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INTRODUCTION

Thousands of students have made extraordinary progress in math using ShillerLearning.

Make sure you get the most from your ShillerLearning:

- Have students create their own practice problems. There's no better way to learn than to teach.
- Are you taking full advantage of the Completed Work Sheet (inside back cover)? **For best results, make an entry after every lesson**. And have the student initial their work – students love that!
- Did you know that consumable lessons are free to replace with downloads? Click My Account: My Downloads at shillerlearning.com to access.
- Have you tried the math crafts and games at shillerlearning.com? Click My Account: My Downloads to access.
- Have you called our toll-free and legendary support hotline at 888-556-MATH when you or student has a question? Or if you prefer you may email sales@shillerlearning.com. We're always here to ensure that students learn – and enjoy – math.
- Have students used the ball and dominos to practice their math facts?
- Take a few moments to read our Educator Guide on the following two pages because you'll find unique and valuable tips that will make your ShillerLearning experience simply amazing.

How much time should I plan for each day's lessons?

Each child learns at a different pace; therefore, there is no set schedule. A good starting rule-of thumb is to plan 15 minutes per day for a 3- or 4-year old, and 5 minutes per day additional for each year beyond 4. For example, if the child is 5, plan 20 minutes/day. This time does not have to be spent contiguously: Lessons may be done at two or more times during the day.

The best rule-of-thumb is to, in Maria Montessori's words, "follow the child." The correct amount of time is that which, ultimately, the student decides is correct.

Acknowledgements

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Ron Brown of Intelli-Tunes wrote the catchy songs found exclusively in our curriculum. Learn more about Ron and his complete opus at https://www.intelli-tunes.com/.

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EDUCATOR GUIDE

Welcome

Congratulations on your purchase of ShillerLearning. Please note the following:

1. This curriculum's goal is for the student to understand and love math. That means a lot more than memorizing formulae: It means learning how to learn.
2. There is no lesson preparation: You may read what's in quotes. Suggestions for extending lessons are given where appropriate so students may gain both competence and closure.
3. Lessons vary in length and complexity. Some lessons can be over in a few minutes. Others may take a few days to complete. All of this depends on the student: See E below.
4. Students learn more than just the technical aspects of memorizing and applying formulae: They are also taught to think about how they and others may effect change in the world and themselves using math. Self-awareness is key.

Best practices

A. Use the work mat whenever possible because it provides focus.

B. It's OK to skip a lesson for which the student is not developmentally ready: just mark it on the Completed Work Sheet on the back inside cover for visiting later. Before starting the day's work, if the Completed Work Sheet has any such lessons, turn to that lesson and say, "I see that you were not developmentally ready for this lesson the other day. Let's see if you're ready to work on it now." If the student is still not ready, do not force-feed the lesson: Try again in a few days and continue for now with the next lesson in the book.

C. Use the Three Period Lesson when the student doesn't understand the meaning of something. Here is an example using the definition of "hexagon":

   a. ***This Is***. Give a hexagon to the student. "This is a hexagon."

   b. ***Show Me***. Give several shapes to the student. "You may show me the hexagon." Student shows you the hexagon.

   c. ***What Is?*** Point at a hexagon. "What is this called?"

   If at any point the student answers incorrectly or doesn't know, act like you're introducing the concept for the first time and go back to step a.

D. Vary the location of where you and the student do work. Research has shown that deeper learning takes place when the study location varies in time of day, duration, place, environment, and lighting.

E. The student is ultimately in charge of his or her own learning. Let them achieve the two C's – competence and closure – before moving on. The student may decide when he or she has closure.

F. The words “should” “need to” “must” “ought to” are not used in the lessons because they are inconsistent with the student being in charge of his or her own learning and they tend to sap a student’s internal strength and motivation. When tempted to use these or similar words or phrases when working with your student, instead consider:
   a. Using the word “may.” For example, instead of saying, “You should put your work away” you may say, “You may put your work away.” [Do you see how we did that?]
   b. Foster belonging. For example, instead of saying, “You ought to put your work away” you may say, “In our home, we all put our work away to keep the house clean and safe for everyone.”

G. You may record or video the student whenever possible. Getting students more comfortable and proficient in front of a camera and microphone comes with practice but is well worth the investment in terms of self-esteem and work value. You are welcome to share with the ShillerLearning community any video or audio recordings at https://www.shillerlearning.com/studentuploads.

H. When the student is able to read on his or her own, the student may, if he or she desires, begin self-study.

I. Speak to a student only after making intimate eye contact. This type of eye contact only occurs when both sets of eyes are at the same level: It does not work if you are standing above (or below) the student. That said, achieving same-level eye contact by bending at the waist does not imply the respect required for the student to engage readily. Instead, bend at the knees, which is also better for the body.

J. When speaking, be aware of your tone of voice. You achieve best results when you use a calm and respectful voice, even when your expectations are not negotiable.

K. The volume of your voice makes a difference in how the student responds. Students are used to adults speaking to them in loud voices. When you first use a low-volume voice, you command attention because a student may find this extraordinary. After the novelty wears off, the warm and supportive communication, even when firm, continues to promote student attention and responsiveness: People tend to listen and respond better to a low-volume voice.

L. Each Review Test question refers back to one or more lessons. Those lessons may be redone if the question is answered incorrectly.

M. The two goals of the Review Test are to identify and fill holes in a student’s foundation: The Review Test is as much a learning experience as the lessons.
   a. For example, students may realize they don’t know the correct answer and wish to go immediately back to the lesson to understand better the content and gain competence. Support that!
   b. Or, students may wish to do more questions like the test question to gain closure. Support that too, by asking similar questions or going back to the lessons referenced in that Review Test question.

N. Enjoy! Math can be incredibly fun and rewarding.

LESSON 1 WORK AREA

Objective:	Define the workplace; set expectations for putting work away at the end of each lesson
Manipulatives:	27" x 36" work mat (#147235) *Note:* The work mat will not be listed as a manipulative after this point.
Learning Styles:	Visual, Tactile, Kinesthetic
Consumable?	No

A. Introduce the student(s) to the mat. Hold up the mat and "This is a work mat. We will use this work mat to do our math work. In a moment you may help me find a good place for it."

B. Put the work mat down. "You may show me the work mat."

C. If the student points to or picks up the work mat, go to D. Otherwise, go back to A.

D. Pick up the work mat. Ask, "What's this called?" If the student says, "Work mat," you're done. Otherwise go back to A.

E. "This work mat is the perfect size for most lessons. When we finish, we will put away any material on the work mat before starting the next lesson."

Congratulations! You have just done your first Three Period Lesson:

Period 1: *This is*

Period 2: *Show me*

Period 3: *What is*

You and your student(s) will be using Three Period Lessons throughout. The Three Period Lesson was invented by Maria Montessori, and literally millions of parents and educators like you have used this valuable technique for over 100 years.

Educators and students who don't use the Montessori techniques found in ShillerLearning miss out on this effective approach and the deeper learning it promotes.

Pick the space where you would like your work to occur today and "Today, this is our math workplace. Within the workplace, we need a spot for the work mat where we will do most of our work. Where would you like to place the work mat?"

LESSON 2 SHAPES: CIRCLES, TRIANGLES, SQUARES

Objective:	Identify a circle, triangle, and square
Manipulatives:	Wooden geometric shapes (#148236), Crayons (#147221)
Learning Styles:	Visual, Tactile, Kinesthetic
Consumable?	Yes (optional)

In this lesson you will use the Three Period Lesson technique for common shapes.

A. Lay down a circle shape on the mat: "This is a circle. Say 'circle' with me: 'Circle'."

B. Lay down a triangle shape next to the circle: "This is a triangle. Say 'triangle' with me: 'Triangle'."

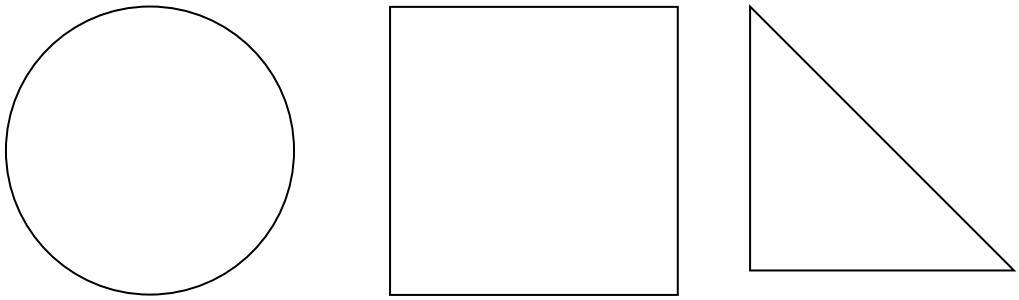
C. Lay down a square shape next to the triangle: "This is a square. Square."

D. Point in the direction of these shapes: "Show me the square."

E. "Show me the triangle. You may pick up and examine the triangle."

F. "Now show me the circle. You may pick up and examine the circle."

G.



"Now you may color the square green."

H. "You may color the circle blue."

I. "What shape did you not color yet?"

J. "Now you may color the triangle red."

K. Point to the triangle shape on the mat: "What is this?"

L. Point to the square shape on the mat: "What is this?"

M. Point to the circle shape on the mat: "What is this?"

N. "Which of these shapes do you see in the room or out the window?"

O. "Can you walk in a circle?" "A square?" "This is hard: A triangle?"

LESSON 3 SHAPES: HEARTS, DIAMONDS, RECTANGLES

Objective:	Identify a heart, diamond, and rectangle
Manipulatives:	Wooden geometric shapes (#148236), Crayons (#147221)
Learning Styles:	Visual, Tactile, Kinesthetic
Consumable?	Yes

In this lesson you will use the Three Period Lesson technique for more common shapes.

A. Lay down a heart shape on the mat: "This is a heart. Say 'heart' with me: 'Heart'."

B. Lay down a diamond shape next to the heart: "This is a diamond. Say 'diamond' with me: 'Diamond'."

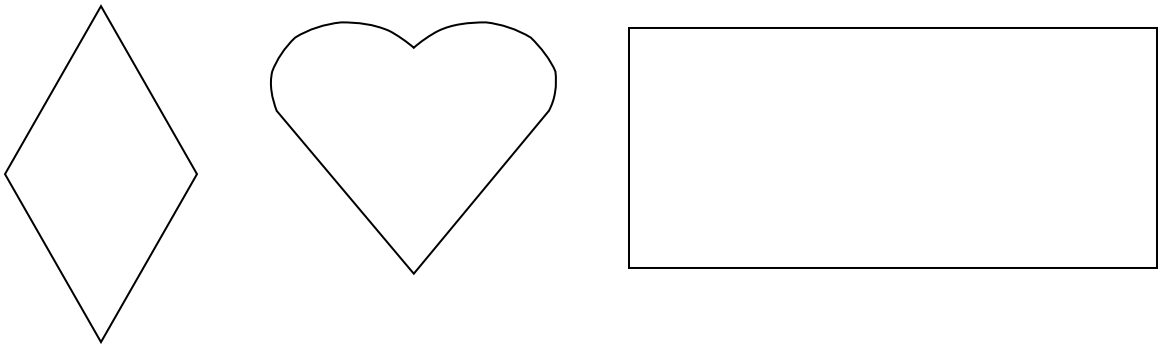
C. Lay down a rectangle shape next to the diamond: "This is a rectangle. Rectangle."

D. "Show me the rectangle. You may pick up and examine the rectangle."

E. "Show me the heart. You may pick up and examine the heart."

F. "Show me the diamond. You may pick up and examine the diamond."

G.



H. "Now you may color the diamond red."

I. "You may color the heart blue."

J. "Now you may color the rectangle green."

K. Point to the diamond shape on the mat: "What is this?"

L. Point to the rectangle on the mat: "What is this?"

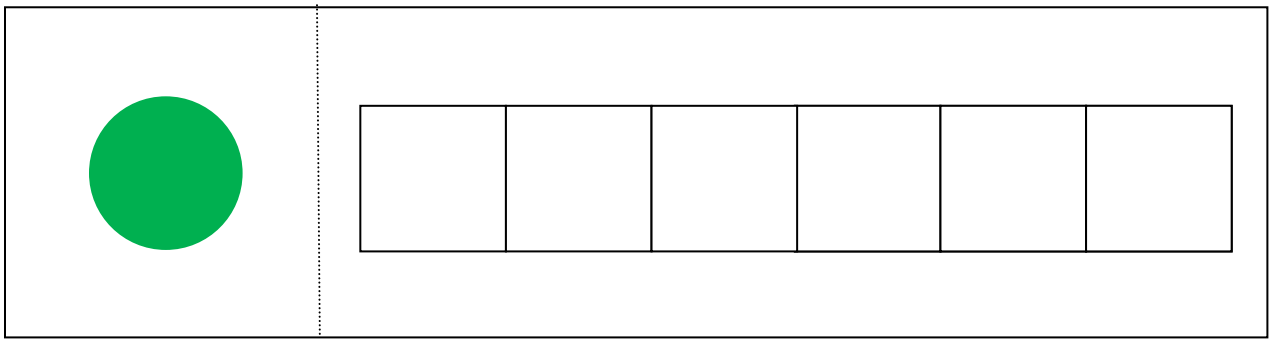
M. Point to the heart shape on the mat: "What is this?"

N. "Can you walk in a diamond?" "A rectangle?" "This is hard: A heart?"

LESSON 4 COUNTING VISUALLY WITHOUT NUMBERS

Objective:	Demonstrate understanding of counting numbers from 1 to 5
Manipulatives:	Crayons (#147221)
Learning Styles:	Visual
Consumable?	Yes

A. "You may color a box for each shape. For example, if there's one circle, color one box. If there's two squares, color two boxes. And so on."



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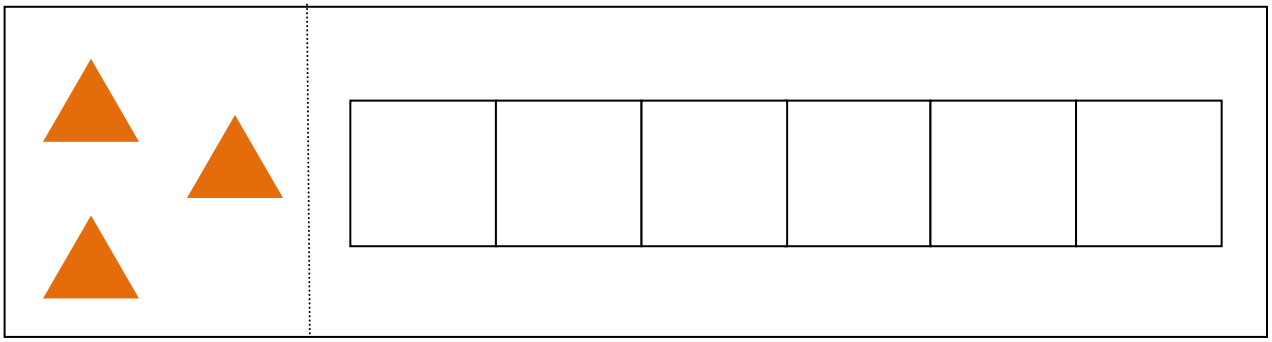

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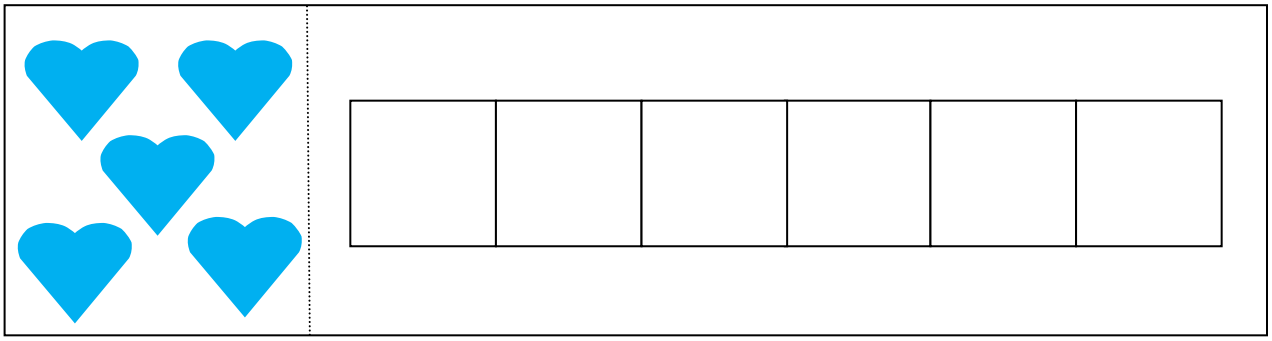

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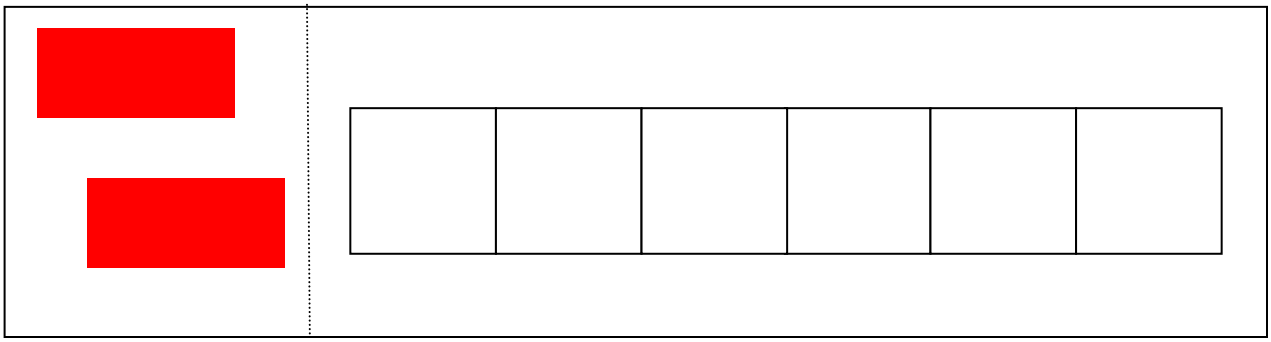

E.