Giocare in cucina con la matematica in Year 1

Silvia Bettini
s.bettini@beschool.eu
Bilingual European School, Milan
THE MATHEMATICIAN’S GLASSES

Gli occhiali del mattedrico
WELCOME TO THE MATH WORLD!

"The Year of food: Mathematical Thinking through Meaningful Contexts"
WHAT DOES MATH LEARNING LOOK LIKE TO YOU?

I used to think...
WHY ARE WE HERE? WHAT ARE WE GOING TO DO?

- Teaching complex mathematical concepts in year 1
  - How children learn through HANDS-ON mathematics
  - How we develop an understanding of mathematics through ENGAGEMENT and CURIOSITY
  - How children MATHEMATIZE THEIR WORLD – the math children can see every day in their lives
  - How we can REMOVE THE MYSTERY and eliminate “mathphobia”
  - The PROTAGONISTS OF MATHEMATICS
UNDERSTAND BY DOING
HANDS-ON LEARNING

“Azione interiorizzata”
J.J. PIAGET

“Conoscere con le mani”
M. MONTESSORI
LET'S COOK SOME SOUP!

WHAT DO WE NEED?

• YOUR INGREDIENTS: Three little pieces of paper

• YOUR MENU: A post-it

• YOUR POT: Your desk
CHOOSE 3 INGREDIENTS:
PRONTI?

CUOCHI...

VIA!
IMPIATTARE!
HOW MANY DIFFERENT KINDS OF SOUP DID YOU MAKE?

- 3?
- 4?
- 6?
- 8?
What are they trying to understand?

What concepts are they investigating on their own?
WHAT DID THE KIDS DO?
TALK WITH A PARTNER

What are they trying to understand?

What concepts are they investigating on their own?
n!

\[ n! = 1 \times 2 \times 3 \times \ldots \times n \]

\[ n! := \prod_{k=1}^{n} k = 1 \cdot 2 \cdot 3 \cdots (n-1) \cdot n \]
OUR APPROACH TO MATH LEARNING

- Complex concepts
- Concrete experiences
- Authentic experiences
THE QUEEN OF SCIENCES

G. Leopardi

F.W.A. Frobel

Tutto è numero

Pitagora

Galileo Galilei

Camillo Benso
conte di Cavour
Taking the Mystery Out of Math

Math is made of repetitive and monotonous exercises called problems.

Math is something that scares people!

Math is something boring to repeat into infinity.

Il fascino è sparito per lasciare posto allo spavento.
How will this work engage students’ curiosity?

Is the student a co-learner?

Is the math experience relevant to their every-day life?
Who are the math makers at school?

I PROTAGONISTI DEL FARE MATEMATICA

How are they connected?
IL TRIANGOLO DELLA DIDATTICA

SAPERE

Alunno e il suo sapere

Insegnante e il suo sapere
Can you imagine what a “math restaurant” would look like?

What would “math chefs” create?
WHICH INGREDIENTS COULD WE USE IN A “MATH RESTAURANT”?
...DOES A 6 YEAR-OLD CHILD HAVE IN HIS/HER MIND?

How many math concepts...

Cosa useranno i cuochi del Mondo della MATEMATICA per cucinare?
Ristorante

Cuochi

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**MENU**

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WRITE A MENU

INVENT PRICES
IN THE SAME MOMENT
THEY WERE:

Mathematicians
Chefs
Writers
Customers
Readers
Waiters
Cashiers
How were they...

Ristorante

Via Quadrata 30, 18273
Mondo della Matematica

[Table with entries and prices]

Grazie e arrivederci!

CASHIERS?
IL TRIANGOLO DELLA DIDATTICA

SAPERE

Alunno e il suo sapere

Insegnante e il suo sapere
WHAT DOES MATH LEARNING LOOK LIKE TO YOU?

Now I think...
THANK YOU
SO MUCH!
GRAZIE MILLE!