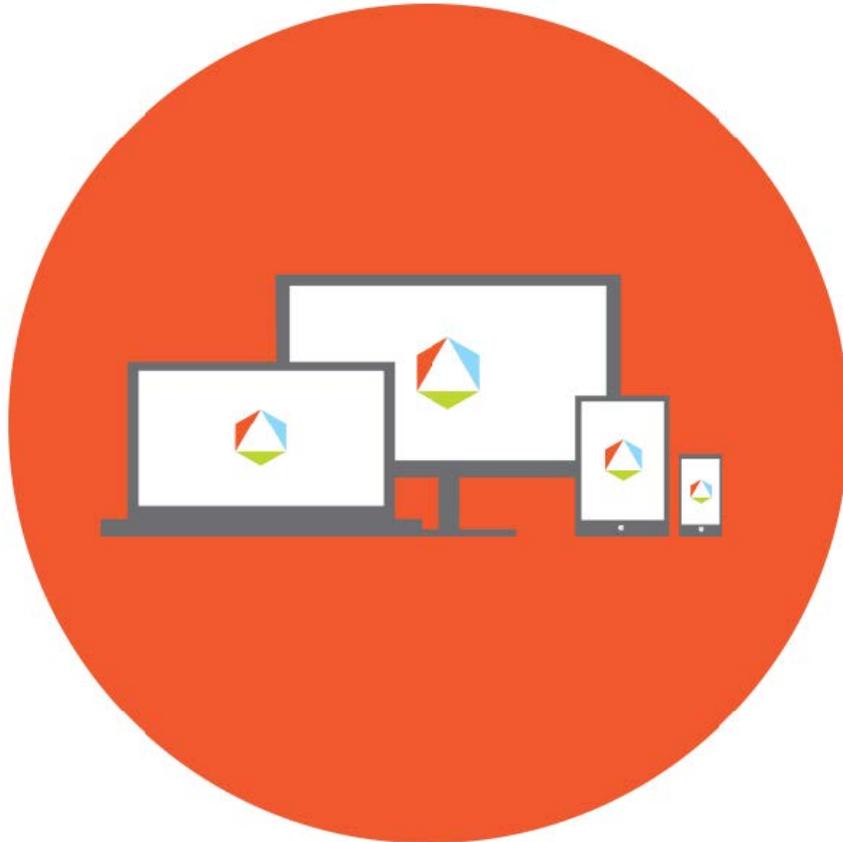




FIRSTPATH
AUTISM



Lesson Guide
66. Number ID
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Number ID

Overview

<p>Teaches:</p>	<p>Visual recognition and naming of numerals. Requiring the child to identify numbers encourages focused attention to the unique form of each number.</p>
<p>Before beginning:</p>	<p>Basic receptive / expressive labeling skills should be established before targeting number identification. The visual discrimination required to tell the slight difference between some numbers is a more advanced skill that should be addressed <u>after basic labeling skills has been mastered.</u></p> <p>**Please note that the child is <u>NOT required to count</u> as part of this lesson; counting is a separate skill that is targeted in a separate lesson.</p>
<p>Why it's important:</p>	<p>Learning to visually recognize and name numbers is an important pre-math skill that should be mastered prior to number to quantity matching, or basic addition and subtraction skills.</p>
<p>Materials needed:</p>	<p>Initially, one complete set of number flash cards, up to 100, is ideal. In this initial set of flashcards, the numbers should be depicted in a very simple, clear font, black-and-white format, without extra embellishment. (For later generalization purposes, the representation of the numbers on the flashcards can become more elaborate/fancy.)</p>
<p>Generalization activities:</p>	<p>Materials can be generalized by using different sets of flashcards (homemade using index cards if desired), where the numbers are still clearly depicted but in a more elaborate/fancy manner, using different colors, patterns, textures, etc. to provide some distraction and highlight the critical similarities in the form of each number. Games such as Number Bingo, Number Memory game, etc. can be utilized to make generalization fun.</p> <p>Use of various materials and activities such as number magnets that stick to the refrigerator / a magnetic white board, or forming the numbers with play-doh or in shaving cream, can also increase interest in this lesson.</p>

Steps

Prepare

1. Sit facing the child, in a quiet place free of distractions.
2. Ensure that the child is ready to learn and earn! A reinforcer assessment should have been recently completed, and the identified highly preferred items and activities should be ready and available.
3. Have data collection ready, either via tablet or pen/paper.
4. Have lesson materials prepared and available.
5. Make sure the child is attentive, ideally looking at teacher and not engaging in any other activities.

Teach

1. Lay the first target card on the table (for this example, number 1).
2. Ask the child to "Touch '1' ." (Note: you may use a different instruction than "Touch" if it is more effective for the child; just keep the SD consistent initially until generalization step is reached. Examples include "Give me" or "Where is ... ?")
3. Wait 3-5 seconds for child to respond.
4. Provide feedback on how the child responded:
 - Correct response: enthusiastic praise and/or give the child his chosen reward
 - Incorrect or No response: corrective feedback, model or prompt of correct response
5. Record data.
6. Begin again at step 1.
7. Continue until the child has mastered target "1" (as measured by at least 3 independent, consecutive, correct responses).
8. Then, bring in target "2" and begin targeting it in the presence of the mastered "1".
9. When "2" has been mastered (as measured by at least 3 independent, consecutive, correct responses), alternate randomly between "1" and "2" to test whether the child is correctly discriminating between them. Mastery is indicated by 3 sessions of at least 80% accuracy in discriminating between the first two cards/targets.
10. Introduce "3" in the presence of previously mastered "1" and "2". Once "3" is mastered (as measured by at least 3 independent, consecutive, correct responses), alternate randomly between the three cards to test whether the child is correctly discriminating between them. Mastery is indicated by 3 sessions of at least 80% accuracy in discriminating between the three cards/targets.

11. This process will continue as each new target card is introduced. It will help to be mindful of how many cards are present on the table at a time. For example, usually a field of between 5-10 cards is a good guide in allowing discrimination without excess distraction for the child. Do not expect to have all number cards on the table at the same time.

Examples

Correct response	Incorrect response	No response
<p>Teacher: "Touch '1'."</p> <p>Child: Touches the correct number, '1'.</p> <p>Teacher: "Great job!" (and delivers reinforcer)</p>	<p>Teacher: "Touch '1' ."</p> <p>Child: Touches an incorrect number, '2'.</p> <p>Teacher: "Oops! <u>This</u> is '1' ", and moves child's hand to touch '1'. (Teacher does not deliver reinforcer at this time; rather, re-starts teaching cycle.)</p>	<p>Teacher: "Touch '1'."</p> <p>Child: (no response)</p> <p>Teacher: "Uh-oh. This is number '1'." (while prompting child to touch correct number, '1').</p> <p>(Teacher does not deliver reinforcer at this time; rather, re-starts teaching cycle.)</p>

Typical order of learning targets:

NOTES:

- The order of target **introduction** in this lesson **is recommended to occur in the natural order** in which the numbers are counted (i.e., 1, 2, 3, 4, 5, 6, etc.). This is because counting (a separate but associated skill) is usually learned very close to the time of Number Identification. Since numbers are always counted in the same order, learning to identify them in this same order may initially help reinforce associated pre-math skills of counting, 1:1 correspondence, etc. Furthermore, beginning math skills utilize small numerals and small quantities (e.g., 1-10), so it will help if these numerals are mastered first.
- *** However, once each new number is mastered and discrimination is being tested via random presentation of the targets, then the numbers should not be presented or identified in order. Rationale: if the counting order of the numbers is consistently used as a means to identification, it may inadvertently function as a prompt and the child may actually be learning to rote count rather than identify the numbers via visual discrimination (which is the goal of this lesson). While both counting and number identification are important and critical skills, they are also completely different skills that should not be confused with each other.*

- The teacher should evaluate how far to proceed with teaching number identification, based upon the child's current age and functioning. For example, a 4-year-old is not required to learn to identify numerals up to 100 at that time. As the child grows older, larger numbers will become more functional to him. As a reference point, many public school kindergartens do not require students to identify numerals beyond 10 or 20, because those larger numerals are not used at that time. (Oftentimes at younger ages, children can count numbers higher than they can visually identify.)
 - Therefore, it is recommended (though not required) that the teacher teach generalization to the child after each set of 10 numbers has been mastered via random discrimination. Each phase of generalization should include the following components:
 1. Generalization across various SDs/ instructions
 2. Generalization across new lesson materials
 3. Generalization across people/instructors
 4. Generalization into natural life situations
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1. Numbers 1-10 (10 individual targets)
 2. Generalize 1-10

 3. Numbers 11-20 (10 individual targets)
 4. Generalize 11-20

 5. Numbers 21-30 (10 individual targets)
 6. Generalize 21-30

 7. Numbers 31-40 (10 individual targets)
 8. Generalize 31-40

 9. Numbers 41-50 (10 individual targets)
 10. Generalize 41-50

 11. Numbers 51-60 (10 individual targets)
 12. Generalize 51-60

 13. Numbers 61-70 (10 individual targets)
 14. Generalize 61-70

 15. Numbers 71-80 (10 individual targets)
 16. Generalize 71-80

 17. Numbers 81-90 (10 individual targets)

18. Generalize 81-90

19. Numbers 91-100 (10 individual targets)

20. Generalize 91-100