. You may wish to reward a perfect paper with a special prize.



Arithmetic Teacher Guide

Week 3

K-3rd Grades

Supplies

- **Math Drills Together** –
 - Hundreds Chart
 - Number Cards
 - Buttons
 - Clock
 - Thermometer
 - Raisins (or other small snack)
- **2nd-3rd** –
 - 200 pennies and 1 one-dollar bill. Store money in a ziplock bag to be used during school time. (We'll be using dimes, nickels, and quarters soon.)
 - You may print a [Hundreds Chart](#) here.

Day 1

- **Math Drills Together**
On a [Hundreds Chart](#), count to 10.

Now we're going to learn how to count by 5's. Point to each number as you say count, from 5 to 100.

5 10 15 20
25 30 35 40
45 50 55 60
65 70 75 80
85 90 95 100

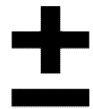
(This is usually a challenge the first time, but your child will quickly pick it up if you repeat it several times. Use a sing-songy voice. The hardest part is the beginning: "5, 10, 15, 20." Then it gets much easier. Keep a good rhythm, like you're chanting a poem or humming a melody.)

Using the number cards you used to make the clock (week 1), draw one card at a time. Ask your child to count out that many buttons (or other manipulative you have handy).

Now add another button. Ask your child to show you the number card that tells how many buttons you have now. Repeat for several different numbers.

Using a clock, set the clock to 3 o'clock. Ask your child what time it is. Repeat with many numbers (especially from 1 to 10).

- **K-1st** –
 - How well is your student recognizing number words? Can he match the number word with the numeral?



- **2nd-3rd –**
 - If your child cannot solve long addition problems (#1-10) in his head, allow him to use “manipulatives” (such as an abacus, or buttons, or pennies, or crayons) to count.
 - These problems may look difficult, but show your child how adding $40 + 10$ isn’t much different than adding $4 + 1$. Use a hundreds chart as needed.
 - We strongly recommend using a hundreds chart for at least the first few problems, until your child sees the patterns and can do these in his head.

Day 2

- ***Math Drills Together***

At the whiteboard, ask your child to draw triangles to show how many:

5 2 3 6 4 9

On a [Hundreds Chart](#), count to 100 by 5’s.

Now use the chart to count to 10 by 2’s. If you’d like, you can use the old cheer,

**“Two, four, six, eight,
Who do we appreciate?”**

(Then answer, “Mommy, because she’s a good cook” or “Daddy, because he works so hard for us” or “Grandma, because she gives good hugs,” etc.) Repeat several times. Remember to point to the numbers on the chart as you say them.

Do you have a thermometer at your house? If so, show your child how to tell what the temperature today is. (No thermometer? [Print one online](#), then fill in the temperature with a red crayon.)

- ***K-1st –***
 - We’re going to use Dominoes often as we learn how to add.
 - Check to be sure your student is forming his numbers correctly, always starting at the top.
- **2nd-3rd –**
 - Optional: Use real money to solve these problems.
 - Using a hundreds chart is strongly recommended today.

Day 3

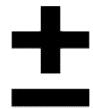
- ***Math Drills Together***

Using a snack you can eat (such as raisins, small pieces of cereal, grapes, etc.), play this game:

**Show me 2 raisins. Show me 1 more.
How many raisins do you see now? (three)**

**Show me 1 raisin. Show me 1 more.
How many raisins do you see now? (two)**

**Show me 3 raisins. Show me 1 more.
How many raisins do you see now? (four)**



Show me 4 raisins. Show me 1 more.
How many raisins do you see now? (five)

Show me 5 raisins. Eat 1 raisin.
How many raisins do you see now? (four)

Show me 4 raisins. Eat 1 raisin.
How many raisins do you see now? (three)

Show me 3 raisins. Eat 1 raisin.
How many raisins do you see now? (two)

Show me 2 raisins. Eat 1 raisin.
How many raisins do you see now? (one)

Show me 1 raisin. Eat 1 raisin.
How many raisins do you see now? (zero)

On a [Hundreds Chart](#), count to 100 by 5's.
Now use the chart to count to 10 by 2's.

What is the temperature today?

- **K-1st** –
 - Can your student figure out what “one more” and “two more” are? If not, have your child spend time baking and cooking with you as often as possible, adding “one more” ingredient to recipes you are making. Count often, forwards and backwards.
- **2nd-3rd** –
 - Does your child remember what an *addend* and *sum* are? Does he remember what it means to write these addition problems vertically?
 - As we emphasize “doubles” such as $4 + 4$ and $5 + 5$, it might be helpful to play Dominoes with your child, or other board games that might allow you to roll doubles with dice.

Day 4

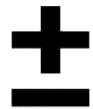
- **Math Drills Together**

Using a snack you can eat (such as raisins, small pieces of cereal, grapes, etc.), play this game:

Show me 1 raisin. Show me 2 more.
How many raisins do you see now? (three)

Show me 2 raisins. Show me 2 more.
How many raisins do you see now? (four)

Show me 3 raisins. Show me 2 more.
How many raisins do you see now? (five)



Show me 4 raisins. Show me 2 more.
How many raisins do you see now? (six)

Show me 6 raisins. Eat 2 raisins.
How many raisins do you see now? (four)

Show me 5 raisins. Eat 2 raisins.
How many raisins do you see now? (three)

Show me 4 raisins. Eat 2 raisins.
How many raisins do you see now? (two)

Show me 3 raisins. Eat 2 raisins.
How many raisins do you see now? (one)

Show me 2 raisins. Eat 2 raisins.
How many raisins do you see now? (zero)

On a [Hundreds Chart](#), count to 100 by 5's.

Now use the chart to count to 10 by 2's.

Finally, use the chart to count to 10... then backwards back to 1 again.

(Repeat these several times if needed. Keep it fun!)

What is the temperature today?

- **K-1st** –
 - Can your child form his numbers without a pattern to look at? If not, feel free to make a pattern of all his numbers for him to refer to.
- **2nd-3rd** –
 - No special instructions.

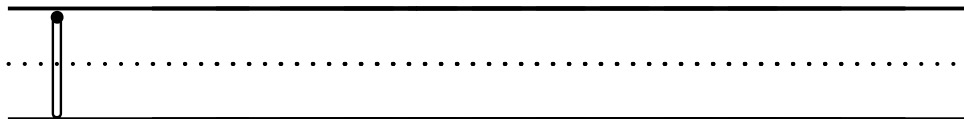
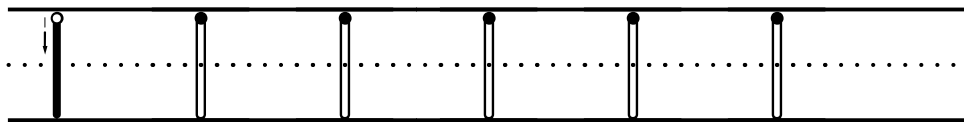
Day 5

- **Math Drills Together**
Play a game together that involves counting.
- **K-1st** –
 - Today is a “test” day. You may wish to reward a perfect paper with a special prize.
 - Help your child form a zero if no one in your family fits a description. Don't count this toward the child's “test grade.”
 - Student is also asked to color a picture in a coloring book today.
- **2nd-3rd** –
 - Today is a “test” day. You may wish to reward a perfect paper with a special prize.

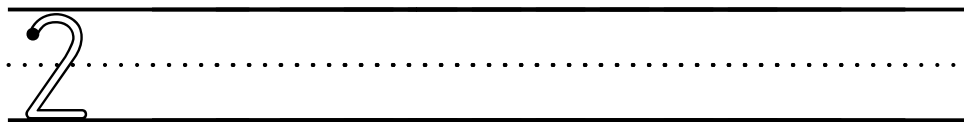


Week 1 - Day 1

Practice writing the number one. Remember to start at the top and go down.



Practice writing the number two. Remember to start at the top and go down.



Draw a line from the number to the matching number words.

1	one
2	two
1	two
2	one

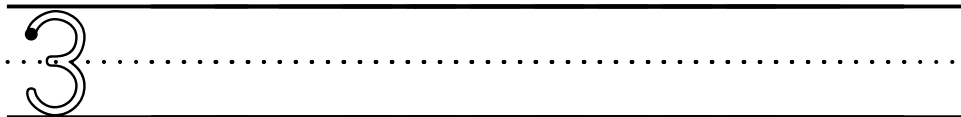
Other Things to Do:

- Count from 1 to 10. (You may want to use a [Hundreds Chart](#).)
- Carefully color a picture in a coloring book. Be sure to stay in the lines!

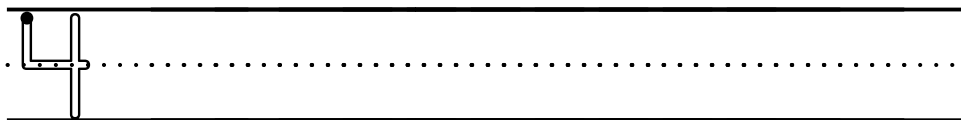
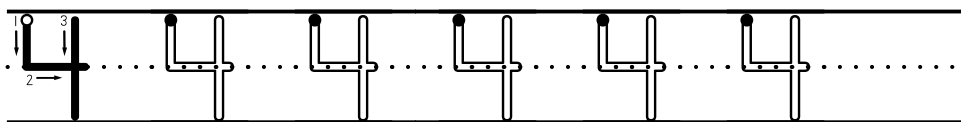


Week 1 - Day 2

Practice writing the number three. Remember to start at the top and go down.



Practice writing the number four. Remember to start at the top and go down.



Draw a line from the number to the matching number words.

1	one
2	four
3	two
4	three

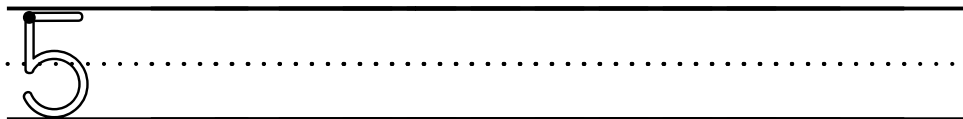
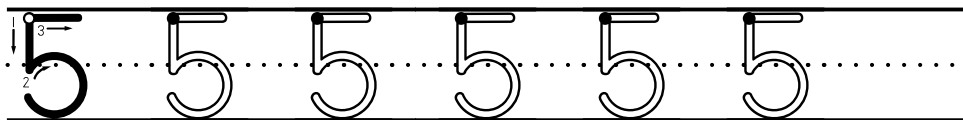
Other Things to Do:

- Count from 1 to 20.
- Carefully color a picture in a coloring book. Be sure to stay in the lines!

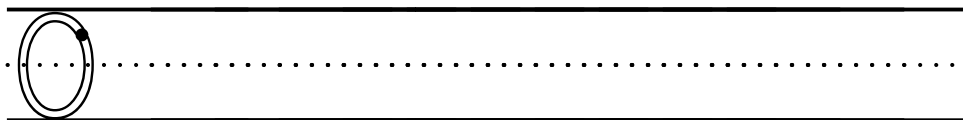
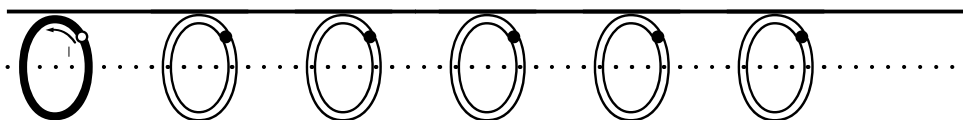


Week 1 - Day 3

Practice writing the number five. Remember to start at the top and go down.



Practice writing the number zero. Remember to start at the top and go down.



Draw a line from the number to the matching number words.

5

one

0

five

1

zero

2

two

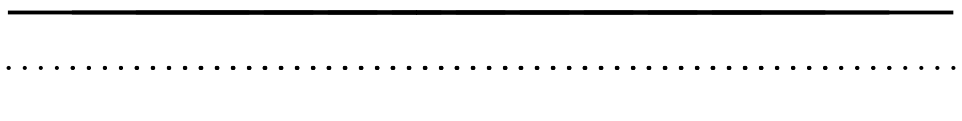
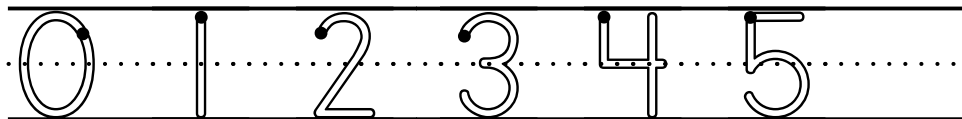
Other Things to Do:

- Count from 1 to 30.
- Carefully color a picture in a coloring book. Be sure to stay in the lines!



Week 1 - Day 4

Practice writing numbers. Try to stay on the line and be "neat and tidy."



Draw a line from the number to the matching number words.

5

one

0

five

1

zero

2

three

3

four

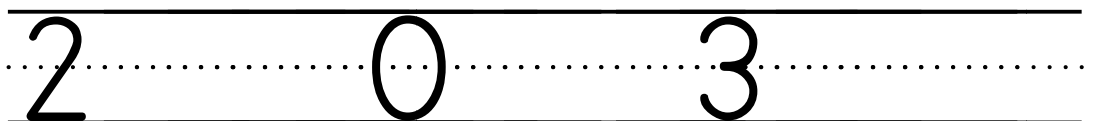
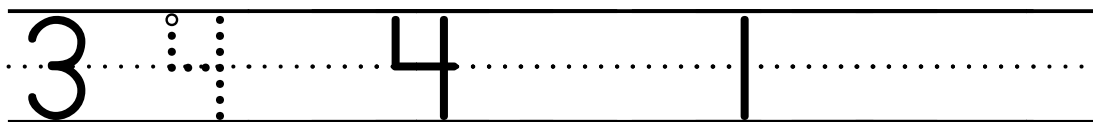
4

two

Other Things to Do:

- Count from 1 to 40.
- Carefully color a picture in a coloring book. Be sure to stay in the lines!

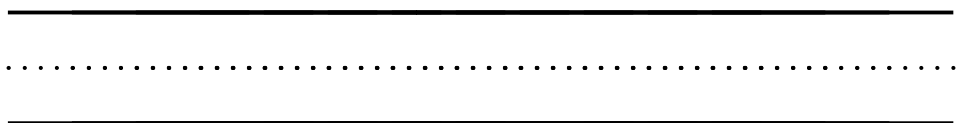
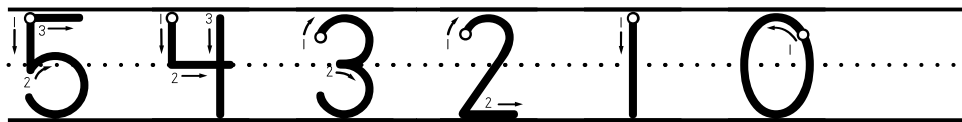
Write the number that is one more. For example, 4 is one more than 3.





Week 1 - Day 5

Practice writing numbers. Try to stay on the line and be "neat and tidy."



Draw a line from the number to the matching number words.

4

one

1

five

2

zero

3

three

5

four

0

two

Other Things to Do:

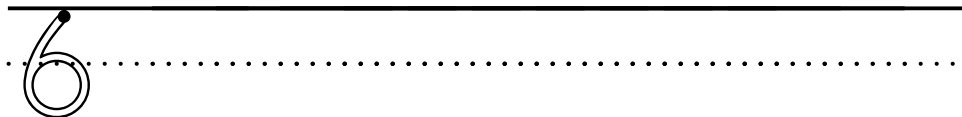
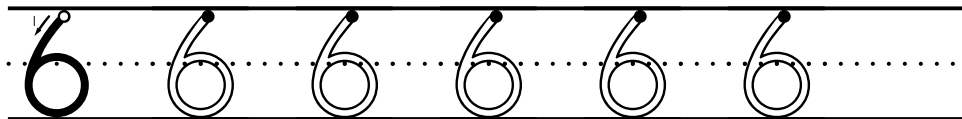
- Count from 1 to 50.
- Carefully color a picture in a coloring book. Be sure to stay in the lines!

What is your favorite food? Draw five of it.

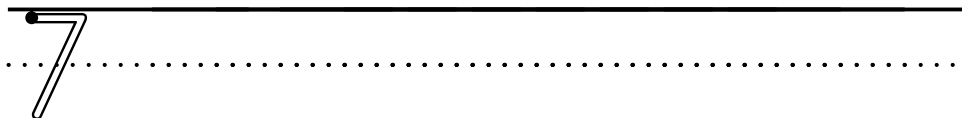
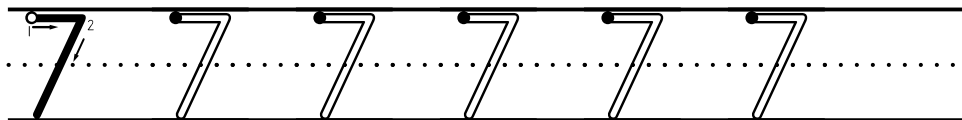


Week 2 – Day 1

Practice writing the number six. Remember to start at the top and go down.



Practice writing the number seven. Remember to start at the top and go down.



Draw a line from the number to the matching number words.

6

six

7

six

6

seven

7

seven

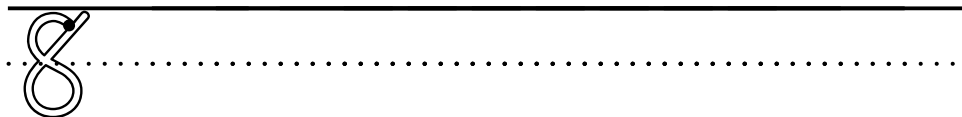
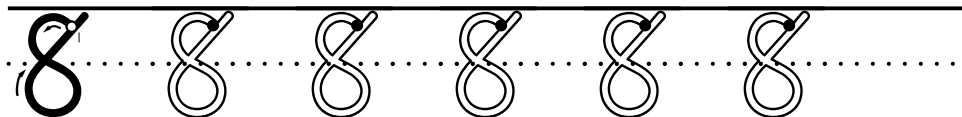
Other Things to Do:

- Count from 1 to 60. (You may want to use a [Hundreds Chart](#).)
- Carefully color a picture in a coloring book. Be sure to stay in the lines!

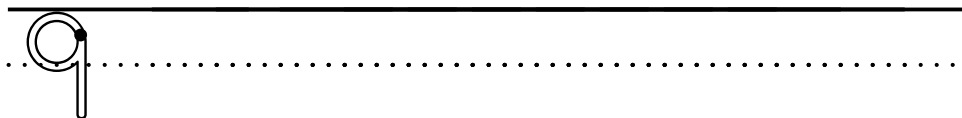
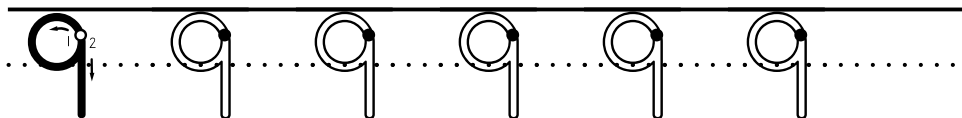


Week 2 – Day 2

Practice writing the number eight. Remember to start at the top and go down.



Practice writing the number nine. Remember to start at the top and go down.



Draw a line from the number to the matching number words.

8

nine

9

eight

8

eight

9

nine

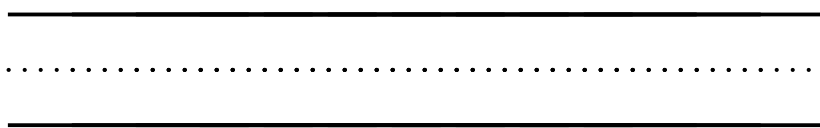
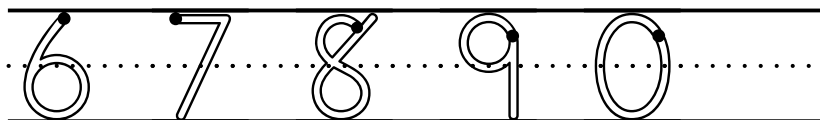
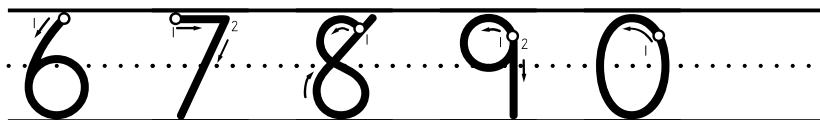
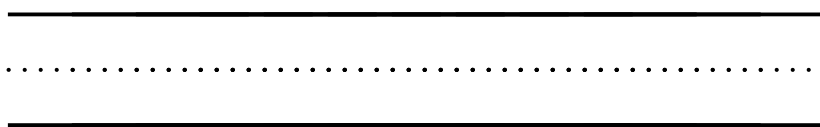
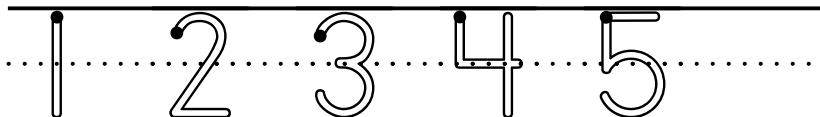
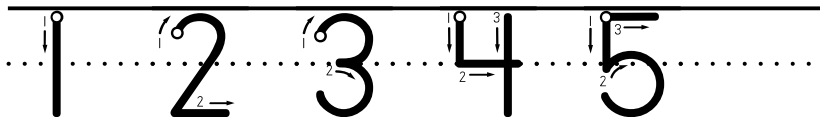
Other Things to Do:

- Count from 1 to 70.
- Carefully color a picture in a coloring book. Be sure to stay in the lines!



Week 2 – Day 3

Practice writing all the numbers. Remember to start at the top and go down.



Other Things to Do:

- Count from 1 to 80.
- Carefully color a picture in a coloring book. Be sure to stay in the lines!

Draw a line from the number to the matching number words.

5
0
1
2
3

one
five
zero
three
two

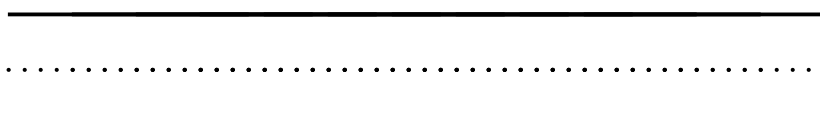
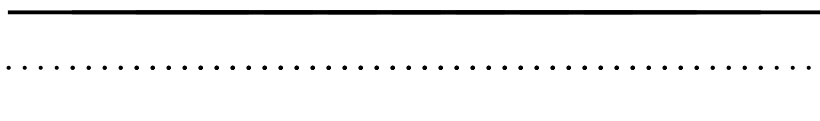
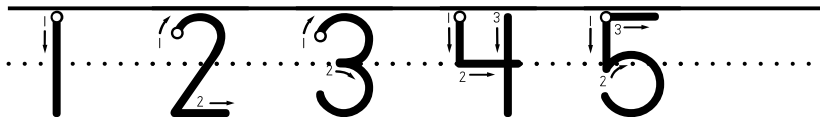
6
8
4
9
7

four
nine
eight
seven
six



Week 2 – Day 4

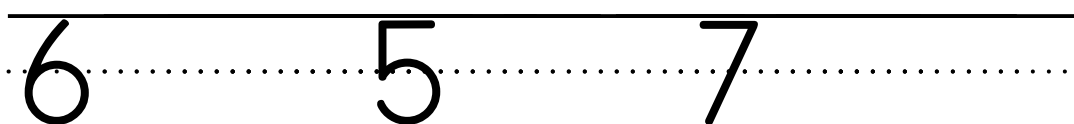
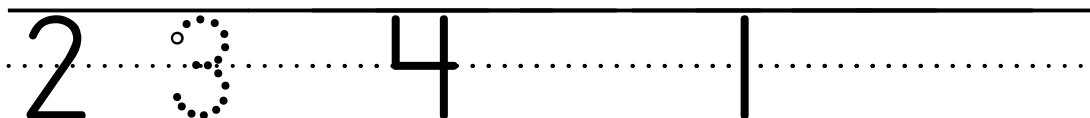
Practice writing all the numbers. Try to stay on the line and be “neat and tidy.”



Other Things to Do:

- Count from 1 to 90.
- Carefully color a picture in a coloring book. Be sure to stay in the lines!

Write the number that is one more. For example, 3 is one more than 2.



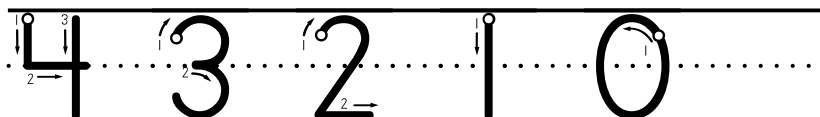
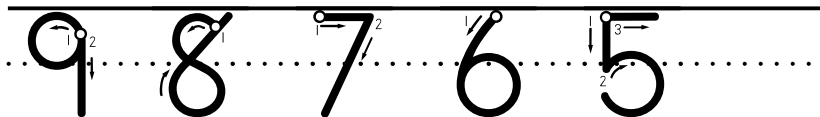
How many shoes does your Mom have? Can you count them all?



Week 2 – Day 5

Test Grade _____

Practice writing numbers. Ask your parents to check how well you're doing.



Draw a line from the number to the matching number words.

7

one

1

two

2

three

3

four

8

seven

4

eight

Other Things to Do:

- Count from 1 to 100.
- Carefully color a picture in a coloring book. Be sure to stay in the lines!

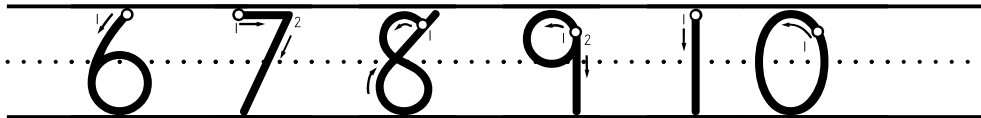
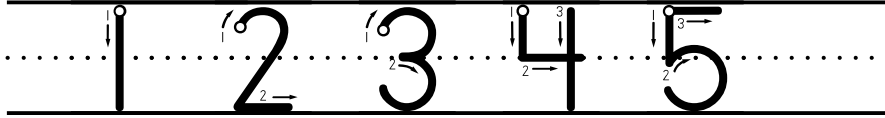
This is a hungry puppy. He wants to chew on something. Draw **eight** bones for the puppy.



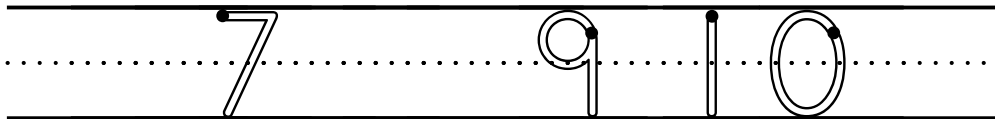
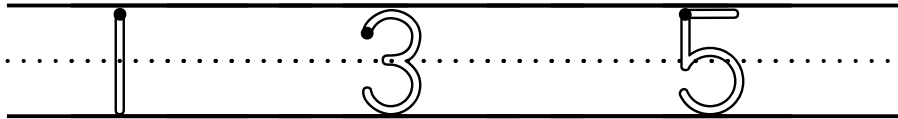


Week 3 - Day 1

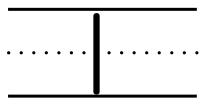
Practice writing the numbers.



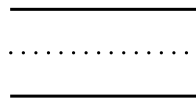
Fill in the missing numbers.



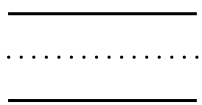
What number is this?



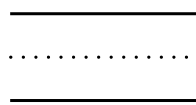
one



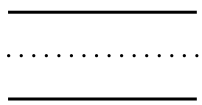
six



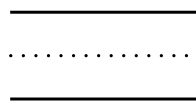
two



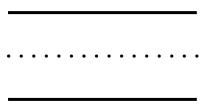
seven



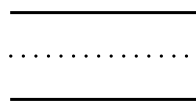
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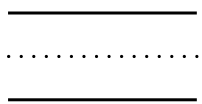
eight



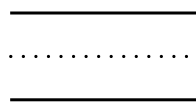
four



nine



five

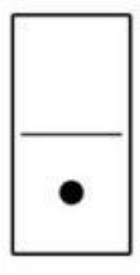
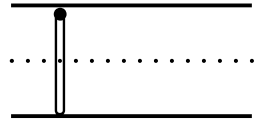
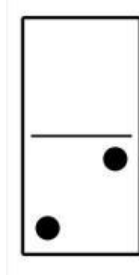
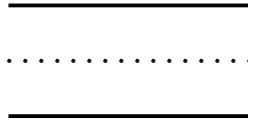
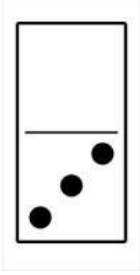
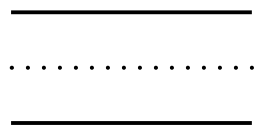
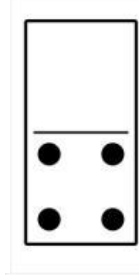
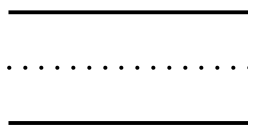
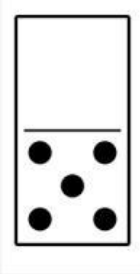
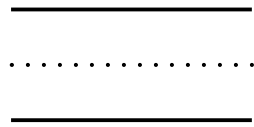
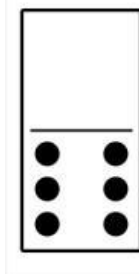
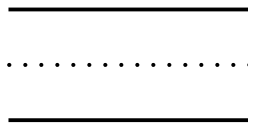


ten



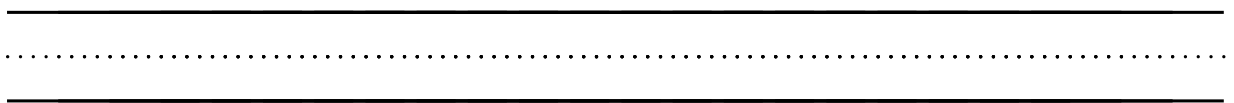
Week 3 - Day 2

Let's count the dots.

Practice writing numbers. Ask your parents to check how well you're doing.

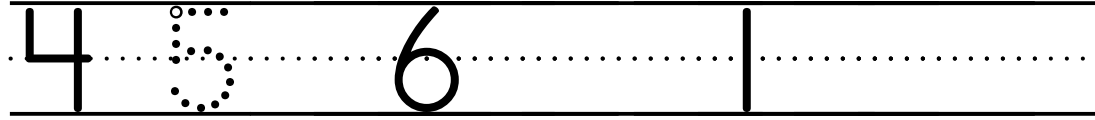
9 8 7 6 5 4 3 2 1 0



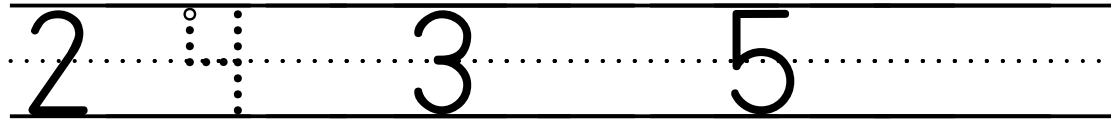


Week 3 - Day 3

Write the number that is one more. For example, 3 is one more than 2.



Write the number that is two more. For example, 4 is two more than 2.



How many belts does your Dad have? Can you count them all? Draw them here.

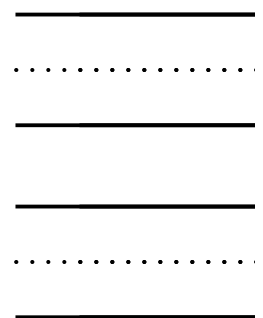
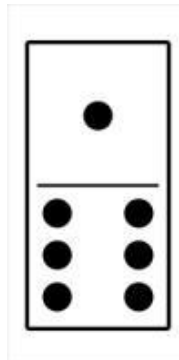
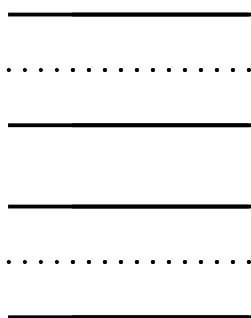
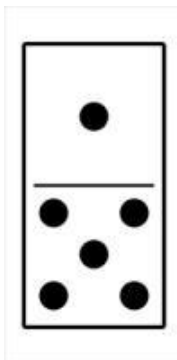
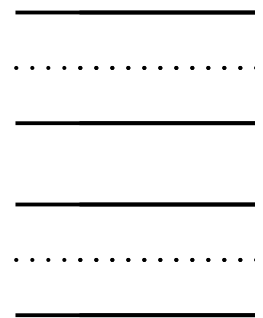
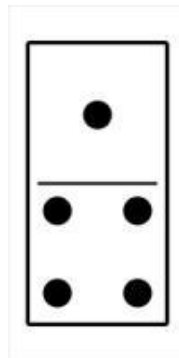
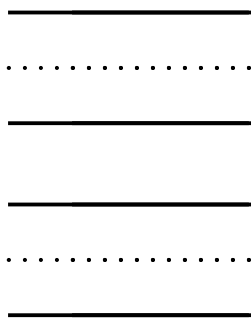
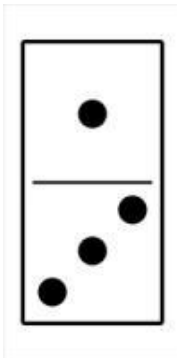
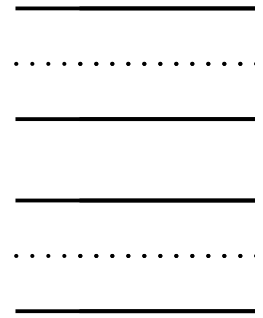
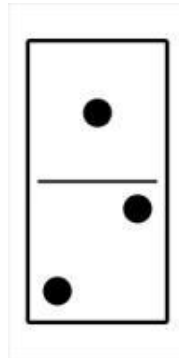
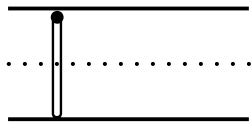
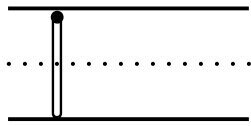
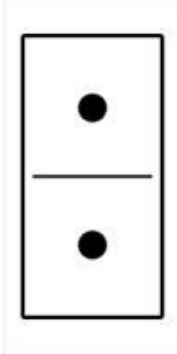
Draw a line from the number to the matching number words.

5	one	6	four
0	five	8	nine
1	zero	4	eight
2	three	9	seven
3	two	7	six

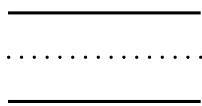


Week 3 - Day 4

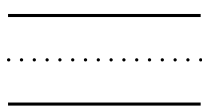
Let's count the dots.



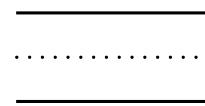
What number is this?



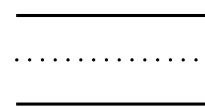
one



two



eight



three



Week 3 - Day 5

Test Grade _____

.....
How many people in your family wear glasses? _____

.....
How many people in your family are girls? _____

.....
How many people in your family have a beard or mustache? _____

.....
How many people in your family are boys? _____

.....
How many people in your family have brown eyes? _____

.....
How many people in your family like chocolate? _____

- 6 one
1 two
2 five
5 eight
8 six

Other Things to Do:
[] Carefully color a picture in a coloring book. Be sure to stay in the lines!