Washington State Training & Registry System (STARS)

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Study Guide & Workbook for:

STARS 10 Hour Pre Math Skills Course

This ii, an Internet class please go to the wesite for all the class assignments:

www.starstab.com

Click on "Enter your Classroom" and then choose your class. All course information and assignments will be found there.

For any questions, assistance, or to turn in your assignments please E-Mail to:

math@starstab.com

Information

❖ Read this workbook and use it as a class resource. All assignments are completed by E-Mail.

- :a The course assignments can be found at the class **website: www.starstab.com** once you are at the site go to "Enter your Classroom". Choose "Pre-Math Skills".

- 3 Please be sure to use the links set up at the "Study Links" page. There you will **find** a variety of links to sites that will help you complete your assignments. You may bookmark to your computer any of the sites that you may want to use in the future.

- 3 All assignments are to be turned in by e-mail please just send them to: **math@starstab.com** as you finish one assignment go directly on to the next one.

- 3 Remember: **"No** News is Good News" as you will only be notified if your assignments are incorrect or incomplete. So continue on at your own pace.

Pre Math Skills

For very young children Math must be experienced for learning to take place. There is no place in any preschool settings for drills and basic math sheets! Children must focus on discovery, exploration, and concept understanding.

Well structured programs provide play settings that promote pre-math skills. Teachers and Care Providers must understand what concepts need to be explored to assist children in this development. Math activities should promote the development of many skills. All children should have a strong understanding of the following three Pre-Math skill areas:

1. Children should learn to Identify, Classify, and understand the concept of a set. This can be done by grouping and sorting activities.

2. Children should also learn to count and recognize numbers. They need to also understand the concept behind each number symbol.

3. Children need to understand the concepts of Space, Size, Volume, & Time.

Concept of a Set

Helping children to understand the concept of a set takes many examples. Show them small groups of items that belong to a set and explain how each item is alike. Play games that build on groupings, use charts to record sets, matching games, or any other means to help the children understand.

Examples:

- Have children sort toys with & without wheels
- Compare float or sink items
- Sort items from the kitchen & from the bathroom

Color & Shape fall into this concept as they often are the items used to describe what goes in the set or stays out of the set.
If children do not have a grasp on colors and shapes there are many fun activities that can be planned around these two concepts. Be sure to teach only one concept at a time, and color should be taught before shape, as color is easier and more useable.

Examples:

- Crayon sorting
- Color hunt in children's clothes
- Charting eye color in your class
- Shapedrawing
- Chalk shapes on the walkways
- Feely bag of shapes

Count & Recognize Numbers

Children must not only learn to count but must understand the ***one-***to-one ***correspondence*** of numbers. This correspondence is the most basic part of the concept of numbers.
Children count in two stages, the **first** being rote counting. Learning to repeat the words in an order.. . such as one-two-three. This skill only involves memory. The next counting stage is **rational counting.** This is where the child understands the meaning behind the number.. . such as two means a group of 2 items.

Children need to learn the symbols we use to represent numbers. This can be done by games and activities that repeat number symbols. Matching and drawing of numbers can help children recognize numbers. There are many other activities to reinforce this concept.

Examples:

- A number walk – like a cake walk to music, when music stops child has to identify the number **he/she** is standing on.
- Shopping game – have food containers marked with numbers l-5 and as children "buy" items they have to say the number for each one.
- Counting games – small piles of pennies or buttons to count
- Bead count – string beads and count each one

Space, Size, Volume, & Time

These four concepts are very important to math skills. Space is basic positioning. Children need to learn the terms and concepts of space.

Examples:

- Above
- Below
- Under
- ⚐❖♏❒
- Behind
- In front

The concept of Size & Volume is through comparison only. Children must learn these basic concepts.

Examples:

- Big – bigger – biggest
- Small – smaller -smallest
- Long – Tall – Thin
- Short – Wide – Full - Empty
- And on to inches, pounds, feet, cups, (units of measurement)

The concept of Time is very hard for many young children to understand. Most cannot tell time until at least age 7. Young children do understand differences between day & night. It is best to start with routine concepts and repeat the time breaks as often as possible to help the children understand. Explaining time throughout the day is helpful. Calendars & time charts are useful.

Examples:

- Before, after, now, later
- Minute, second, hour, day, week, month
- Yesterday, today, tomorrow
- New, old, early, late

Guiding Manipulative Area In Quiet Center

1. Teach children how to get out and put away materials.
2. Show children how each set of materials is to be used.
3. Show children how to return materials to the shelves so that they are ready for another child to enjoy.
4. Guide children to finish what they start.
5. If activities are too complicated for an individual child, guide that child to a simpler activity.
6. If activities are too easy, challenge the child by offering a more complex task.
7. Allow children time to solve problems presented by the manipulatives for themselves. Avoid doing manipulatives for the child.

Setting Up Manipulative Area in Quiet Corner

1. Set a child-sized table with chairs for 4 to 6 children near a child-height set of shelves.

2. Set a variety of manipulatives on the shelves. Label with outline and printscript. Manipulatives include the following:
   -Puzzles with pieces that match shapes, 8 to 21 pieces.
   -Peg Boards
   -Shape-matching tasks
   -Color-matching tasks
   -Lacing tasks
   -Beads to string
   -Sorting tasks
   -Classification activities
   -Pouring tasks

3. Place manipulatives with pieces in easy-to-use and store containers.

4. Have 6 to 10 items for the children to choose from.

5. Rotate what is offered by adding one different activity each day, and putting one away.

Setting Up the Block and Building Center

1. Shelves should be:
   - Labeled with printscript
   - Able to offer organization for self-help
   - Child sized (height)

2. Equipment and materials
   Provide:
   - Mathematically-sized and shaped blocks.
   - Structure blocks
   - Transportation-type props (airplanes, cars, buses, tractors)
   - Materials that suggest work-place roles, such as lunch pails, community worker hats, etc.
   - Sturdy wooden blocks shaped like people or animals.

3. Floor Covering
   Provide:
   - Industrial-type carpeting to provide warmth in cold weather and reduce room noise.

Guiding Play in the Block and Building Center

1. Guide children to make simple plans about their play before beginning to play.

2. Encourage children to guide the direction of their play by asking questions that lead them to think. (Use open-ended questions that do not have a yes or no answer.)

3. Supervise play. Guide children to settle their own conflicts as much as possible; but do not permit injury.

4. Guide children to pick up materials and put them on shelves near the end of center time.

5. Have children talk about their play at the end of center time. Make note of their ideas for guiding tomorrow's play.

Setting Up the Art Center

1. Shelves need to be:
   - Labeled with printscript
   - Able to offer clear organization for self-help
   - Child sized (height)
   - Have an abundance of materials to choose from.

2. Easel should be:
   - Child sized
   - Available with a selection of paints.
     Provide aprons or adult shirts to cover clothing .
     Put something underneath for drips.
     Provide sponges and water for cleaning up.

3. Table and chairs should be:
   - Child sized
   - Near shelves
   - Easy to clean
     Provide sponge and water for cleaning up.

4. Materials
   - Rotate what is offered
   - Add new materials

Guiding Art

1. Guide children to make simple plans about their play before beginning to play.

2. Show children proper use of materials.
   Examples:
   - Use dots of glue
   - Mark only on paper or designated surface
   - Use scissors correctly

3. Require responsibility:
   - Show children how to wipe spills
   - Wear aprons or adult shirts when painting or using messy materials.

4. Supervise activities, but do not interfere in creative process.

5. Guide children to pick up materials and put them on shelves near the end of center time.

6. Have children talk about their play at the end of center time. Make not of their ideas for guiding tomorrow's play.

Setting Up the Family Center

1. Storage areas for dishes, doll clothes, dress-up clothes, etc. should be:
   - Labeled with printscript
   - Able to offer clear organization for self-help
   - Child sized (height)

   Have an abundance of materials to choose from.

2. Furnishing: kitchen equipment, bedroom and living room furniture needs to be:
   - Child sized
   - Easy to clean
   - Comfortably and spaciously arranged for child play

3. Materials
   - Add props that stimulate different kinds of play related to the family and community
   - Bring in props "tomorrow" that children imagined "today" to extend their play
   - Rotate what is offered.
   - Provide sponge and water for cleaning up.