

# Teaching Common Core Addition and Multiplication Strategies on the iPad

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[bit.ly/NCTMwebmix](http://bit.ly/NCTMwebmix)



**TEACHLEY**

research • learning • fun

## **Who are we?**

teachers...

turned educational researchers...

turned entrepreneurs

# Who are you?

- K - 2 teachers
- 3 - 5 teachers
- math coaches
- other



# Addition Strategies

## ***CCSS.MATH.CONTENT.1.OA.C.5***

Relate counting to addition (e.g., by **counting on** 2 to add 2).

## ***CCSS.MATH.CONTENT.1.OA.C.6***

Add within 20. Use strategies such as **counting on**; **making ten** (e.g.,  $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$ ); and **creating equivalent but easier or known sums** (e.g., adding  $6 + 7$  by creating the known equivalent  $6 + 6 + 1 = 12 + 1 = 13$ ).

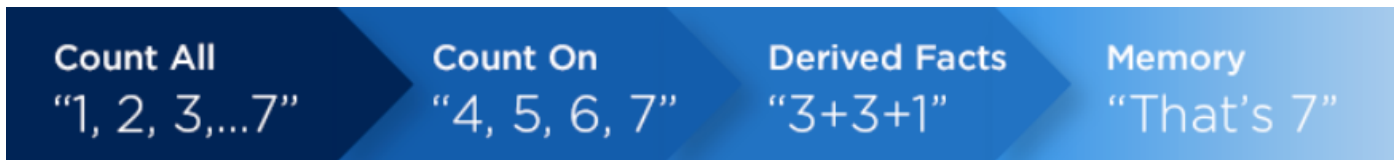
## ***CCSS.MATH.CONTENT.1.OA.B.3***

Apply properties of operations as strategies to add. Examples: If  $8 + 3 = 11$  is known, then  $3 + 8 = 11$  is also known. (**Commutative property** of addition.) To add  $2 + 6 + 4$ , the second two numbers can be added to make a ten, so  $2 + 6 + 4 = 2 + 10 = 12$ . (**Associative property** of addition.)



# Strategy Development

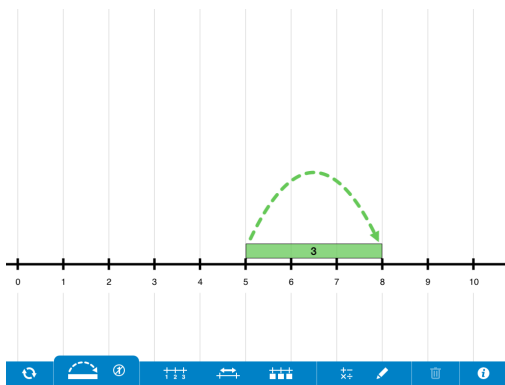
## Typical development - solving $3 + 4$



## Poor performers

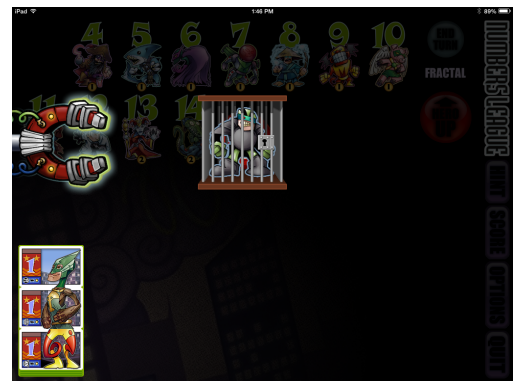


# Addition Strategy Apps



Number Line (Free)

Addimals (Free)



Numbers League \$3.99



# Addition Strategy Think Aloud



# Multiplication Strategies

## **CCSS.MATH.CONTENT.3.OA.B.5**

Apply properties of operations as strategies to multiply and divide.<sup>2</sup> Examples: If  $6 \times 4 = 24$  is known, then  $4 \times 6 = 24$  is also known. (**Commutative property** of multiplication.)  $3 \times 5 \times 2$  can be found by  $3 \times 5 = 15$ , then  $15 \times 2 = 30$ , or by  $5 \times 2 = 10$ , then  $3 \times 10 = 30$ . (**Associative property** of multiplication.) Knowing that  $8 \times 5 = 40$  and  $8 \times 2 = 16$ , one can find  $8 \times 7$  as  $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$ . (**Distributive property**.)



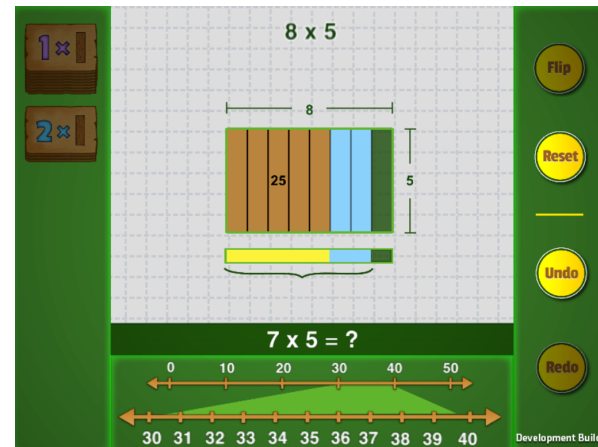
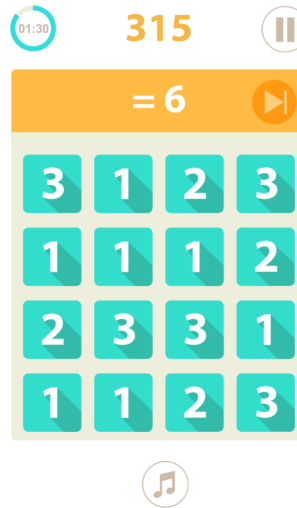


# Multiplication Strategy Apps



**Farm Factor** (Free; \$2.99)

**Number Hero** (\$1.99)



**Mt. Multiplis** (Free)



# Multiplication Strategy Think Aloud



# Addition Fluency

## **Kindergarten - *CCSS.MATH.CONTENT.K.OA.A.5***

Fluently add within 5.

## **1st Grade - *CCSS.MATH.CONTENT.1.OA.C.6***

Demonstrating fluency for addition within 10.

## **2nd Grade - *CCSS.MATH.CONTENT.2.OA.B.2***

By end of Grade 2, know from memory all sums of two one-digit numbers.



# Multiplication Fluency

## ***CCSS.MATH.CONTENT.3.OA.C.7***

Fluently multiply within 100. By the end of Grade 3, know from memory all products of two one-digit numbers.



# Fluency Apps

Group Brainstorm  
(name, price, why you like it)



# Free Teachley Account



**Personalize Learning**  
*with all iPad programs*

- *1-to-1*
- *Center Model*
- *Shared Cart*

*Promo Code: NCTM2014*



# Teachley Analytics

## Addimal Adventure

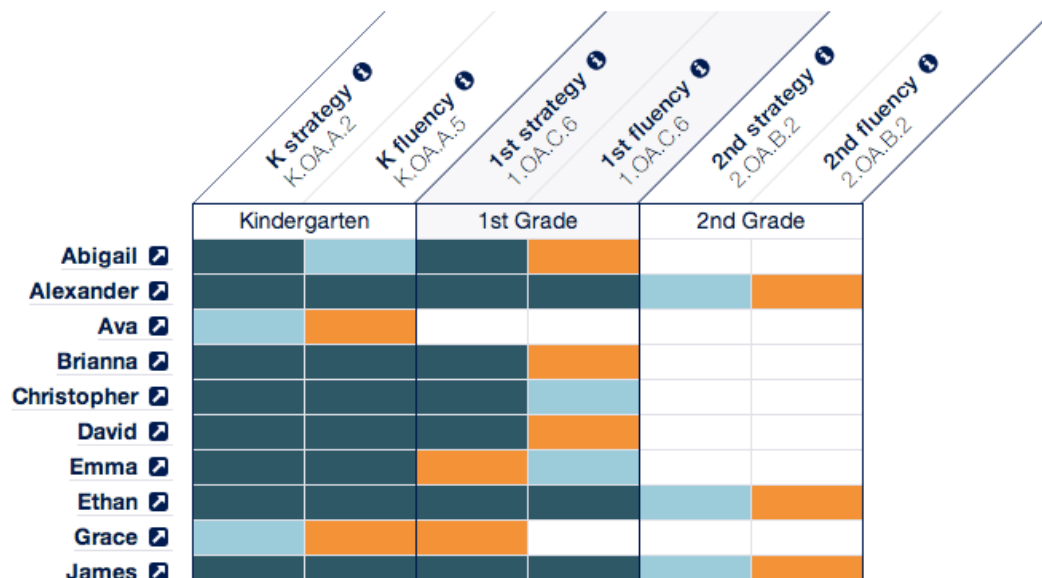
Common Core

Playing Time

Benchmarks

Lessons

Resources



Contact us about setting up a free school trial

