

INSTRUCTIONS FOR ADMINISTRATION OF KENS MATH ASSESSMENT ©2012

In several studies, KENS Math assessment accurately predicted kindergarten students who were unable to master all kindergarten math standards. It was also shown as useful and reliable tool to predict students who failed an end of the year math diagnostic test on year later ($p < 0.001$). Typically, the administration of this 3-page instrument occurs during the beginning of the school year to identify students at higher risk for math difficulties by determining a student's ability to subitize numbers to 5. Administering the KENS Math 1-minute screening test to each student is a required to determine his/her starting point in the leveled card system.

The screening test may be administered at any time during the kindergarten year.

This assessment is designed to allow students to use a previous row of dots (3 or 4) to make an educated guess for the numbers 4 or 5. This assessment tool is purposely designed to allow students to tap into their number-combination skill to achieve successful results.

PART 1

An examiner should not give praise related to a student's response until the entire test is completed.

- Show student the page with two rows of dots (the pretest page). All other sheets are turned over so the student does not have an advance peek at the dots.
- Say, "We are going to play a new game. I'm going to show you some dots. As quickly as you can, without trying to make any mistakes, I would like you to tell me how many dots are in each row."

- Point to the row with only 1 dot and say, "How many dots are in this row?"

If the student gives a correct response, point at the second row and repeat the directions with the 2 dot row, "How many dots are in this row?"

Once in a while, a student will answer three when shown the first row of dots. In this case, use your finger to sweep across the row and repeat the direction.

PART 2

If the examiner chooses, a stopwatch may be used to time the total time it takes for a student to answer the 10 rows of dots in this section.

- Show student the page with 5 rows of dots that begins with 2 dots. Say, "How many dots are in this row?" while pointing at the left corner of the row. When a student provides an answer (right or wrong), then move onto the next row. Keep track of the number of errors, and note any unusual counting practices on the sheet.

If the examiner chooses, a stopwatch may be used to time the total time it takes for a student to answer the 10 rows of dots in this section.

- Continue with the page that begins with 4 dots, following the same procedure as the page with 5 rows of dots.

The most common mistakes are made for the 5 dot array. Students often will respond 6 or 4. Typical four to five year old children can only subitize to 4. That is, they can instantly recognize and say the number of objects up to 4. An early number sense skill is required to answer a 5-dot problem. Some students will show adaptive strategies, like finger counting. While this gets them a correct response, without developing the ability to subitize, they may later be categorized at risk for math difficulties.

Students who make two or more mistakes in Part 2 are at high risk of failing to meet end of the year math standards. Students who take a long time to respond may also be at similar high risk. This does not mean that these students have a math disability.

EVALUATING THE SCORES

- **Students who make zero errors**

Most students who complete KENS Math assessment will not make any errors because they are able to subitize numbers to 5 or use adaptive means such as counting or combining numbers to derive the correct answer. In general, these students are at low risk for future math difficulties. These students may begin on **Level 3** of the program and may progress more quickly than students who make errors. The only exceptions are students who take more than 30 seconds to complete the two pages or those students who individually count each dot. These students should begin at **Level 2**.

- **Students who make one error**

Some of the students who make only one error will progress as quickly as students who made no errors. An optional additional assessment may be given to determine if a student made a careless mistake or has a skill deficit. The assessment provides a different array of dots with a concentration on subitizing the numbers 4 and 5. If the student makes no mistakes on the subsequent assessment, he or she may start on **Level 3**. Otherwise, these students may start on **Level 2** of the program.

- **Students who make 2 or 3 errors**

Students who make 2 or 3 errors need additional help subitizing numbers to 4 and 5. They should begin the program on **Level 1**. In addition, teachers may choose to supplement the program with intervention strategies including computer practice and additional games.

- **Students who make 4 or more errors**

These students should begin the program on **Level 1**. Further assessment is necessary to determine if a student has the prerequisite skills for early math success. These include:

- A Counting to 10
- B Counting to 5 with one to one correspondence
- C Recognizing the written Arabic numbers from 0 – 10.

If a student is unable to complete "A," "B" or "C" then teacher-directed intervention is required to supplement KENS Math.





