PreSchoolMath Centers

Universities can set up a
Center for PreSchoolMath
For Free

MATH**e**CADEMY.net appoints an initiator and brings funding for hiring the initiator as a two-year professor, and for two postdoc scholars, plus an overhead for the university.

After the period the postdoc scholars may be appointed as new initiators.

Or the university may hire one or both to continue the PreSchoolMath Center.

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PostDoc Academy   YouTube Videos

MATH**e**CADEMY.net

Experts in PreSchoolMath by inventing
IconCounting & **NextToAddition**

PreSchool Math

Mathematics as a Natural Science
Counting & Adding MANY:

$$IIIIIII = III\ III\ I = 2.1\ \textbf{3s}$$

Golden Learning Opportunities:

Linearity
(*IconCounting* shifts units)

2 3s = ? 5s

Integration
(*NextToAddition* by areas)

2 3s + 4 5s = ? 8s

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Math: A Science About **MANY**

Math is a natural science about MANY. We deal with MANY by two competences, **counting** and **adding**. In school we learn to count in tens and to add on-top. In preschool, however, learning and playing go together allowing also counting in icons below ten and adding next-to. Thus 3 5s can be re-counted as 2.3 6s that gives 2.1 9s if added next-to 1.1 3s, later called integration.

To add on-top the units must be the same, and re-counting can be used to change units, later called proportionality and linearity. To see how many 2s that added to 1 4s give 2 6s we must de-add, also called reverse addition or solve equations.

Allowed to count and **re-count**, and to add and **de-add**, preschool kids learn decimal numbers and fractions, proportionality and linearity, integration and differentiation as well as solving equations. And, using a restricted well-defined language code gives equal learning opportunities to mono-lingual and multi-lingual children.

It returns good value for money to fund research in IconCounting and NextToAddition as early intervention in preschool.

Funded post-doctoral contingency research in preschool mathematics can be guided by the MATH**e**CADEMY.net being the first to recognize the golden learning opportunities in **IconCounting** and **NextToAddition**.
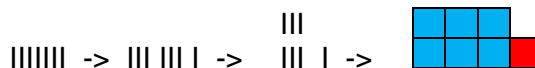
Reference: Workshop in Recounting and Decimal-writing,
http://www.icme12.org/upload/UpFile2/WSG/1125.pdf

Count & ReCount

FirstOrderCounting rearranges many sticks into one icon with five sticks in the 5-icon, etc.

SecondOrder IconCounting re-counts many ones in bundles that are stacked:

Using **CupWriting** and **DecimalWriting**, we place the bundles in a left BundleCup and the unbundled in a right SingleCup and use a decimal point to separate bundles & singles.

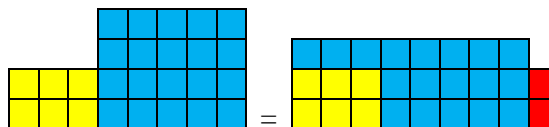IIIIIII -> III III I -> II) I) -> 2)1) = 2.1 3s

Add & DeAdd

With **OnTopAddition** units may be changed, later called proportionality or linearity:

2 3s + 4 5s = 1.1 5s + 4 5s = 5.1 5s = 4.6 5s

With **NextToAddition** the totals are added as areas, later called integration:

2 3s + 4 5s = 3.2 8s

Reversed addition asks e.g.:   ? 2s + 1 4s = 2 6s. Answer 4 2s: first take away the 1 4s, then count the rest in 2s, later called differentiation.