

2 VIDEO #2 Classification and Seriation

Overview

Mathematical learning occurs as young children act on objects and engage in activities in their natural environment. As children play they are learning about their world and mentally constructing concepts about this world and their place in it.

In this module you will see children and teachers exploring the concepts of **Classification** and **Seriation**. The teachers present a variety of activities in which these concepts are embedded. They organize the environment to facilitate learning to classify and seriate. The teachers ask open-ended questions which encourage children to think and reason about their actions. They comment appropriately about what the children have created. They provide opportunities for children to investigate materials on their own and to feel a sense of pride in their accomplishments.

Questions to Consider

1. How do children learn to classify and seriate?
2. Which materials enhance learning classification and seriation?
3. What are the characteristics of objects which can be classified or seriated by young children?
4. What do teachers do to help children learn these concepts?

Vocabulary

Read these terms with their definitions before viewing the program.

Classification the arrangement into a class (group, set) on the basis of a resemblance.

Seriation the arrangement of unorganized material in an orderly fashion.

Instructional Objectives

When you have successfully completed this module, you will be able to:

1. Define concepts: classification, seriation.
2. Match each concept with materials and/or activities appropriate to learning the concept.
3. Describe how children learn to classify and seriate.
4. Identify 4 characteristics of objects which children use to classify or seriate.
5. Analyze the teacher's role in children learning to classify and seriate.
6. Recognize children's behaviors which demonstrate their grasp of the concepts Classification and Seriation.

Self-Test

After studying the objectives and watching the video tape take the self-test to check your progress.

1. Describe the following concepts:
 - a. classification
 - b. seriation
2. Next to each material or activity write the math concept being learned
 - a. clean up time, putting all the zoo animals in one bin _____
 - b. putting in order the 3 bears flannel board story _____
 - c. building with only yellow waffle blocks _____
 - d. telling story using sequence cards _____
 - e. building a pink tower _____
 - f. use dramatic play kit _____
3. List 4 characteristics used by children to classify objects
 - a. _____
 - b. _____
 - c. _____
 - d. _____
4. List 4 characteristics used by children to seriate objects.
 - a. _____
 - b. _____
 - c. _____
 - d. _____

Select the phrase which best completes the statement.

- ___ 5. When children begin to classify they
- a. are consistent in using the characteristic they selected.
 - b. may lose track of the characteristic they chose.
 - c. lose interest quickly.
 - d. all of the above.

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- ___6. When learning to classify or seriate children need
- simple materials with which to work.
 - time to try things out on their own.
 - experience with making comparisons.
 - all of the above.
- ___7. Children will stay longest with an activity if it
- has some meaning for them.
 - is very easy.
 - is suggested by the teacher.
 - none of the above.
- ___8. In organizing the room to encourage classification and seriation skills the teacher
- provides materials children can manipulate.
 - labels shelves to facilitate cleanup.
 - encourages children to help each other.
 - all of the above.
- ___9. If a child does not immediately respond to the teacher's suggestion the teacher should
- quickly call on another child to avoid embarrassing the first child.
 - supply the answer to the child.
 - wait patiently for the child to respond.
 - none of the above.

Write **T** if the statement is true, **F** if it is false.

- ___ 10. Children need to be prompted to classify on their own.
- ___ 11. Classifications skills may be exercised during transitions.
- ___ 12. A slow response may indicate the child lacks language even though he has the concept.
- ___ 13. Children learn only one concept while engaging in any activity.
- ___ 14. To help children understand seriation teacher uses ordinal words first, second, third to describe their actions.
- ___ 15. Asking "why did you do it this way?" gives the teacher insights into children's thinking.

Path to Math

Self-Test Answer Key

Video #1 - One to One Correspondence; Comparing

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|---|------------------------------|------|-------|-------|-------|
| 1. a. Match one object to another. | e. one to one correspondence | | | | |
| b. Finding a relationship between two things. | f. comparing | | | | |
| 2. a. one to one correspondence | 3. d | 4. b | 5. c | 6. a | 7. d |
| b. one to one correspondence | 8. T | 9. F | 10. T | 11. T | 12. F |
| c. comparing | | | | | |
| d. comparing | | | | | |
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Video #2 - Classification and Seriation

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|---|---------------------------|-------------------|------|-------|
| 1. a. Organize things into groups based on some characteristic. | c. length - long to short | | | |
| b. Comparing more than two things and arranging them in order. | d. width - thin to fat | | | |
| 2. a. classification | b. seriation | c. classification | 5. b | 10. F |
| d. seriation | e. seriation | f. classification | 6. d | 11. T |
| 3. a. color | b. shape | c. size | 7. a | 12. T |
| d. function, texture, pattern | | | 8. d | 13. F |
| 4. a. pitch - high to low | | | 9. c | 14. T |
| b. size - short to tall | | | | 15. T |
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Video #3 - Shape; Parts and Wholes

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|---|---------------------|----------|-------|-------|-------|
| 1. a. Recognize and name outward form of an object. | 3. b | 4. c | 5. d | 6. a | 7. c |
| b. Recognize that portions of something make a total. | 8. b | 9. d | 10. F | 11. T | 12. F |
| 2. a. parts and wholes | b. shape | c. shape | 13. T | 14. T | 15. F |
| d. parts and wholes | e. parts and wholes | f. shape | | 16. T | |
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Video #4 - Space, Measurement

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| 1. a. recognizing the relationships (direction, position, distance) and uses (pattern, organization, construction). | 9. The teachers provided a variety of experiences and materials. If no climbing equipment was available they made an obstacle course using tables and chairs. They commented appropriately about what the children were doing by using <i>space</i> words referring to the child's direction and position. They asked open-ended questions which encouraged children to think about their own actions and gave teachers insights into children's thinking processes. | |
| b. determining the dimensions of anything. | They appreciated that younger children used materials more manipulatively. They asked children to make predictions, to test them, and to draw conclusions. They did not correct children's mistakes, allowing the children to find their own solutions. | |
| 2. a. space | b. space | c. measurement |
| d. measurement | e. measurement | |
| 3. a. length, height | b. weight | c. volume |
| d. quantity, width | | |
| 4. Children are learning direction - up and down; position - high, middle, low; distance - near, far. | | |
| 5. Children are learning to make patterns with the blocks, they are organizing the space when they make enclosures, and they are constructing using space as part of their structures. | | |
| 6. d | 7. c | 8. b |
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Video #5 - Number and Counting; Numerals

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| 1. a. a collection of units. | 2. a. numerals | b. number | | |
| b. counting in order from memory. | c. numerals | d. number, numerals | | |
| c. attaching numeral names to specific number of objects. | e. number | f. numerals | | |
| d. a symbol used to express a number. | 3. b | 4. d | 5. c | 6. a |
| | 7. T | 8. T | 9. F | |
| | 10. T | 11. F | 12. F | |
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