

# Numbers, addition and subtraction : up to 1 000 000

An imaginative and cooperative unit

A series of horizontal stripes in various colors (yellow, green, blue, dark blue, orange, red, white, light green) spanning the width of the page at the bottom.

# Background: Dan, grade 5

## **Class: grade 4-5 French Immersion**

- 20 boys, 7 girls all very active
- hard to settle, rarely engaged, need movt

## **Dan: grade 5 boy with IEP**

- one passion: hockey
- is in class physically but disengaged 95% of time

# NHL GM Training Camp:

## Kieran Egan's Imaginative Education

1. Kieran Egan (extends Vygotsky's concept of cognitive tools beyond language)
2. Cognitive tools include the body's tools, images, metaphors, stories, extremes of experience/limits of reality, narrative structure
3. Use of cognitive tools shape development into 5 kinds of understanding: Stage 2 (age 3-8: Mythical=story / Stage 3 (8-15): Romantic=heroic aspect & extremes of reality)

# Activities

1. **Book: How much is a million?**  
Egan: story, image, metaphor
2. **1 000 000 hockey pucks : place value**  
Egan: image
3. **Physical Challenge: how does 1 million feel?**  
Egan: somatic understanding  
Piaget: constructivism

# Activity 4-6: Stations

## Cooperative learning and Constructivism (Piaget, Kamii and Vygotsky)

4. Hockey number line
5. 1 000 000 grains of rice
6. Adding and subtracting using hockey facts : jerseys  
game, equipment cost, budget word problem (teams of 2  
or 3) using base 10 manipulatives and place-value charts

# Assessment & Outcome

- Pictures and notes during activities
  - Ipads for recording stations team work
  - Grid for physical challenge
- Final individual Challenge
  - Fantasy Team activity (different degrees of difficulty depending on grades and ability)