

Math DesCartes: Estimation and Accurate Computations

Skills: Whole Numbers – Addition and Subtraction

Students:	DesCartes Skills: (Highlight the skills related to your chosen standard/concept – skills not relevant to this lesson have been deleted)
	RIT 211-230: <ul style="list-style-type: none"> • Predicts the relative size of the answer when adding whole numbers
	RIT 201-210: <ul style="list-style-type: none"> • Instantly recalls basic addition facts with sums to 18 in a table • Performs mental computation with more than 4 addends • Adds and subtracts whole numbers using place value
	RIT 191-200: <ul style="list-style-type: none"> • Adds multiple-digit numbers, with sums under 1000 • Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on) • Uses number sense strategies to judge the reasonableness of given answers (addition/subtraction only) • Adds and subtracts whole numbers using place value
	RIT 181-190: <ul style="list-style-type: none"> • Adds 1-digit to multiple-digit number, with regrouping • Adds two or three 2-digit numbers, with regrouping • Uses strategies for sums and differences with 2-digit numbers (e.g., decomposing, compatible, compensation, partial sums, counting on) • Performs mental computation with 2, 3, or 4 addends
	RIT 171-180: <ul style="list-style-type: none"> • Adds 2-digit to 3-digit number, with no regrouping, with sums under 1000 • Adds two or three 2-digit numbers, with regrouping • Adds 1-, 2-, and/or 3-digit numbers, with sums under 100 • Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)
	RIT 161-170: <ul style="list-style-type: none"> • Adds two 1-digit numbers with sums to 10 in horizontal format • Adds two 1-digit numbers with sums between 10 and 19 in horizontal format • Adds two 1-digit numbers with sums to 10 in vertical format • Adds two 1-digit numbers with sums between 10 and 19 in vertical format • Adds multiple 1-digit numbers • Adds 1-digit to multiple-digit number with no regrouping • Adds 2-digit numbers with no regrouping • Adds 2-digit to 3-digit number, with no regrouping, with sums under 1000 • Uses strategies for addition facts (e.g., compatible numbers, counting on, doubles, neighbors, making tens)
	RIT Below 161: <ul style="list-style-type: none"> • Adds two 1-digit numbers with sums to 10 in horizontal format

Lesson Title: \$1 Math

Standard/Concept for All:

Addition and Mental Math:

- 2nd Grade: 1.2.2 Add whole numbers with and without regrouping through 99.
- 3rd Grade: 1.2.2 Add and subtract whole numbers w/ and w/o regrouping through 999.
- 3rd Grade: 1.2.3 Add three one- and two- digit addends.
- 4th Grade: 1.2.2 Add and subtract whole numbers.
- 3rd-5th Grades: 1.2.6 Select and use an appropriate method of computation from mental math, paper and pencil, calculator or a combination of the three.

Estimation:

- K-4th Grade: 1.3.2 Use estimation to evaluate the reasonableness of an answer.
- Grades 5-8: 1.3.1 Estimate to predict computation results.

For Students Ready for a Challenge:

Lesson/Activity:

- Post on board or show on overhead: A = 1¢, B = 2¢, C = 3¢, etc.
- Ask students:
 - How much does your first name cost? Your last name?
 - Which student do you think has the most expensive name? The cheapest? Why do you think so?
 - Find a word that equals exactly \$1.
- As students work, look for opportunities to demonstrate mental math strategies

Resources: Optional: Calculators, scratch paper

Means of Assessment: Estimation/computation accuracy; Observation

For Most Students:

Lesson/Activity:

- Post on board or show on overhead: A = 1¢, B = 2¢, C = 3¢, etc.
- Ask students:
 - How much does your first name cost? Your last name?
 - Which student do you think has the most expensive name? The cheapest? Why do you think so?
 - Think of an animal that you think has an “expensive” name. Calculate the cost. Compare with other students’ results. Who came up with the most expensive animal?
 - Repeat with other categories: state names, foods, words from a given vocabulary list, book/movie titles, etc.
- As students work, look for opportunities to demonstrate mental math strategies

Resources: Optional: Calculators, scratch paper

Means of Assessment: Estimation/computation accuracy; Observation

For Students Needing Extra Support:

Lesson/Activity:

- Post on board or show on overhead: A = 1¢, B = 2¢, C = 3¢, etc.
- Ask students:
 - How much does your first name cost? Your last name?
 - Which student do you think has the most expensive name? The cheapest? Why do you think so?
- Write two 3-6 letter words on the board (ie. Horse/cow, Cat/Dog, etc.) Have students predict which would be most expensive. Then find the “cost” of each word to confirm predictions.

Resources: Optional: Calculators, scratch paper

Means of Assessment: Estimation/computation accuracy; Observation

Closure/Summary for All:

- Ask: What do you look for in the words to make a guess about cost?

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\$1 Math

A = 1¢	G = 7¢	M = 13¢	S = 19¢	Y = 25¢
B = 2¢	H = 8¢	N = 14¢	T = 20¢	Z = 26¢
C = 3¢	I = 9¢	O = 15¢	U = 21¢	
D = 4¢	J = 10¢	P = 16¢	V = 22¢	
E = 5¢	K = 11¢	Q = 17¢	W = 23¢	
F = 6¢	L = 12¢	R = 18¢	X = 24¢	

M A T H
13+ 1+ 20+ 8= 42 ¢

A D D I T I O N
1+ 4+ 4+ 9+ 20+ 9+ 15+ 14= 76¢

Some \$1 Words

Attitude Borrowed Clockwise Elephants Drizzle Fountain Glimpses Hospital	Intellect Jurassic Keyboards Lightest Mailboxes Negotiated Overboard Problems	Quarter Raincoats Scoreboard Telephone Useless Violins Wednesday
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More \$1 words: <http://mathforum.org/library/drmath/view/56834.html>