DreamBox Learning
Halton District School Board

Intelligent Adaptive Learning

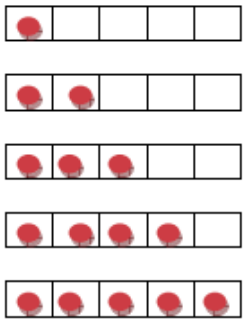
"This advanced technology enables the seamless integration of instruction and assessment before, during, and after each and every lesson. Individual in-the-moment learning experiences are deeply personalized for all types of students to provide the right next lesson, at the right level of difficulty, at the right time."

DreamBox is...	DreamBox is not...
• **an adaptive learning tool to support the development of number sense** • **a tool to help develop algebraic reasoning** • **a tool to help make student thinking visible through the use of models**	• **our mathematics program** • **a customizable Tutor** • **set it and forget it tool** • **human...**

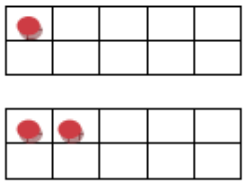
Encourage and support your child, but try not to help them with figuring out the answers - it will change the level of difficulty of the lesson that DreamBox provides them. If they are stuck - this is good data for DreamBox - it means the next set of questions will be adjusted.

Sign up for the Family Dashboard to monitor and be made aware of the learning your child is doing on DreamBox.

Five and Ten Frames



Five Frames



What are Five and Ten Frames?
Five and ten frames are equal-sized rectangular boxes in a row where each box is large enough to hold a counter. The five frame is arranged in a 1-by-5 array. A ten frame is a set of two five frames or a 2-by-5 array.

How do Five and Ten Frames help students?
Five and ten frames help students to relate given numbers to 5 and 10 by providing a visual image. The frames may be filled in from left to right so that students can learn to *subitize*. Their use encourages counting strategies beyond counting by one or counting on each time they are asked to identify a number or work on an addition or subtraction problem. Students think about combinations of number that make other numbers, e.g., 7 is two more than 5, or 9 is one less than 10. These number relationships help build the foundation for the development of more complex mental computations. Students start with the five frames before moving on to ten frames and may explore double ten frames later to develop a better understanding of place value.

Rekenreks

What are Rekenreks?
Rekenreks are arithmetic racks, developed by Adrian Treffers, a mathematics curriculum researcher at the Freudenthal Institute in Holland. There are two rods of 10 beads. Each rod has 5 beads of one colour followed by 5 of another colour. The order and colours on the top rod are repeated on the lower rod. The colours most often used are red and white. The starting position should show all the beads pushed to the far right. The student enters a number by sliding the beads to the left in a one-push motion. It is important that everyone in the class is visualizing and communicating the patterns in the same way.

How do Rekenreks help students?
Rekenreks are used to help develop addition and subtraction strategies, such as doubling or finding near doubles as well as thinking in terms of 5s and 10s, instead of counting from one each time or counting on in addition and subtraction. Students improve their ability to regroup numbers when solving addition and subtraction problems.