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Chapter #7 Reading Quiz

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Question # 1

Give 5 research based recommendations from any page(s)

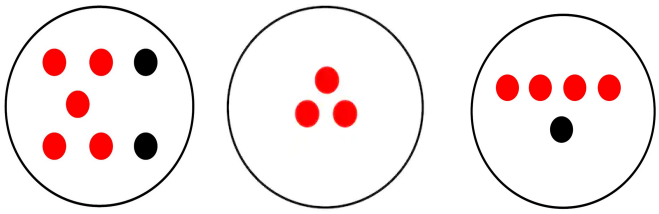
1. Enhance children's natural interest in mathematics and assist them in using mathematics to make sense of their world.
2. Build on children's experience and knowledge using familiar contexts.
3. Provide opportunities for children to explain their thinking about mathematics ideas.
4. Use formal and informal experiences to strengthen children's problem solving and reasoning processes.
5. Base mathematics curriculum and teaching practices on a solid understanding of both mathematics and child development.(Van de Walle et al, 2019)

Question #2

Write a paragraph on how to support "subitizing" in your math classroom.

The ability to easily recognize numbers on a dice without counting the dots(when you roll the dice and you know it's a six, without counting), that's subitizing. Subitizing is a crucial skill in the development of children's understanding of numbers and it can be developed and practiced through experiences with patterned sets. Some of the ways I can support subitizing in my classroom is by having students recognize patterns through fun activities like domino and dice games. I would also use subitizing activity flash cards and ask students to tell me, how many

dots are displayed on each card? When students recognize number patterns,they spend less time counting by ones.(Van de Walle et al., 2019)



Question # 3

Write a paragraph or create a flow- chart showing what is involved in learning to count.

When learning to count children go through several levels of thinking.There's the **Precounter** level which is the stage where the child has no verbal counting ability. This child will look at three balls and when asked "How many?", will reply "ball". The child does not associate a number word with a quantity. The next level is the **Reciter** where the child verbally counts using number words but not always in the right order. In the **Correspondence** level the child is able to

make one-to-one correspondence with numbers and objects, stating one number per object.At the **Counter** level, the child can accurately count objects in an organized display like a line and when asked, “how many?”, the child will respond accurately by giving the last number counted. The **Producer** level is where the child can count out objects to a certain number, and if asked to give you eight blocks, he/she can show you eight. At the **Counter and Producer** level the child combines the previous two levels of thinking and also begins to separate tens and ones (23 is 20 and 3). The **Counter Backwards** level is where the child can count backwards as if in a countdown. **Counter from Any Number** means the child can count up from any number besides one and give the number before and after a given number. Lastly is the **Skip Counter** level , here the child can skip count by a group or a specific number, twos, fives, tens and so on (Van de Walle et al., 2019).

Question # 4

How can a five frame and ten frame support a child’s understanding of number relationships and what can you learn diagnostically from a child’s use of these?

Five-frames and ten- frames are the most common models for exploring the benchmark numbers 5 and 10. Five frame and ten frame supports a child’s understanding of number relationships by helping them to master a variety of math concepts. It gives the child the opportunity to explore the quantity of five and ten and to develop number sense. These frames can also be used for composing and decomposing numbers in relation to 5 and 10. Five and ten frames can help students develop subitizing skills, where students can look at the frame and instantly note that there are five in the five frame without counting. How children use frames can

provide you with insight into their number concept development. How well a child responds to “Ten- Frame-Flash” is a quick diagnostic assessment of his/her number concept level (van de Walle et al., 2019).

Question # 5

What are five misconceptions children might demonstrate about early number concepts?

1. **The child does not know the counting sequence** - The child might skip numbers or go out of order saying “one, two, four, three, nine. Six or the child may be able to count to ten but then use student generated number words(three teen or one teen). Teacher can help by reading counting books to students or practice counting together out loud
2. **The child counts without using a one-to-one correspondence -** The child does not attach one number word to each object. He either double counts saying two number counts for one object or touches more than one object as he says one number. To correct this, as the child counts objects, have him place one object in each space of an egg carton or ten-frame.You can also have children use pointers to touch each object as they count.
3. **The child does not count on** - The child counts out one set but when given more objects,he recounts the first set starting back at one. The child when counting on three more from seven counts 1, 2, 3 rather than 8, 9, 10. To help, the teacher can use quick images to work on the child's subitizing skills or remove objects that have already been counted, forcing the child to create a mental image of the objects

4. **Child does not understand the cardinality principle**. - When asked “how many?” the child recounts all of the objects or points to the last object counted. When counting collections together, say “1 ,2 ,3 ,4 ,5, we have 5 pencils all together” or provide lots of counting opportunities followed by asking “How many?”(Van de Walle et al., 2019)
5. **The child writes numerals backwards or reverses the digits in the teen numbers** - The child hears 19 and writes 91 or writes the number 3 backwards.Teachers can use a vertical number line to show the pattern in writing the teen numbers.

Van de Walle, J. A., Karp, K., Bay-Williams, J. M., Wray, J. A., & Elizabeth Todd Brown. (2019). *Elementary and middle school mathematics : teaching developmentally* (10th ed.). Pearson.