#### Math6.org Activities for Fractions

#### **Vocabulary Studies**

- \_\_\_\_1) On-Line Word Search
- \_\_\_\_2) 3 Column Notes
- \_\_\_\_\_3) Flash Cards
- \_\_\_\_4) Crossword Puzzle
- \_\_\_\_5) Matching Practice
- \_\_\_\_6) Vocabulary Millionaire!

#### Tests and Games

- \_\_\_\_78) Mid Chapter Quiz
- \_\_\_\_79) Quiz Bowl
- \_\_\_\_80) Practice Test
- \_\_\_\_81) Fractions Millionaire

#### Activities by Lesson

#### 5.1 Multiply Fractions 5.7 Add and Subtract Fractions 1) **Review Worksheet** 38) **Review Worksheet** 2) **Multiplying Fractions Lesson** 39) Adding Fractions Lesson 3) Multiply Fractions (GP) 40) Adding Fractions (GP) 4) Standard Style (GP) 41) Across, Up, Up (GP) Simplify First (GP) 42) Easy LCD (GP) 5) 6) Lesson Quiz 43) Like Denominators (GP) \*\*Measuring Madness 44) Adding Fractions Drill 7) 5.2 Multiply Mixed Numbers 45) Subtracting Fractions Lesson 8) **Review Worksheet** 46) Subtracting Fractions (GP) 9) Improper Fractions (GP) 47) Across, Up, Up (GP) 10) **Multiplying Mixed Numbers Lesson** 48) Easy LCD (GP) 11) Multiply Mixed Numbers (GP) 49) Like Denominators (GP) 50) Subtracting Fractions Drill 12) Lesson Quiz \*\*Area and Perimeter 13) 51) Lesson Quiz 5.3 Dividing Fractions 52) \*\*Great Weight 14) **Review Worksheet** 5.8 Add and Subtract Mixed Numbers Improper Fractions (GP) 53) **Review Worksheet** 15) 16) **Dividing Fractions Lesson** 54) Adding Mixed Numbers Lesson 17) **Dividing Fractions (GP)** 55) Adding Mixed Numbers (GP) 18) **Dividing Mixed Numbers Lesson** 56) Adding Mixed Numbers Drill Dividing Mixed Numbers (GP) Subtracting Mixed Numbers Lesson 19) 57) 20) Lesson Quiz 58) Subtracting Mixed Numbers (GP) 21) **\*\***Splitting the Treasures 59) Subtracting Mixed Numbers Drill 5.4 Equations with Multiplication and Division 60) Lesson Quiz 22) **Review Worksheet** 61) **\*\*Practical Perimeters** 23) **Equations with Fractions Lesson** 5.9 Regrouping to Subtract 24) Equations with Fractions (GP) 62) **Regrouping Mixed Numbers** Equations with Mixed Numbers Lesson Regrouping Mixed Numbers Lesson 25) 63) 26) Equations with Mixed Numbers (GP) 64) Regrouping Mixed Numbers (GP) **Regrouping Mixed Numbers Drill** 27) Lesson Quiz 65) 28) \*\*AR Points 66) Subtracting Mixed Numbers Lesson 5.5 Least Common Multiple Subtracting Mixed Numbers (GP) 67) 29) **Review Worksheet** 68) Subtracting Mixed Numbers Drill 30) Least Common Multiple Lesson 69) Lesson Quiz 31) LCM (GP) 70) \*\*Olympic Champions Lesson Quiz 5.10 Equations with Addition and Subtraction 32) \*\*When will it Happen? 71) **Review Worksheet** 33) 5.6 Estimating Sums and Differences 72) **Equations with Fractions Lesson** 34) **Review Worksheet** 73) Equations with Fractions (GP) 74) Equations with Mixed Numbers Lesson 35) Estimation (GP) Equations with Mixed Numbers (GP) 36) Lesson Quiz 75) 37) **\*\*EOG Estimation** 76) Lesson Quiz 77) \*\*Ready for the EOG

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Name \_\_\_\_\_

#### Word List - 3 Column Notes

Word	Definition	Example
Denominator	The bottom of a fractionthe divisor	In <sup>3</sup> / <sub>4</sub> , the 4 is the denominator.
Dividend		
Divisor		
Equivalent		
Factor		
Improper		
LCD		
LCM		
Minuend		
Mixed Number		
Multiple		
Numerator		
Product		
Proper		
Quotient		
Reciprocal		
Simplest Form		
Subtrahend		
1		

#### Math Journal - Chapter 5 - Computation with Fractions

- 5.01 Write a "How To" paragraph to explain how to multiply three fifths by two thirds using one of the 3 methods that you were shown today. Make sure to identify which method you are modeling.
- 5.02 Multiplying mixed numbers is easy but not as easy as some students try to make it. Create a poster to remind your peers that you must convert mixed numbers into improper fractions before you multiply.
- 5.03 Create a flow map (with examples) to show the steps required to "divide" fractions.
- 5.04 No Entry Use this time to make a final product for journal entry 5.2 or 5.3
- 5.05 Create a double bubble map to compare and contrast the list method with the prime factorization method for finding LCM. Write a "persuasion" paragraph to try to convince your peers that your favorite method is the best.
- 5.06 Create 2 models using problems 25 and 28 from text pages 238 and 239. Make sure to show the "rounded" version in a clear manner.
- 5.07 Create a demonstration (using fraction strips) to model the addition of four fifths and three sevenths.
- 5.08 No Entry Complete Workbook page 5.8
- 5.09 When regrouping fractions, you need to pay special attention to the denominator. Use fraction strips (or pies) to show why 7  $^{1}/_{4}$  is regrouped as 6  $^{5}/_{4}$  rather than 6  $^{11}/_{4}$ .
- 5.10 Cheerleading: Keeping the problem balanced while using inverse operations is the part of the process that most students fail to maintain. Create a (or improve your previous) poem, song or cheer to encourage your classmates to consider keeping a problem balanced. Come on students think *High School Musical* or *Even Stevens Influenza*!

General Scoring Rubric:

- 0 No Response
- 1 Wrong response
- 2 Weak response
- 3 Showed understanding
- 4 Showed understanding and cited an example
- 5 Showed understanding, cited examples and communicated effectively enough to enable others to understand.

# 1.04a, 1.04b, 1.07

Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

During the next couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

#### Wayne County Schools 21<sup>st</sup> Century Instructional Lesson Plan Multiplying Fractions

NAME:				Su	bje	ct:	Math			
Date:				Gr	ade	Le	vel (s)	: 6		
Standards/Objective	es Add	ress	ed (NCSCOS)	)						
1.04a, 1.04b, 1.07 Analyze computational st problems by selecting str and paper and pencil	rategies ategies	; De and	scribe the effect using mental co	of c mpu	opera itatic	atior on, e	ns on siz estimatio	ze; D on, c	Develop flexibility in solvir alculators or computers,	ng
Essential Question(s	s) (In st	uder	t-friendly terms	;)						
During the next couple of fractions. During this tim denominator as a power a fraction when it is repre- order to compute then co are true, would you vote and have people learn the current thoughts and see	f weeks, ne you a of 10. S esented onvert th to elimi e skills n when,	you re to Stude as a ne de nate neces if an	will learn the m consider the fo ents and adults l decimal. Almos cimal back to a fractions and re sary to use the d how often you	iany Ilowi nave st all frac equir m? u cha	skill ing: a m calc tion e all (Exp ange	s ne All nuch culat to r frac plain	eeded to decimal easier tors com eport th ctions to - Keep ur mind)	wor s are time vert e an be o a da	k with and understand e fractions with the comm understanding the value fractions to decimals in swer. If all of these thing decimals or keep fraction ily diary to track your	non of gs s
Assess (Look at studen	t data to	o plar	n. Use formative	and	/or	sum	mative a	asses	ssments.)	
Examine student per	forma	nce	on multiplyin	g fr	acti	ions	s by wl	hole	e numbers.	
High Yield Instruction	onal St	rate	gies (check a	all t	hat	ар	ply to	the	lesson)	
Identifying similarities and differences	<ul> <li>✓ Reir</li> <li>prov</li> </ul>	iforcir /iding	ng effort and recognition	~	Nor rep	nling rese	uistic ntation	<b>√</b>	Setting objectives and providing feedback	
Questions, cues, and advance organizers Homework and practice	✓ Sum taki	nmari: ng	zing and note	✓	Coo lear	pera	ative J	✓	Generating and testing hypotheses	
Learner Diversity • How will you diffe	erentiate	e to r	neet the needs o	of all	lea	rner	s in you	r cla:	ss?	1
504 modifications ET a groups, and concrete r outcomes. Differentiat of lower and higher ab	nd RA. eprese ted ass ility gro	Ado ntati ignm oups	ditional studen ons will help t nents and prac	t ar o gu tice	nd te iide will	each all foc	ner moo student sus on r	delin ts to reme	g, paired learning reach expected ediation and enrichmer	nt
Engage (Anticipator) • Capture the stude Consider novelty,	y Set) ents' att meanin	entio g an	n, stimulate the d emotion.	ir th	inkiı	ng a	nd help	then	n access prior knowledge	•
To multiply fractions denominators and th teach you the "simpl	you n ien sim ify firs	eed nplify t" m	to multiply tl y. We will ex iethod.	ne r am	num ine	the	ators. e "Best	The Me	n multiply the thod" and then I will	
Instructional Practic	es Use	ed ir	this Lesson							
Coaching		~	Providing Dire	ctior	ns/	~	Learnii	ng Ce	enters	
Discussion		~	Providing opportunities f practice	or		✓	Teache Answe	er-dir rs	rected Questions and	~
Hands-on experiences Presentation		✓ ✓	Direct Instruct Testing	ion		$\checkmark$	Modeli Other:	ng Mat	h6.org	<ul> <li>✓</li> <li>✓</li> </ul>
			-							

Suggested brained-based learning	act	ivities promoting the ab	ove	Instructional Practices	
Think-Pair-Share	√	Instructional Games		Music/Rhyme/Rhythm/Rap	
Thinking Maps	√	Student Facilitators		Movement	
Technology Integration	✓	Storytelling		Humor	
Use of visuals	√	Field Trips(Virtual)		Project/Problem- Based Learning	
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics	
Peer/Self Assessment	~	Drawing or illustrating		Other:	
Writing/Reflecting/Journals	~	Simulations/Role Play		Other: Math6.org	~
Type(s) of Grouping Used: small group _✓_studen	t pa	irs _√_whole group	)	individual	
Explain, Explore, Elaborate Content Chunks: How will y Transitions should be used Involve students in an and Use reflective activities to Give students time to thin Give students the opportu apply it to a real-world sit	<b>OU</b> d ev alysi clar k, pl nity <u>uati</u>	divide and teach th ery 5-15 minutes to keep s of their explorations. rify and modify student u an, investigate and orga to expand and solidify t on.	e co p the unde anize heir	ontent? e students' brains engaged. erstanding. e collected information. r understanding of the concept and/or	
See next page for instructio	nal e)	detail.			
<ul> <li>Evaluate throughout the le</li> <li>Present students with a so</li> <li>What assessment(s) will be</li> </ul>	esso corir be u	n. Are students able to ng guide (such as a rubri sed to be sure the stude	ans ic) a nts a	wer the Essential Question(s)? t the beginning to self-assess. are successful?	
Write a "How To" paragraph one of the 3 methods that y method you are modeling.	n to vou	explain how to mul were shown today.	tipl Ma	y three fifths by two thirds usinate and the sure to identify which	ng
<ul> <li>Describe, Analyze, Reflect:</li> <li>How effective was the less understanding? Cite evide support your view.</li> <li>What caused the lesson to</li> <li>What did you do to contrib</li> <li>What learning did you take differently next time?</li> </ul>	son? ence go oute e fro	P How did the strategies of student work, perfor well? What challenges o to the lesson's effective om this lesson to apply to	help mar did y nes o fu	o the students deepen their nce, behaviors, and/or remarks to you encounter? s? ture lessons? What would you do	

Date:	Time Frame: 80 minutes
	Multiplying Fractions
Essential Question:	During the next couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)
Objective (s) Numbers: Outcomes:	<b>1.04a, 1.04b, 1.07</b> Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.
Materials: Anticipatory Set:	Textbook pages 210-215 Today we will learn about multiplying fractions.
	During the Lesson
Presentation of Information:	
Integration of Other Subjects:	Writing (how to) Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Integration of Technology:	Reading for information and interpretation. Computer, Projector, PowerPoint, Internet
Modeling:	To multiply fractions you need to multiply the numerators. Then multiply the denominators and then simplify. We will examine the "Best Method" and then I will teach you the "simplify first" method.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Demonstrate Best Method using $\{1/3 * 1/5 ; 3/8 * 2/9 \text{ and } 5/8 \text{ n when } n = 1/3\}$ Demonstrate the simplify first method using $\{3/4 * 4/5 ; 2/7 * 3/6 \text{ and } 4/5 * 6/15\}$
	After the Lesson
Independent Practice	Text page 214-215 {1–6, 10–18, 25–31 odd, 39–45} <b>AIG</b> : {2–18 even, 19–45} Assign workbook page 5.1
Closure / Assessment:	Write a "How To" paragraph to explain how to multiply three fifths by two thirds using one of the 3 methods that you were shown today. Make sure to identify which method you are modeling.
Integration with School-wide Foc	us: Improve mathematics computation and problem solving.
Related Math6.org Activities:	There are <b>9</b> activities connected with this lesson

Multiplying Fractions Lesson Multiply Fractions GP Standard Style GP Simplify First Guided Practice \*\*Measuring Madness

# 1.04a, 1.04b, 1.07

Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

During the next couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

#### Wayne County Schools 21<sup>st</sup> Century Instructional Lesson Plan Multiplying Mixed Numbers

NAME:			Su	bject:	Math				
Date:			Gra	ade Le	evel (s)	: 6			
Standards/Objectives A	ddress	ed (NCSCOS)	)						
1.04a, 1.04b, 1.07									
Analyze computational strate	gies; Des	scribe the effect	of c	peratio	ns on siz	ze; D	Develop flexibility in so	olvin	ıg
problems by selecting strateg	jies and i	using mental co	mpu	tation,	estimati	on, c	alculators or compute	ers,	
Essential Question(s) (	n studen	t friandly tarma							
During the next couple of we		will learn the m	9 Jany	skills n	oodod to		k with and understan	d	
fractions. During this time ve	ou are to	consider the fo	llowi	ina: All	decimal	ls are	e fractions with the co	omm	on
denominator as a power of 1	0. Stude	nts and adults	have	a mucl	n easier	time	understanding the va	alue	of
a fraction when it is represen	ted as a	decimal. Almos	st all	calcula	tors con	vert	fractions to decimals	in	
order to compute then conve	rt the de	cimal back to a	frac	tion to r	eport th	ie an	swer. If all of these t	hing	js
are true, would you vote to e	liminate	fractions and re	quir	e all fra	ctions to	b be	decimals or keep frac	tions	S
and have people learn the sk	IIIS Neces	sary to use the	m?	(Explair	1 - Keep	a da	ally diary to track your	-	
Assess (Look at student dat	ta to plan	Use formative	and	/or sum	ur minu, mative	) asse	ssments )		
			una		mative	4330	Sillents.y		
Examine student perform	mance	on multiplyin	g fr	action	S.				
High Yield Instructional	Strate	gies (check a	all t	hat ap	ply to	the	lesson)		
				•					
and differences	Reinforcir	recognition	•	Nonling	JUISTIC	ř	and providing	×	
	providing	recognition		represe			feedback		
Questions, cues, and 🗸	Summariz	zing and note	~	Cooper	ative	~	Generating and		
advance organizers	taking			learnin	g		testing hypotheses		
Learner Diversity	tiata ta m	a a a t tha maada	ef all	loormo					
How will you differen	tiate to n	neet the needs of	or an	learnei	is in you	r cia	55?		
504 modifications ET and		litional studon	t an	d toad	hor mo	dolin	a paired learning		
arouns and concrete repr	osontati	ons will boln t		iido all	studon	te to	reach expected		
outcomes Differentiated	assianm	ents and prac	tice	will for			diation and enrichr	non	t
of lower and higher ability	arouns		ncc	will for		CIIIC		nen	L
	groups								
Engage (Anticipatory Se	et)								
Capture the students     Consider povelty me	attentio	n, stimulate the	ir th	inking a	and help	ther	n access prior knowle	dge.	
	annig and								
Share the Best in Class	from ye	esterday's pa	rag	raphs.	Toda	y we	e will learn about		
multiplying fractions and	d mixed	l numbers.							
Instructional Practices	Used in	this Lesson							
Cosching	<u> </u>	Droviding Diro	otion		Loorni	na C	ontore		<u>г т</u>
Coaching	·	Instructions	ction	157	Learni	ng c	enters		
Discussion	✓	Providing		~	Teache	er-di	rected Questions and		
		opportunities f	for		Answe	ers			<ul> <li>✓</li> </ul>
Hands-on experiences	✓	practice	ion		Modeli	na			$\checkmark$
Presentation	· · · · · · · · · · · · · · · · · · ·	Testing			Other:	Mat	h6.org		✓
		5			1		5		

Suggested brained-based learning	act	ivities promoting the ab	ove	Instructional Practices	
Think-Pair-Share	√	Instructional Games		Music/Rhyme/Rhythm/Rap	
Thinking Maps	✓	Student Facilitators		Movement	
Technology Integration	✓	Storytelling		Humor	
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning	
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics	
Peer/Self Assessment	~	Drawing or illustrating	~	Other:	
Writing/Reflecting/Journals	~	Simulations/Role Play		Other: Math6.org	$\checkmark$
Type(s) of Grouping Used: small groupstuden	t pa	irs _√_whole grou	)	_✓_individual	
Explain, Explore, Elaborate Content Chunks: How will y Transitions should be used Involve students in an and Use reflective activities to Give students time to thin Give students the opportu apply it to a real-world sit	OU d eve alysi clar k, pl nity uati	divide and teach thery 5-15 minutes to keeps of their explorations. Fify and modify student to an, investigate and orgato to expand and solidify toon.	e c o the unde anize heir	ontent? e students' brains engaged. erstanding. e collected information. r understanding of the concept and/or	
See next page for instructio	nal e)	detail.			
<ul> <li>Evaluate throughout the left</li> <li>Present students with a so</li> <li>What assessment(s) will b</li> </ul>	esso orir oe us	n. Are students able to ng guide (such as a rubri sed to be sure the stude	ans ic) a nts a	wer the Essential Question(s)? t the beginning to self-assess. are successful?	
Multiplying mixed numbers Create a poster to remind y improper fractions before ye	is e our ou r	easy - but not as eas peers that you mus multiply.	sy a st c	as some students try to make i convert mixed numbers into	t.
<ul> <li>Describe, Analyze, Reflect:</li> <li>How effective was the less understanding? Cite evide support your view.</li> <li>What caused the lesson to</li> <li>What did you do to contrib</li> <li>What learning did you tak differently next time?</li> </ul>	son? ence go oute e fro	How did the strategies of student work, perfor well? What challenges to the lesson's effective om this lesson to apply t	help mar did y enes o fu	o the students deepen their nce, behaviors, and/or remarks to you encounter? s? ture lessons? What would you do	

Date:	Time Frame: 80 minutes
	Multiplying Mixed Numbers
Essential Question:	During the next couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)
Objective (s) Numbers: Outcomes:	<b>1.04a, 1.04b, 1.07</b> Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.
Materials:	Textbook pages 216-219
Anticipatory Set:	Today we will learn about multiplying fractions and mixed numbers.
Presentation of Information:	
Integration of Other Subjects:	Writing (presentation/display)
Integration of Reading:	Reading (vocabulary, problem solving, analyzing expectation)
Integration of Technology:	Computer, Projector, PowerPoint, Internet
Modeling:	Multiplying Mixed Numbers is not as easy as it looks. You must turn each factor into an improper fraction before you multiply.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Demonstrate Multiplying Mixed Numbers using {2 1/2 * 1 1/3 ; 1 1/4 * 3 4/5 ; 3/4 * 2 1/3 ; 5 * 3 2/11}
	After the Lesson
Independent Practice	Text page 218-219 {1–24, 37–42, 52–55} <b>AIG</b> : {22–55} Assign workbook page 5.2
Closure / Assessment:	Multiplying mixed numbers is easy - but not as easy as some students try to make it. Create a poster to remind your peers that you must convert mixed numbers into improper fractions before you multiply.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities:	There are 8 activities connected with this lesson
Improper Fractions Guided Practice	
Multiplying Mixed Numbers Lesson	
Multiply Mixed Numbers Guided Practice	
**Area and Perimeter	

# 1.04a, 1.04b, 1.07

Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

During the next couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

#### Wayne County Schools 21<sup>st</sup> Century Instructional Lesson Plan Dividing Fractions and Mixed Numbers

NAME:		Subj	ect: Math			
Date:		Grad	de Level (s	): 6		
Standards/Objectives Addr	essed (NCSCOS)					
1.04a, 1.04b, 1.07 Analyze computational strategies problems by selecting strategies a and paper and pencil.	Describe the effect and using mental co	of ope mputa	erations on si tion, estimat	ize; D ion, c	evelop flexibility in solvir alculators or computers,	ng
Essential Question(s) (In st	udent-friendly terms	)				
During the next couple of weeks, fractions. During this time you at denominator as a power of 10. S a fraction when it is represented a order to compute then convert th are true, would you vote to elimin and have people learn the skills n current thoughts and see when, it	you will learn the m re to consider the fol tudents and adults h as a decimal. Almos e decimal back to a hate fractions and re ecessary to use ther f and how often you	any sk llowing nave a st all ca fractio quire a m? (E: u chang	kills needed to g: All decima much easier alculators cor on to report to all fractions t xplain - Keep ge your mind	o wor als are time nvert he an o be o o a da	k with and understand e fractions with the comm understanding the value fractions to decimals in swer. If all of these thing decimals or keep fraction ily diary to track your	non of gs s
Assess (Look at student data to	plan. Use formative	and/o	or summative	asse	ssments.)	
Examine student performar	nce on multiplyin	g frac	ctions and	mixe	ed numbers.	
High Yield Instructional Str	ategies (check a	all tha	at apply to	the	lesson)	
Identifying similarities and differences Rein prov	forcing effort and iding recognition	✓ N re	Ionlinguistic epresentation	~	Setting objectives ✓ and providing feedback	
Questions, cues, and advance organizers✓Sum takinHomework and practice✓	marizing and note g	✓ C	Cooperative earning	✓ 	Generating and testing hypotheses	
Learner Diversity <ul> <li>How will you differentiate</li> </ul>	to meet the needs o	of all le	earners in you	ur cla	ss?	
504 modifications ET and RA. groups, and concrete represer outcomes. Differentiated assi of lower and higher ability gro	Additional studen ntations will help to gnments and practures.	t and o guid tice w	teacher mo le all studer vill focus on	delin its to reme	g, paired learning reach expected ediation and enrichmen	ıt
Engage (Anticipatory Set) <ul> <li>Capture the students' attended</li> <li>Consider novelty, meaning</li> </ul>	ention, stimulate the g and emotion.	ir thinl	king and help	then	n access prior knowledge	•
Share the Posters from yes out!" Today we learn how	terday's lesson. to divide fractior	" <b>Dor</b> ns and	<b>ז't let divi</b> d mixed חנ	<b>ding</b> umbe	<b>g fractions flip you</b> ers.	
Instructional Practices Use	d in this Lesson					
Coaching	<ul> <li>✓ Providing Direct</li> <li>Instructions</li> </ul>	ctions/	∕	ing Ce	enters	
Discussion	<ul> <li>Providing opportunities f practice</li> </ul>	or	<ul><li>✓ Teach</li><li>Answei</li></ul>	er-dii ers	rected Questions and	~
Hands-on experiences	✓ Direct Instruct	ion	✓ Model	ing		✓
Presentation	* Testing		Other:	Mat	h6.org	✓

Suggested brained-based learning	act	ivities promoting the ab	ove	Instructional Practices	
Think-Pair-Share	√	Instructional Games		Music/Rhyme/Rhythm/Rap	
Thinking Maps	√	Student Facilitators		Movement	
Technology Integration	✓	Storytelling		Humor	
Use of visuals	√	Field Trips(Virtual)		Project/Problem- Based Learning	
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics	
Peer/Self Assessment	~	Drawing or illustrating		Other:	
Writing/Reflecting/Journals	~	Simulations/Role Play		Other: Math6.org	~
Type(s) of Grouping Used: small group _✓_studen	t pa	irs _✓_whole group	)	_√_individual	
Explain, Explore, Elaborate Content Chunks: How will y Transitions should be used Involve students in an ana Use reflective activities to Give students time to thin Give students the opportu apply it to a real-world sit	d ev alysi clar k, pl nity uati	divide and teach th ery 5-15 minutes to keep s of their explorations. rify and modify student u lan, investigate and orga to expand and solidify t on.	e c o the unde inize heir	ontent? e students' brains engaged. erstanding. e collected information. r understanding of the concept and/or	-
See next page for instruction	nal	detail.			
<ul> <li>Evaluate (Feedback/Closur</li> <li>Evaluate throughout the le</li> <li>Present students with a se</li> <li>What assessment(s) will be</li> </ul>	e) esso corir be u:	n. Are students able to ng guide (such as a rubri sed to be sure the stude	ans c) a nts a	wer the Essential Question(s)? t the beginning to self-assess. are successful?	
Create a flow map (with exa	amp	oles) to show the st	eps	required to "divide" fractions.	
<ul> <li>Describe, Analyze, Reflect:</li> <li>How effective was the less understanding? Cite evide support your view.</li> <li>What caused the lesson to</li> <li>What did you do to contril</li> <li>What learning did you tak differently next time?</li> </ul>	son? ence go oute e fro	P How did the strategies of student work, perfor well? What challenges o to the lesson's effective om this lesson to apply to	helµ mar did y nes o fu	o the students deepen their nce, behaviors, and/or remarks to you encounter? s? ture lessons? What would you do	

Date:	Time Frame: 80 minutes
	Dividing Fractions and Mixed Numbers
Essential Question:	During the couple of weeks, you will learn the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)
Objective (s) Numbers: Outcomes:	<b>1.04a, 1.04b, 1.07</b> Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.
Materials:	Textbook pages 222-225
Anticipatory Set:	Today we learn how to divide fractions and mixed numbers.
	During the Lesson
Presentation of Information: Integration of Other Subjects:	Writing (sequencing) Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Integration of Technology:	Reading for information and interpretation. Computer, Projector, PowerPoint, Internet
Modeling:	The only way to divide fractions is to multiply by the reciprocal. We will learn to create reciprocals then practice multiplying by the reciprocal.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Model creating reciprocals {1/5 ; 3/4 ; 2 1/3} Model dividing fractions {4/5 $\div$ 2/3 ; 3/8 $\div$ 3 ; 1 3/7 $\div$ 7/10 ; 2 2/3 $\div$ 3 5/6 }
	After the Lesson
Independent Practice	Text page 224-225 {1-4, 11-18, 43, 45, 49, 60-64} AIG: {11-18, 43-45, 48-50, 60-64} Assign workbook page 5.3
Closure / Assessment:	Create a flow map (with examples) to show the steps required to "divide" fractions.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are 10 activities connected with this lesson Improper Fractions GP Dividing Fractions GP Dividing Mixed Numbers Lesson Dividing Mixed Numbers GP \*\*Splitting the Treasures

# **5.02** Use and evaluate algebraic expressions.

About a month ago, you spent several days learning to solve equations with Whole Numbers, later you learned to solve equations with decimals. Now, you have spent another day learning to solve equations with Fractions and Mixed Numbers. If your teacher had waited for you to master Computation with Fractions to teach Equations, you could have saved 2 or more days of instruction. Do you still support your teacher's decision to break this skill into 7 lessons or do you think she should have combined these and saved the day to teach you something else? (Explain)

Wayne County Schools 21<sup>st</sup> Century Instructional Lesson Plan **Solving Fraction Equations: Multiplication and Division** 

NAME: Date:

Subject: Math Grade Level (s): 6

#### Standards/Objectives Addressed (NCSCOS)

5.02

Use and evaluate algebraic expressions.

#### Essential Question(s) (In student-friendly terms)

About a month ago, you spent several days learning to solve equations with Whole Numbers, later you learned to solve equations with decimals. Now, you have spent another day learning to solve equations with Fractions and Mixed Numbers. If your teacher had waited for you to master Computation with Fractions to teach Equations, you could have saved 2 or more days of instruction. Do you still support your teacher's decision to break this skill into 7 lessons or do you think she should have combined these and saved the day to teach you something else? (Explain)

Assess (Look at student data to plan. Use formative and/or summative assessments.)

Examine student performance on multiplying and dividing fractions and mixed numbers.

#### High Yield Instructional Strategies (check all that apply to the lesson)

Identifying similarities and differences	✓	Reinforcing effort and providing recognition	~	Nonlinguistic representation	~	Setting objectives and providing feedback	~
Questions, cues, and advance organizers	~	Summarizing and note taking	~	Cooperative learning	~	Generating and testing hypotheses	
Homework and practice	✓						

#### Learner Diversity

How will you differentiate to meet the needs of all learners in your class?

504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.

#### Engage (Anticipatory Set)

Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion.

Fraction equations involving multiplication and division is all about the reciprocal! Multiply both sides of the equation by the reciprocal of the fractional portion of the variable.

Instructional Practices Used in this Lesson									
Coaching	~	Providing Directions/ Instructions	~	Learning Centers					
Discussion	~	Providing opportunities for practice	~	Teacher-directed Questions and Answers	~				
Hands-on experiences	~	Direct Instruction	✓	Modeling	✓				
Presentation	~	Testing		Other: Math6.org	~				

Suggested brained-based learning activities promoting the above Instructional Practices							
Think-Pair-Share	✓	Instructional Games		Music/Rhyme/Rhythm/Rap			
Thinking Maps	✓	Student Facilitators		Movement			
Technology Integration	✓	Storytelling		Humor			
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning			
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics			
Peer/Self Assessment	~	Drawing or illustrating		Other:			
Writing/Reflecting/Journals	~	Simulations/Role Play		Other: Math6.org	~		
Type(s) of Grouping Used:        small group      student pairs        whole group      individual							
<ul> <li>Explain, Explore, Elaborate</li> <li>Content Chunks: How will you divide and teach the content?</li> <li>Transitions should be used every 5-15 minutes to keep the students' brains engaged.</li> <li>Involve students in an analysis of their explorations.</li> <li>Use reflective activities to clarify and modify student understanding.</li> <li>Give students time to think, plan, investigate and organize collected information.</li> <li>Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.</li> </ul>							
See next page for instructio	nal	detail.					
<ul> <li>Evaluate (Feedback/Closur</li> <li>Evaluate throughout the le</li> <li>Present students with a se</li> <li>What assessment(s) will be</li> </ul>	<ul> <li>Evaluate (Feedback/Closure)</li> <li>Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?</li> <li>Present students with a scoring guide (such as a rubric) at the beginning to self-assess.</li> <li>What assessment(s) will be used to be sure the students are successful?</li> </ul>						
Use this time to respond to	the	essential question.					
<ul> <li>Describe, Analyze, Reflect: <ul> <li>How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.</li> <li>What caused the lesson to go well? What challenges did you encounter?</li> <li>What did you do to contribute to the lesson's effectiveness?</li> </ul> </li> <li>What learning did you take from this lesson to apply to future lessons? What would you do differently next time?</li> </ul>							

Time Frame: 80 minutes
Solving Fraction Equations: Multiplication and Division
About a month ago, you spent several days learning to solve equations with Whole Numbers, later you learned to solve equations with decimals. Now, you have spent another day learning to solve equations with Fractions and Mixed Numbers. If your teacher had waited for you to master Computation with Fractions to teach Equations, you could have saved 2 or more days of instruction. Do you still support your teacher's decision to break this skill into 7 lessons or do you think she should have combined these and saved the day to teach you something else? (Explain)
<b>5.02</b> Use and evaluate algebraic expressions.
Textbook pages 226-231
Fraction equations involving multiplication and division is all about the reciprocal! Multiply both sides of the equation by the reciprocal of the fractional portion of the variable.
During the Lesson
cts:
Reading (vocabulary, problem solving, analyzing expectation) Reading for information and interpretation. Computer, Projector, PowerPoint, Internet
Fraction equations involving multiplication and division is all about the reciprocal! Multiply <b>both</b> sides of the equation by the reciprocal of the fractional portion of the variable.
504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Model solving the following fraction equations. $\{2/3 n = 14; 2n = 1/3; 5n/6 = 4\}$
After the Lesson
Text page 228-229 {1–16, 22–25, 33–45} AIG: {13-45} Assign workbook page 5.4
No Entry - Use this time to make a final product for journal entry 5.2 or 5.3

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are 9 activities connected with this lesson Equations with Fractions Lesson Equations with Mixed Numbers Lesson Equations with Mixed Numbers Guided Practice \*\*AR Points

### 1.05

# Develop fluency in the use of factors, multiples, exponential notation, and prime factorization.

Over the next five lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

#### Wayne County Schools 21<sup>st</sup> Century Instructional Lesson Plan Least Common Multiple (LCM & LCD)

NAME: Subject: Math Grade Level (s): 6 Date: Standards/Objectives Addressed (NCSCOS) 1.05 Develop fluency in the use of factors, multiples, exponential notation, and prime factorization. Essential Question(s) (In student-friendly terms) Over the next five lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind) Assess (Look at student data to plan. Use formative and/or summative assessments.) Review student performance on GCF and Prime Factorization. High Yield Instructional Strategies (check all that apply to the lesson) Identifying similarities Reinforcing effort and Nonlinguistic Setting objectives and differences providing recognition representation and providing feedback Summarizing and note Cooperative Generating and Questions, cues, and testing hypotheses advance organizers learning taking Homework and practice Learner Diversity How will you differentiate to meet the needs of all learners in your class? 504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups. Engage (Anticipatory Set) Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion. Today we will learn how to discover the least common multiple of a data set. Instructional Practices Used in this Lesson Coaching Providing Directions/ Learning Centers Instructions Discussion ~ ~ **Teacher-directed Questions and** Providing opportunities for Answers practice **Direct Instruction** Hands-on experiences 1 1 Modeling ~ 1 Presentation Testing Other: Math6.org

Suggested brained-based learning activities promoting the above Instructional Practices							
Think-Pair-Share	✓	Instructional Games		Music/Rhyme/Rhythm/Rap			
Thinking Maps	✓	Student Facilitators		Movement			
Technology Integration	✓	Storytelling		Humor			
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning	_		
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics			
Peer/Self Assessment	✓	Drawing or illustrating		Other:			
Writing/Reflecting/Journals	~	Simulations/Role Play		Other: Math6.org	~		
Type(s) of Grouping Used:        small group       _✓_student pairs       _✓_whole group       _✓_individual							
<ul> <li>Explain, Explore, Elaborate</li> <li>Content Chunks: How will you divide and teach the content?</li> <li>Transitions should be used every 5-15 minutes to keep the students' brains engaged.</li> <li>Involve students in an analysis of their explorations.</li> <li>Use reflective activities to clarify and modify student understanding.</li> <li>Give students time to think, plan, investigate and organize collected information.</li> <li>Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.</li> </ul>							
See next page for instructio	nal	detail.					
<ul> <li>Evaluate (Feedback/Closur</li> <li>Evaluate throughout the le</li> <li>Present students with a so</li> <li>What assessment(s) will be</li> </ul>	e) esso corir e us	n. Are students able to ng guide (such as a rubri sed to be sure the stude	ansv ic) a nts a	wer the Essential Question(s)? t the beginning to self-assess. are successful?			
Create a double bubble map factorization method for find convince your peers that yo	o to ding ur 1	compare and contr g LCM. Write a "per favorite method is t	ast sua he	the list method with the prime asion" paragraph to try to best.	è		
<ul> <li>Describe, Analyze, Reflect: <ul> <li>How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.</li> <li>What caused the lesson to go well? What challenges did you encounter?</li> <li>What did you do to contribute to the lesson's effectiveness?</li> </ul> </li> <li>What learning did you take from this lesson to apply to future lessons? What would you do do differenties neutring?</li> </ul>							

Date:	Time Frame: 80 minutes
	Least Common Multiple (LCM & LCD)
Essential Question:	Over the next five lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)
Objective (s) Numbers: Outcomes:	<b>1.05</b> Develop fluency in the use of factors, multiples, exponential notation, and prime factorization.
Materials:	Textbook pages 236-239
Anticipatory Set:	Today we will learn how to discover the least common multiple of a data set.
	During the Lesson
Presentation of Information: Integration of Other Subjects: Integration of Reading: Integration of Technology:	Writing (compare/contrast) Reading (vocabulary, problem solving, analyzing expectation) Reading for information and interpretation. Computer, Projector, PowerPoint, Internet
Modeling:	The two ways to find LCM are the list method and prime factorization. We will study both methods today so that you can discover which method that you prefer.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	<b>List Method</b> : List the first 6 multiples for each term to find the LCM. {3, 5 and 6 ; 9, 12, 15} <b>Prime Factorization</b> : Use the Prime Factorization Method to find the LCM. {3, 5 and 6 ; 9, 12, 15 ; 12, 10 and 15 ; 2, 4, 5 and 6}
	After the Lesson
Independent Practice	Text page 234-235 {1, 14, 34, 38–48} AIG: {1, 14, 34–35, 38–48} Assign workbook page 5.5
Closure / Assessment:	Create a double bubble map to compare and contrast the list method with the prime factorization method for finding LCM. Write a "persuasion" paragraph to try to convince your peers that your favorite method is the best.
Integration with School-wide For	cus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are 7 activities connected with this lesson LCM Guided Practice \*\*When will it Happen?

# 1.01c, 1.04c, 1.07

Make estimates in appropriate situations; Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Over the next four lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

#### Wayne County Schools 21<sup>st</sup> Century Instructional Lesson Plan Estimating Fraction Sums and Differences

NAME:	Subject: Math										
Date:	ate: Grade Level (s): 6										
Standards/Objectives Addressed (NCSCOS)											
1.01c, 1.04c, 1.07											
Make estimates in appropriate situations; Estimate the results of computations; Develop											
flexibility in solving pr	oble	ems by s	electing strate	egies	s and	l us	sing me	ental	computation,		
estimation, calculator	s or	compute	ers, and paper	and	d pen	ncil					
Essential Question(	<u>s) (</u>	In studen	t-friendly terms	5)				• -			
Over the next four lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when if and how often you change your mind).											
Assess (Look at studer	nt da	ita to plan	. Use formative	and	l/or s	um	mative	asse	ssments.)		
Review student perf	form	nance or	n converting	frac	ction	s t	o deci	mal	S.		
High Yield Instructi	ona	I Strate	gies (check a	all t	hat a	apj	ply to	the	lesson)		
Identifying similarities	✓	Reinforcin	g effort and	~	Nonl	ling	uistic	~	Setting objectives	✓	
and differences		providing	recognition		repre	esei	ntation		and providing		l
Questions, cues, and	✓	Summariz	ing and note	~	Coop	bera	ative	✓	Generating and		1
advance organizers		taking	5		learr	ning	1		testing hypotheses		1
Homework and practice	~										L
Learner Diversity • How will you dif	ferer	ntiate to n	neet the needs	of al	l learr	ner	s in you	r cla	ss?		
504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.											
Engage (Anticipator • Capture the students	ry S lents	et) s' attentio	n, stimulate the	eir th	ninkin	g a	nd help	then	n access prior knowle	edge.	
Consider novelty	/, me	eaning and	emotion.								
Today we will learn how to estimate fraction sums and differences.											
Instructional Practi	ces	Used in	this Lesson								
Coaching		~	' Providing Directions/ ' Learning Centers         Instructions								
Discussion		~	Providing opportunities f practice	for		~	Teache Answe	er-dii rs	rected Questions and		~
Hands-on experiences		✓	Direct Instruct	tion	on 🗸 Modeling				✓		
Presentation		$\checkmark$	Testing				Other:	Mat	h6.org		$\checkmark$

Suggested brained-based learning activities promoting the above Instructional Practices							
Think-Pair-Share	√	Instructional Games		Music/Rhyme/Rhythm/Rap			
Thinking Maps	✓	Student Facilitators		Movement			
Technology Integration	✓	Storytelling		Humor			
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning	_		
Metaphor/Simile/Analogy	,	Reciprocal Teaching	~	Mnemonics			
Peer/Self Assessment	✓	Drawing or illustrating		Other:			
Writing/Reflecting/Journals	~	Simulations/Role Play		Other: Math6.org	~		
Type(s) of Grouping Used:        small group      student pairs      whole group      individual							
<ul> <li>Explain, Explore, Elaborate</li> <li>Content Chunks: How will you divide and teach the content?</li> <li>Transitions should be used every 5-15 minutes to keep the students' brains engaged.</li> <li>Involve students in an analysis of their explorations.</li> <li>Use reflective activities to clarify and modify student understanding.</li> <li>Give students time to think, plan, investigate and organize collected information.</li> <li>Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.</li> </ul>							
See next page for instructio	nal	detail.					
<ul> <li>Evaluate (Feedback/Closur</li> <li>Evaluate throughout the left</li> <li>Present students with a so</li> <li>What assessment(s) will be</li> </ul>	e) esso corir oe us	n. Are students able to ng guide (such as a rubri sed to be sure the stude	ans ic) a nts a	wer the Essential Question(s)? t the beginning to self-assess. are successful?			
Create 2 models using prob to show the "rounded" versi	lerr on	ns 25 and 28 from to in a clear manner.	ext	pages 238 and 239. Make su	re		
<ul> <li>Describe, Analyze, Reflect: <ul> <li>How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.</li> <li>What caused the lesson to go well? What challenges did you encounter?</li> <li>What did you do to contribute to the lesson's effectiveness?</li> </ul> </li> <li>What learning did you take from this lesson to apply to future lessons? What would you do differently next time?</li> </ul>							

Date:	Time Frame: 80 minutes
	Estimating Fraction Sums and Differences
Essential Question:	Over the next four lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)
Objective (s) Numbers: Outcomes:	<b>1.01c, 1.04c, 1.07</b> Make estimates in appropriate situations; Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.
Materials:	Textbook pages 240-245; Reteaching 5.6
Anticipatory Set:	Today we will learn how to estimate fraction sums and differences.
	During the Lesson
Presentation of Information: Integration of Other Subjects: Integration of Reading: Integration of Technology:	Writing (sequencing) Reading (vocabulary, problem solving, analyzing expectation) Reading for information and interpretation. Computer, Projector, PowerPoint, Internet
Modeling:	Estimating Fraction Sums and Differences involves rounding each term to 0, 1/2 or 1. We will use a reteaching page for today's lesson so that you can easily see how this works and is done.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Use reteaching 5.6 as the guided practice so that the students will be encouraged to display the estimation process.
	After the Lesson
Independent Practice	Text page 238-239 {1–13, 20–22, 26–29, 33–42} AIG: {13-42} Assign workbook page 5.6
Closure / Assessment:	Create 2 models using problems 25 and 28 from text pages 238 and 239. Make sure to show the "rounded" version in a clear manner.
Integration with School-wide For	us: Improve mathematics computation and problem solving.
Related Math6.org Activities:	There are <b>6</b> activities connected with this lesson

Estimation Guided Practice \*\*EOG Estimation

Name	Date	Class



Use the number line to round each fraction to  $0, \frac{1}{2}$ , or 1 to estimate each sum or difference.



Use the number line to round each fraction to  $0, \frac{1}{2}$ , or 1 to estimate each sum or difference.



# 1.04a, 1.04b, 1.07

Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Over the next three lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)
Wayne County Schools 21<sup>st</sup> Century Instructional Lesson Plan Adding and Subtracting with Unlike Denominators

NAME:					Subject: Math								
Date:	Grade Level (s): 6												
Standards/Objectiv	es l	Address	ed (NCSCOS)	)									
1.01c, 1.04c, 1.07													
Make estimates in ap	prop	riate situ	uations; Estima	ate tl	he resi	ults of c	com	putations; Develop					
flexibility in solving p	roble	ems by s	electing strate	gies	and us	sing me	enta	computation,					
estimation, calculator	estimation, calculators or computers, and paper and pencil.												
Essential Question(s) (In student-friendly terms)													
Over the next three lessons, you will finish learning the many skills needed to work with and understand													
fractions. During this time you are to consider the following: All decimals are fractions with the common													
denominator as a power of 10. Students and adults have a much easier time understanding the value of													
a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in													
order to compute then convert the decimal back to a fraction to report the answer. If all of these things													
are true, would you vote	e to	eliminate	fractions and re	quire	all frac	ctions to	be	decimals or keep fractio	ns				
and have people learn t	he sl	kills neces	sary to use the	m? (I	Explain	- Keep	a da	ily diary to track your					
current thoughts and se	e wr	nen, if an	d how often you	i char	nge you	<u>ir mind)</u>							
Assess (Look at stude	nt da	ita to plar	n. Use formative	and/	or sum	mative a	asse	ssments.)					
Review student con	npet	ence re	garding prim	e fac	ctoring	g and a	isse	essment of how to w	/rite				
1 as a fraction.													
High Yield Instruct	iona	I Strate	gies (check a	all th	at ap	ply to t	the	lesson)					
	1	Deinfensi	a offent and		Newline	ulatia.	1						
and differences	•	Reinforcir	recognition	•	roproso	uistic	•	and providing					
		providing	recognition	representation				feedback					
Questions, cues, and	✓	Summari	zing and note	✓	✓ Cooperative			Generating and					
advance organizers		taking	0		learning	1		testing hypotheses					
Homework and practice	~												
Learner Diversity													
How will you dif	ferei	ntiate to r	neet the needs o	of all I	learner	s in you	r cla	ss?					
504 modifications ET	and	RA. Add	ditional studen	t and	teach	ner mod	lelin	a, paired learning					
groups, and concrete	rep	resentati	ons will help to	o aui	de all s	student	s to	reach expected					
outcomes Differentia	ated	assignm	ents and prac	tice \	will foc	us on r	eme	ediation and enrichme	ent				
of lower and higher a	hility				100		onne						
		y groups	•										
Engage (Anticipato	ry S	et)											
Capture the stud	dents	s' attentio	n, stimulate the	ir thi	nking a	nd help	then	n access prior knowledg	e.				
Consider novelty	y, me	eaning an	d emotion.										
Today we will learn	to a	add and	subtract frac	tion	s with	unlike	e de	nominators.					
Instructional Pract	ices	Used in	this Lesson										
Coaching		✓	Providing Direct	ctions	s/ V	Learnir	ng Ce	enters					
			Instructions										
Discussion		$\checkmark$	Providing		$\checkmark$	Teache	er-dii	rected Questions and					
			opportunities f	or		Answei	rs		~				
Handa on ovnationate			practice	ion		Model			1				
Presentation		· · · · · · · · · · · · · · · · · · ·		1011		Other	Mat	h6 ora	· ✓				
FIESCILLATION			resting			oner.	ivial	no.org					

Suggested brained-based learning	act	ivities promoting the ab	ove	Instructional Practices					
Think-Pair-Share	✓	Instructional Games		Music/Rhyme/Rhythm/Rap					
Thinking Maps	✓	Student Facilitators		Movement					
Technology Integration	✓	Storytelling		Humor					
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning					
Metaphor/Simile/Analogy		Reciprocal Teaching	V	Mnemonics					
Peer/Self Assessment	✓ ✓	Drawing or illustrating	~	Other:					
Writing/Reflecting/Journals	v	Simulations/Role Play		Other: Math6.org	Ý				
Type(s) of Grouping Used: small group _✓_student pairs _✓_whole group _✓_individual									
<ul> <li>Explain, Explore, Elaborate</li> <li>Content Chunks: How will you divide and teach the content?</li> <li>Transitions should be used every 5-15 minutes to keep the students' brains engaged.</li> <li>Involve students in an analysis of their explorations.</li> <li>Use reflective activities to clarify and modify student understanding.</li> <li>Give students time to think, plan, investigate and organize collected information.</li> <li>Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.</li> </ul>									
See next page for instruction	nal	detail.							
<ul> <li>Evaluate (Feedback/Closure</li> <li>Evaluate throughout the le</li> <li>Present students with a sc</li> <li>What assessment(s) will b</li> </ul>	e) esso orir e us	n. Are students able to ng guide (such as a rubri sed to be sure the stude	ansv ic) a nts a	wer the Essential Question(s)? t the beginning to self-assess. are successful?					
Create a demonstration (usi three sevenths.	ng	fraction strips) to n	nod	el the addition of four fifths an	id				
<ul> <li>Describe, Analyze, Reflect:</li> <li>How effective was the less understanding? Cite evide support your view.</li> <li>What caused the lesson to</li> <li>What did you do to contrib</li> <li>What learning did you take differently next time?</li> </ul>	son? ence go oute e fro	How did the strategies of student work, perfor well? What challenges to the lesson's effective om this lesson to apply t	help mar did y enes o fu	o the students deepen their nce, behaviors, and/or remarks to you encounter? s? ture lessons? What would you do					

Date:	Time Frame: 80 minutes
	Adding and Subtracting with Unlike Denominators
Essential Question:	Over the next three lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)
Objective (s) Numbers: Outcomes:	<b>1.04a, 1.04b, 1.07</b> Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.
Materials: Anticipatory Set:	Textbook pages 242-245 Today we will learn to add and subtract fractions with unlike denominators.
	During the Lesson
Presentation of Information: Integration of Other Subjects: Integration of Reading: Integration of Technology:	Writing (How To) Reading (vocabulary, problem solving, analyzing expectation) Reading for information and interpretation. Computer, Projector, PowerPoint, Internet
Modeling:	There are 3 ways to easily add or subtract fractions with unlike denominators. We will examine the Across Up Up method, the LCD method and the Mental Math (Easy LCD) method. You will want to use and master all three methods to make your fraction life much easier.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Use a 4x4. Model Across Up Up solutions for $\{9/10 - 7/8; 3/4 + 4/7; 2/3 - 5/9\}$ Use a 4x4. LCD solutions for $\{3/4 + 1/6; 7/8 - 3/10; 1/2 + 2/3\}$ Use a 4x4. Easy LCD solutions for $\{5/12 - 1/6; 3/8 + 3/4; 5/7 - 2/21\}$
	After the Lesson
Independent Practice	Text page 244-245 {1–15, 17–29 odd, 36, 38–39, 44–49} <b>AIG</b> : {19–49} Assign workbook page 5.7
Closure / Assessment:	Create a demonstration (using fraction strips) to model the addition of four fifths and three sevenths.
Integration with School-wide Foo Related Math6.org Activities: Adding Fractions Lesson Adding Fractions GP Across, Up, Up GP Easy LCD GP Like Denominators GP	cus: Improve mathematics computation and problem solving. There are <b>17</b> activities connected with this lesson Subtracting Fractions Lesson **Great Weight Subtracting Fractions GP Across, Up, Up GP Easy LCD GP Like Denominators GP

Subtracting Fractions Drill

Adding Fractions Drill

# **Math Objectives**

# 1.04a, 1.04b, 1.07

Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

### **Essential Question**

Over the next two lessons, you will finish learning the many skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)

#### Wayne County Schools 21<sup>st</sup> Century Instructional Lesson Plan Adding and Subtracting Mixed Numbers

NAME:		Su	ubjec	ct: M	Math						
Date:		Gr	rade	Lev	vel (s)	: 6					
Standards/Objectives Addressed (NCSCOS)											
1.01c, 1.04c, 1.07		. Fatimaata	+ <b>h</b> aa u		uto of a		mutationa. Davidan				
flexibility in solving problems by selecting strategies and using mental computation.											
estimation, calculators or computers, and paper and pencil.											
Essential Question(s) (In student-friendly terms)											
Over the next two lessons, you will finish learning the many skills needed to work with and understand											
fractions. During this time you are to consider the following: All decimals are fractions with the common											
a fraction when it is represented	as a decim	a adults nave	e a m Il calci	ulati	easier 1	time	fractions to decimals	in	OF		
order to compute then convert th	e decimal k	back to a frac	ction 1	to re	eport the	e an	swer. If all of these	thinc	ls		
are true, would you vote to elimi	nate fractio	ns and requi	re all	frac	tions to	be	decimals or keep frac	tions	S		
and have people learn the skills r	necessary to	b use them?	(Ехр	lain	- Keep	a da	ily diary to track you	r			
current thoughts and see when, i	f and how	often you ch	ange	you	ir mind)						
ASSESS (Look at student data to	pian. Use t	ormative and	a/or s	sumi	mative a	asses	ssments.)				
Review student competence	- renardi	na prime f	actor	rina	and a	الالال	essment of how to	۱۸/r	ite		
1 as a fraction	e regaran	ig prine is	actor	mg		1550			ne		
High Yield Instructional St	rategies	(check all t	that	app	bly to t	the	lesson)				
Identifying similarities 🗸 Rein	forcing effor	tand ✓	Non	lina	listic	✓	Setting objectives	<b>√</b>			
and differences prov	iding recogn	ition	repr	reser	ntation		and providing				
			6.0.0		411.10	1	feedback				
advance organizers	marizing and	a note	lear	pera nina	tive	Ť	testing hypotheses				
Homework and practice 🖌	3										
Learner Diversity		<b>I</b>						<u> </u>			
How will you differentiate	e to meet th	e needs of a	ll lear	ners	s in you	r cla	ss?				
504 modifications ET and RA.	Additiona	I student a	nd te	ach	er mod	lelin	g, paired learning				
groups, and concrete represe	ntations w	ill help to g	uide	all s	student	s to	reach expected		Ŧ		
of lower and higher ability are	griments a	and practice	e wiii	TOC	us on r	eme	ediation and enrichi	nen	ι		
	ups.										
Engage (Anticipatory Set)											
<ul> <li>Capture the students' attended to the students' attended</li></ul>	ention, stim a and emot	iulate their th ion.	hinkin	ng ar	nd help	then	n access prior knowle	dge.			
	9										
To down will be one to read	ll. <b>i</b>						191	_			
Today we will learn to add	and subtr	act mixed	num	nbei	rs witr	ı un	liike denominator	S.			
^Examine regrouping when	adding a	ind subtrac	cung		th alte	erna	te bases^				
		-									
Instructional Practices Use	d in this	Lesson									
Coaching	<ul> <li>✓ Provi</li> <li>Instruction</li> </ul>	ding Directio	ns/	~	Learnir	ng Ce	enters				
Discussion	✓ Provi	ding		✓	Teache	er-dir	rected Questions and				
	oppor	tunities for			Answei	rs			✓		
Hands-on experiences	✓ Direc	t Instruction		✓	Modelii	ng			✓		
Presentation	✓ Testin	ng			Other:	Mat	h6.org		✓		
	<u> </u>										

Suggested brained-based learning	l act	ivities promoting the ab	ove	Instructional Practices						
Think-Pair-Share	✓	Instructional Games		Music/Rhyme/Rhythm/Rap						
Thinking Maps	✓	Student Facilitators		Movement						
Technology Integration	✓	Storytelling		Humor						
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning						
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics						
Peer/Self Assessment	~	Drawing or illustrating		Other:						
Writing/Reflecting/Journals	~	Simulations/Role Play		Other: Math6.org	~					
Type(s) of Grouping Used:        small group       _✓_student pairs       _✓_whole group       _✓_individual										
<ul> <li>Explain, Explore, Elaborate</li> <li>Content Chunks: How will you divide and teach the content?</li> <li>Transitions should be used every 5-15 minutes to keep the students' brains engaged.</li> <li>Involve students in an analysis of their explorations.</li> <li>Use reflective activities to clarify and modify student understanding.</li> <li>Give students time to think, plan, investigate and organize collected information.</li> <li>Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.</li> </ul>										
See next page for instructio	nal	detail.								
Evaluate (Feedback/Closur • Evaluate throughout the left	e) esso	n. Are students able to	ans	wer the Essential Question(s)?						
<ul> <li>Present students with a so</li> <li>What assessment(s) will be</li> </ul>	orir	ng guide (such as a rubri	c) a	t the beginning to self-assess.						
No Entry - Complete Workb	ook	k page 5.8								
<ul> <li>Describe, Analyze, Reflect:</li> <li>How effective was the less understanding? Cite evide support your view.</li> <li>What caused the lesson to</li> <li>What did you do to contrit</li> <li>What learning did you take</li> </ul>	son? ence go go oute e fro	P How did the strategies of student work, perfor well? What challenges of to the lesson's effective om this lesson to apply to	help mar did y nes o fu	o the students deepen their nce, behaviors, and/or remarks to you encounter? s? ture lessons? What would you do						

Date:	Time Frame: 80 minutes
	Adding and Subtracting Mixed Numbers
Essential Question:	Over the next two lessons, you will learn the two most challenging skills needed to work with and understand fractions. During this time you are to consider the following: All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain - Keep a daily diary to track your current thoughts and see when, if and how often you change your mind)
Objective (s) Numbers:	1.04a. 1.04b. 1.07
Outcomes:	Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.
Materials:	Textbook pages 246-249
Anticipatory Set:	Today we will learn to add and subtract mixed numbers with unlike denominators. *Examine regrouping when adding and subtracting with alternate bases*
	During the Lesson
Presentation of Information: Integration of Other Subjects:	
Integration of Reading: Integration of Technology:	Reading (vocabulary, problem solving, analyzing expectation) Reading for information and interpretation. Computer, Projector, PowerPoint, Internet
Modeling:	Adding and Subtracting Mixed Numbers is virtually the same as yesterday's lesson with the added point of occasionally needing to regroup. Today we will examine regrouping with addition, tomorrow we will learn how to regroup with subtraction.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Use a 4x4 to model the process with {2 3/4 + 1 5/6 ; 4 5/6 - 2 2/9 ; 2 2/3 + 1 3/4}
	After the Lesson
Independent Practice	Text page 248-249 {1–10, 23–28, 37–41 odd, 45–53} AIG: {2–8 even, 11–25 odd, 43–53} Assign workbook page 5.8
Closure / Assessment:	No Entry - Complete Workbook page 5.8
Integration with School-wide Foc	us: Improve mathematics computation and problem solving.
Related Math6.org Activities: Adding Mixed Numbers Lesson	There are <b>14</b> activities connected with this lesson Regrouping Mixed Numbers Lesson Subtracting Mixed Numbers Lesson

Regrouping Mixed Numbers GP

Regrouping Mixed Numbers Drill

Subtracting Mixed Numbers GP

Subtracting Mixed Numbers Drill

\*\*Practical Perimeters

Adding Mixed Numbers GP

Adding Mixed Numbers Drill

# **Math Objectives**

# 1.04a, 1.04b, 1.07

Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

### **Essential Question**

All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain)

#### Wayne County Schools 21<sup>st</sup> Century Instructional Lesson Plan Renaming to Subtract Mixed Numbers

NAME:					Subject: Math						
Date:	Grade Level (s): 6										
Standards/Objectives Addressed (NCSCOS)											
Nore, 1.046, 1.07 Make estimates in appropriate situations: Estimate the results of computations: Dovelop											
flexibility in solving problems by selecting strategies and using mental computation											
estimation calculators or computers, and paper and pencil											
Essential Question(s) (In student-friendly terms)											
All decimals are fractions with the common denominator as a power of 10. Students and adults have a											
much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain)											
ASSESS (Look at student da	ita to plar	n. Use formative	and	/or s	um	mative	asse	ssments.)			
Review student competence regarding prime factoring and assessment of how to write 1 as a fraction.											
High Yield Instructiona	I Strate	gies (check a	all t	hat a	ар	ply to	the	lesson)			
Identifying similarities and differences	Reinforcir providing	ng effort and recognition	~	<ul> <li>✓ Nonlinguistic representation</li> </ul>			~	Setting objectives and providing feedback			
Questions, cues, and	Summaria	zing and note	~	✓ Cooperative			✓	Generating and			
Advance organizers	taking			learning				testing hypotheses	-		
How will you different	ntiate to r	neet the needs o	of all	leari	ner	s in you	r cla	ss?			
504 modifications ET and groups, and concrete reprouted outcomes. Differentiated of lower and higher ability	RA. Add resentati assignm y groups	ditional studen ons will help to bents and prac	it an o gu tice	nd tea uide a will	ach all foc	ner moo student cus on r	delin ts to reme	ng, paired learning reach expected ediation and enrichmer	nt		
Engage (Anticipatory S • Capture the students Consider novelty, me	et) s' attentio eaning an	n, stimulate the d emotion.	ir th	inkin	g a	nd help	then	n access prior knowledge	•		
Today we will learn how	v to rea	roup when su	ubtr	actir	na.	. We v	vill I	earn the proper way			
(regrouping) and the B	rittanv s	style. The Br	itta	nv s	tvl	e is iu	st a	little bit more work.			
but will always get the	correct	answer with	out	ever	ne	eedina	to	worry about regroup	ina		
the denominators.											
Instructional Practices	Used in	this Lesson									
Caashing			ation			Loomi		antara	1 1		
coaching	•	Instructions	ction	157	•	Learni	ng ce	enters			
Discussion	~	Providing opportunities 1 practice	for		√	Teache Answe	er-dii ers	rected Questions and	~		
Hands-on experiences	$\checkmark$	Direct Instruct	ion		√	Modeli	ng		✓		
Presentation	$\checkmark$	Testing				Other:	Mat	h6.org	~		

Suggested brained-based learning	act	ivities promoting the ab	ove	Instructional Practices						
Think-Pair-Share	√	Instructional Games		Music/Rhyme/Rhythm/Rap						
Thinking Maps	✓	Student Facilitators		Movement						
Technology Integration	✓	Storytelling		Humor						
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning						
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics						
Peer/Self Assessment	•	Drawing or illustrating	v	Other:						
writing/Reflecting/Journals	•	Simulations/Role Play		Other: Matho.org	Ľ					
Type(s) of Grouping Used: small group _✓_student pairs _✓_whole group _✓_individual										
<ul> <li>Explain, Explore, Elaborate</li> <li>Content Chunks: How will you divide and teach the content?</li> <li>Transitions should be used every 5-15 minutes to keep the students' brains engaged.</li> <li>Involve students in an analysis of their explorations.</li> <li>Use reflective activities to clarify and modify student understanding.</li> <li>Give students time to think, plan, investigate and organize collected information.</li> <li>Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.</li> </ul>										
See next page for instructio	nal	detail.								
<ul> <li>Evaluate (Feedback/Closure</li> <li>Evaluate throughout the left</li> <li>Present students with a so</li> <li>What assessment(s) will be</li> </ul>	e) esso corir be us	n. Are students able to ng guide (such as a rubri sed to be sure the stude	ansv ic) a nts a	wer the Essential Question(s)? t the beginning to self-assess. are successful?						
When regrouping fractions, fraction strips (or pies) to sl	yoı าอง	u need to pay specia v why 7 1/4 is regro	al a oupe	ttention to the denominator. I ed as 6 5/4 rather than 6 11/4	Jse					
<ul> <li>Describe, Analyze, Reflect:</li> <li>How effective was the less understanding? Cite evide support your view.</li> <li>What caused the lesson to</li> <li>What did you do to contrib</li> <li>What learning did you take differently next time?</li> </ul>	son? ence go oute e fro	P How did the strategies of student work, perfor well? What challenges to the lesson's effective om this lesson to apply t	help mar did y enes o fu	o the students deepen their nce, behaviors, and/or remarks to you encounter? s? ture lessons? What would you do						

Date:	Time Frame: <b>80 minutes</b>
	Renaming to Subtract Mixed Numbers
Essential Question:	All decimals are fractions with the common denominator as a power of 10. Students and adults have a much easier time understanding the value of a fraction when it is represented as a decimal. Almost all calculators convert fractions to decimals in order to compute then convert the decimal back to a fraction to report the answer. If all of these things are true, would you vote to eliminate fractions and require all fractions to be decimals or keep fractions and have people learn the skills necessary to use them? (Explain)
Objective (s) Numbers: Outcomes:	<b>1.04a, 1.04b, 1.07</b> Analyze computational strategies; Describe the effect of operations on size; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.
Materials: Anticipatory Set:	Textbook pages 250-255; Reteaching 5.9; Regrouping Drill Today we will learn to subtract fractions with renaming.
	During the Lesson
Presentation of Information: Integration of Other Subjects: Integration of Reading: Integration of Technology:	Writing (narratives) Reading (vocabulary, problem solving, analyzing expectation) Reading for information and interpretation. Computer, Projector, PowerPoint, Internet
Modeling:	Today we will learn how to regroup when subtracting. We will learn the proper way (regrouping) and the Brittany style. The Brittany style is just a little bit more work, but will always get the correct answer without ever needing to worry about regrouping the denominators.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Use Reteaching 5.9 to model this skill.
	After the Lesson
Independent Practice	Text page 254-255 {1-14, 27-30, 35-39 odd, 43-49} AIG: {23 - 49} Assign workbook page 5.9
Closure / Assessment:	When regrouping fractions, you need to pay special attention to the denominator. Use fraction strips (or pies) to show why 7 1/4 is regrouped as 6 5/4 rather than 6 11/4.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities:	ath6.org Activities: There are 11 activities connected with this less							
Regrouping Lesson	Subtracting Mixed Numbers Lesson	**Olympic Champions						
Regrouping GP	Subtracting Mixed Numbers GP							
Regrouping Drill	Subtracting Mixed Numbers Drill							

Name\_\_\_\_\_

#### **Regrouping Mixed Numbers**

Regroup each of the following to borrow one from the whole number.

- 1.  $5^{3}/_{4} =$  6.  $3^{2}/_{5} =$  

   2.  $3^{1}/_{6} =$  7.  $3^{1}/_{9} =$  

   3.  $5^{5}/_{8} =$  8.  $2^{4}/_{7} =$  

   4.  $15^{11}/_{12} =$  9.  $9^{1}/_{7} =$  

   5.  $11^{1}/_{2} =$  10.  $1^{3}/_{8} =$  

   11. 9 regrouped to borrow one and have a fraction with a 4 in the denominator would be \_\_\_\_\_\_.
- 12. 11 regrouped to borrow one and have a fraction with a 5 in the denominator would be \_\_\_\_\_.
- 13. 6 regrouped to borrow one and have a fraction with a 7 in the denominator would be \_\_\_\_\_.
- 14. 12 regrouped to borrow one and have a fraction with a 2 in the denominator would be \_\_\_\_\_.
- 15. 3 regrouped to borrow one and have a fraction with a 8 in the denominator would be \_\_\_\_\_.

Name\_\_\_\_\_

#### **Regrouping Mixed Numbers**

Regroup each of the following to borrow one from the whole number.

- 1.  $5^{3}/_{4} =$  6.  $3^{2}/_{5} =$  

   2.  $3^{1}/_{6} =$  7.  $3^{1}/_{9} =$  

   3.  $5^{5}/_{8} =$  8.  $2^{4}/_{7} =$  

   4.  $15^{11}/_{12} =$  9.  $9^{1}/_{7} =$  

   5.  $11^{1}/_{2} =$  10.  $1^{3}/_{8} =$
- 11. 9 regrouped to borrow one and have a fraction with a 4 in the denominator would be \_\_\_\_\_.
- 12. 11 regrouped to borrow one and have a fraction with a 5 in the denominator would be \_\_\_\_\_.
- 13. 6 regrouped to borrow one and have a fraction with a 7 in the denominator would be \_\_\_\_\_.
- 14. 12 regrouped to borrow one and have a fraction with a 2 in the denominator would be \_\_\_\_\_.
- 15. 3 regrouped to borrow one and have a fraction with a 8 in the denominator would be \_\_\_\_\_.
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 $3\frac{1}{4} - 1\frac{3}{4} = 1\frac{2}{4} = 1\frac{1}{2}$ 

Use fraction strips to find each difference. Write your answer in simplest form.

**1.**  $3\frac{1}{4} - 2\frac{3}{4}$  **2.**  $3\frac{1}{6} - 1\frac{5}{6}$  **3.**  $4\frac{3}{8} - 1\frac{7}{8}$  **4.**  $3\frac{1}{3} - 2\frac{2}{3}$ **5.**  $5\frac{5}{12} - 2\frac{7}{12}$  **6.**  $3\frac{3}{10} - 1\frac{9}{10}$  **7.**  $5\frac{1}{8} - 1\frac{5}{8}$  **8.**  $4 - 1\frac{1}{3}$ **9.**  $3\frac{1}{8} - 1\frac{3}{8}$  **10.**  $2\frac{1}{8} - 1\frac{7}{8}$  **11.**  $3 - 1\frac{1}{4}$  **12.**  $6\frac{3}{8} - 2\frac{5}{8}$ 

# **Math Objectives**

# 1.04a, 1.04b, 5.03

Analyze computational strategies; Describe the effect of operations on size; Solve simple (one-and two-step) equations or inequalities.

### **Essential Question**

About a month ago, you spent several days learning to solve equations with Whole Numbers, later you learned to solve equations with decimals. Now, you have spent another day learning to solve equations with Fractions and Mixed Numbers. If your teacher had waited for you to master Computation with Fractions to teach Equations, you could have saved 4 or more days of instruction. Do you still support your teacher's decision to break this skill into 8 lessons or do you think she should have combined these and saved the day to teach you something else? (Explain)

### Wayne County Schools 21<sup>st</sup> Century Instructional Lesson Plan Solving Fraction Equations: Addition and Subtraction

NAME:				Subject: Math								
Date:				Grade Level (s): 6								
Standards/Objectives	Standards/Objectives Addressed (NCSCOS)											
1.04a, 1.04b, 5.03	1.04a, 1.04b, 5.03											
Analyze computational s	strategie	es;	Describe the	effec	ct of	ор	eration	s or	size; Solve simple (or	ne-		
and two-step) equations or inequalities.												
Essential Question(s) (In student-friendly terms)												
About a month ago, you spent several days learning to solve equations with Whole Numbers, later you learned to solve equations with decimals. Now, you have spent another day learning to solve equations												
with Fractions and Mixed Numbers. If your teacher had waited for you to master Computation with												
Fractions to teach Equation	ns, you d	cou	ld have saved 4	orm	nore	day	/s of ins	truct	ion. Do you still support			
your teacher's decision to	break th	is s	kill into 8 lesso	ns or	· do y	/ou	think sh	ne sh	nould have combined the	se		
and saved the day to teach	h you so	me	thing else? (Ex	plain	)							
ASSESS (Look at student	data to p	olar	i. Use formative	and	/or s	um	mative a	asses	ssments.)			
Review student abilition	es with	in	verse operat	ions	5.							
High Yield Instruction	nal Stra	ite	gies (check a	all tł	hat a	ap	ply to t	the	lesson)			
Identifying similarities 🗸	Reinfo	rcir	ng effort and	<ul> <li>✓</li> </ul>	Nonl	ing	uistic	✓	Setting objectives 🗸			
and differences	provid	ling	recognition		repre	presentation			and providing			
Questions, cues, and	Summ	nariz	zing and note	✓	Coor	bera	ative	~	Generating and			
advance organizers	taking			learning			testing hypotheses					
Homework and practice 🗸												
Learner Diversity												
How will you differ	entiate t	to n	neet the needs (	of all	learr	ner	s in youi	r clas	ss?			
504 modifications ET an	nd RA.	٩dc	ditional studen	t an	d tea	ach	ner mod	lelin	g, paired learning			
groups, and concrete re	present	ati	ons will help t	o gu	ide a	all s	student	s to	reach expected			
outcomes. Differentiate	ed assig	nm	ents and prac	tice	will	foc	us on r	eme	diation and enrichmen	t		
of lower and higher abil	ity grou	ps.										
Engage (Anticipatory	Set)											
Capture the studer	nts' atter	ntio	n, stimulate the	ir thi	inkin	g a	nd help	then	n access prior knowledge.			
Consider novelty, r	meaning	and	d emotion.									
				-								
Today we will work wi	ith equ	ati	ons that invo	lve	add	itic	on or s	ubtr	action of fractions.			
Instructional Practice	es Used	l in	this Lesson									
Coaching		✓	Providing Dire	ction	s/	✓	Learnir	ng Ce	enters			
			Instructions									
Discussion		•	Providing	for		*	Teache	r-dir	ected Questions and	~		
			practice	0			Answei	5				
Hands-on experiences		✓	Direct Instruct	ion		✓	Modelin	ng		✓		
Presentation	T	✓	Testing			Ī	Other:	Matl	n6.org	<ul><li>✓</li></ul>		

Suggested brained-based learning	act	ivities promoting the ab	ove	Instructional Practices						
Think-Pair-Share	✓	Instructional Games		Music/Rhyme/Rhythm/Rap	✓					
Thinking Maps	✓	Student Facilitators		Movement	✓					
Technology Integration	✓	Storytelling		Humor	$\checkmark$					
Use of visuals	$\checkmark$	Field Trips(Virtual)		Project/Problem- Based Learning						
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics						
Peer/Self Assessment	✓	Drawing or illustrating		Other:						
Writing/Reflecting/Journals	~	Simulations/Role Play		Other: Math6.org	~					
Type(s) of Grouping Used:        small group       _✓student pairs       _✓whole group       _✓individual										
<ul> <li>Explain, Explore, Elaborate</li> <li>Content Chunks: How will you divide and teach the content?</li> <li>Transitions should be used every 5-15 minutes to keep the students' brains engaged.</li> <li>Involve students in an analysis of their explorations.</li> <li>Use reflective activities to clarify and modify student understanding.</li> <li>Give students time to think, plan, investigate and organize collected information.</li> <li>Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.</li> </ul>										
See next page for instructio	nal	detail.								
Evaluate (Feedback/Closur • Evaluate throughout the le • Present students with a so • What assessment(s) will b Cheerleading: Keeping the pro-	e) esso corir be us	n. Are students able to ng guide (such as a rubri sed to be sure the stude m balanced while usin	ansv ic) a nts a	wer the Essential Question(s)? t the beginning to self-assess. are successful?						
process that most students fai or cheer to encourage your cla students - think High School N	l to Issn Iusi	maintain. Create a ( nates to consider keep cal or Even Stevens -	or in bing	mprove your previous) poem, son a problem balanced. Come on luenza!	g					
<ul> <li>Describe, Analyze, Reflect:</li> <li>How effective was the less understanding? Cite evide support your view.</li> <li>What caused the lesson to</li> <li>What did you do to contrib</li> <li>What learning did you take differently next time?</li> </ul>	son? ence go oute e frc	How did the strategies of student work, perfor well? What challenges o to the lesson's effective om this lesson to apply to	help mar did y enes o fu	o the students deepen their nce, behaviors, and/or remarks to you encounter? s? ture lessons? What would you do						

Date:	Time Frame: <b>80 minutes</b>
S	olving Fraction Equations: Addition and Subtraction
Essential Question:	About a month ago, you spent several days learning to solve equations with Whole Numbers, later you learned to solve equations with decimals. Now, you have spent another day learning to solve equations with Fractions and Mixed Numbers. If your teacher had waited for you to master Computation with Fractions to teach Equations, you could have saved 4 or more days of instruction. Do you still support your teacher's decision to break this skill into 8 lessons or do you think she should have combined these and saved the day to teach you something else? (Explain)
Objective (s) Numbers: Outcomes:	<b>1.04a, 1.04b, 5.03</b> Analyze computational strategies; Describe the effect of operations on size; Solve simple (one- and two-step) equations or inequalities.
Materials:	Textbook pages 256-259
Anticipatory Set:	Today we will work with equations that involve addition or subtraction of fractions.
	During the Lesson
Presentation of Information: Integration of Other Subjects: Integration of Reading: Integration of Technology:	Writing (poetry) Reading (vocabulary, problem solving, analyzing expectation) Reading for information and interpretation. Computer, Projector, PowerPoint, Internet
Modeling:	<ul><li>Solving equations with fractions uses the same process as the other algebra that you have studied this year.</li><li>1. Simplify anything that can be simplified.</li><li>2. Use inverse operations to get the variable alone. (Keep the problem balanced!)</li><li>3. Use substitution to check your answer.</li></ul>
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Use a 4x4 to model solutions for $\{n + 6 2/3 = 11; 2 1/4 = n - 3 1/2; 5 3/5 = n + 7/10\}$
	After the Lesson
Independent Practice	Text page 258-259 { 1–10, 11–15 odd, 30, 33, 38–42} AIG: {23-42} Assign workbook page 5.10
Closure / Assessment:	<b>Cheerleading</b> : Keeping the problem balanced while using inverse operations is the part of the process that most students fail to maintain. Create a (or improve your previous) poem, song or cheer to encourage your classmates to consider keeping a problem balanced. Come on students - think <i>High School Musical</i> or <i>Even Stevens - Influenza</i> !

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are 9 activities connected with this lesson Equations with Fractions Lesson Equations with Fractions Guided Practice Equations with Mixed Numbers Lesson Equations with Mixed Numbers Guided Practice \*\*Ready for the EOG

## Math Objectives

# 1.03, 1.04b, 1.04d, 1.06, 1.07, 2.02, 5.02;

Compare and order rational numbers; Describe the effect of operations on size; Judge the reasonableness of solutions; Use exponential, scientific, and calculator notation to write very large and very small numbers; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; Solve problems involving perimeter/circumference and area of plane figures; Use and evaluate algebraic expressions.

### **Essential Question**

What steps do you think have been the most helpful in preparing yourself for the examination on a set of skills? (decision making)

### Wayne County Schools 21<sup>st</sup> Century Instructional Lesson Plan Computation with Fractions Review

NAME:		Subject: Math				
Date:		Grade Level (s): 6				
Standards/Objectives Ad	ddressed (NCSCOS	5)				
1.03, 1.04b, 1.04d, 1.06, 1.07 Compare and order rational nu of solutions; Use exponential, numbers; Develop flexibility in estimation, calculators or com perimeter/circumference and a	7, 2.02, 5.02; umbers; Describe the e scientific, and calculat solving problems by s puters, and paper and area of plane figures;	effect of for notat selecting pencil; Use and	operations o ion to write v strategies a Solve proble evaluate alg	n siz /ery nd u ms ir ebrai	e; Judge the reasonabler large and very small sing mental computation nvolving ic expressions.	ness '
Essential Question(s) (In	student-friendly term	is)				
What steps do you think have skills? (decision making)	been the most helpful	in prepa	aring yoursel	f for	the examination on a set	t of
Assess (Look at student data	a to plan. Use formativ	e and/o	r summative	asse	ssments.)	
Examine student perform	nance on various s	kill ass	sessments,	jou	rnals and projects.	
High Yield Instructional	Strategies (check	all tha	t apply to	the	lesson)	
Identifying similarities R and differences p	Reinforcing effort and providing recognition	✓ No re	onlinguistic presentation		Setting objectives and providing feedback	
Questions, cues, and advance organizers         S           Lemework and practice         X	Summarizing and note aking	Colle	poperative arning	~	Generating and testing hypotheses	
Homework and practice •						
Learner Diversity     How will you differenti	iate to meet the needs	of all le	arners in you	r cla	ss?	
504 modifications ET and learning groups, and con expected outcomes.	d RA. Additional st crete representati	tudent ons wil	and teach II help to g	er m uide	nodeling, paired e all students to reac	h
Engage (Anticipatory Se • Capture the students' Consider novelty, mean	t) attention, stimulate th ning and emotion.	eir think	king and help	then	n access prior knowledge	·.
Today we will review the practice test taking skills comfortable as others.	skills that we hav and remediate th	e been ose ski	studying o	duri vhicl	ng this unit. We will h we don't feel as	
Instructional Practices U	Ised in this Lessor	1				1 *
Coaching	<ul> <li>✓ Providing Dire</li> <li>Instructions</li> </ul>	ections/		ng Co	enters	
Discussion	Providing opportunities practice	for	<ul><li>✓ Teache Answe</li></ul>	er-dii ers	rected Questions and	
Hands-on experiences	Direct Instruc	tion	Modeli	ng		
Presentation	Testing		Other:	Mat	h6.org	~

Suggested brained-based learning	l act	ivities promoting the ab	ove	Instructional Practices	
Think-Pair-Share	✓	Instructional Games		Music/Rhyme/Rhythm/Rap	
Thinking Maps		Student Facilitators	~	Movement	
Technology Integration	✓	Storytelling		Humor	
Use of visuals		Field Trips(Virtual)		Project/Problem- Based Learning	
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics	
Peer/Self Assessment	✓	Drawing or illustrating		Other:	
Writing/Reflecting/Journals	~	Simulations/Role Play		Other:	
Type(s) of Grouping Used: small group _✓_studen	t pa	irswhole group	D	_√_individual	
Content Chunks: How will y Transitions should be used Involve students in an and Use reflective activities to Give students time to thin Give students the opportu apply it to a real-world sit	<b>OU</b> d ev alysi clar k, pl nity uati	divide and teach th ery 5-15 minutes to keep s of their explorations. rify and modify student u lan, investigate and orga to expand and solidify t on.	e C p the unde anize heir	ontent? e students' brains engaged. erstanding. e collected information. understanding of the concept and/or	
See next page for instruction	nal	detail.			
Evaluate (Feedback/Closur     Evaluate throughout the la     Present students with a so     What assessment(s) will I     Have co-operative learning	e) esso corir <u>be u</u> e	n. Are students able to ng guide (such as a rubri sed to be sure the stude pups review and disc	ansv ic) a <u>nts a</u> CUSS	wer the Essential Question(s)? t the beginning to self-assess. are successful? s their answers before turning	
Describe, Analyze, Reflect: • How effective was the less understanding? Cite evide support your view.	son?	P How did the strategies of student work, perfor	help mar	o the students deepen their nce, behaviors, and/or remarks to	
What caused the lesson to     What did you do to contril	o go oute	to the lesson's effective	ala y enes	you encounter? s?	
what learning did you tak differently next time?	eiro	on this lesson to apply t	oru	ture lessons? What would you do	

Date:	Time Frame: 80 minutes
	Computation with Fractions Chapter Review
Essential Question:	What steps do you think have been the most helpful in preparing yourself for the examination on a set of skills? (decision making)
Objective (s) Numbers: Outcomes:	<b>1.03, 1.04b, 1.04d, 1.06, 1.07, 2.02, 5.02;</b> Compare and order rational numbers; Describe the effect of operations on size; Judge the reasonableness of solutions; Use exponential, scientific, and calculator notation to write very large and very small numbers; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; Solve problems involving perimeter/circumference and area of plane figures; Use and evaluate algebraic expressions.
Materials: Anticipatory Set:	Textbook pages 264-267; Test Form B Today we will review the skills that we have been studying during this unit. We will practice test taking skills and remediate those skills about which we don't feel as comfortable as others.
	During the Lesson
Presentation of Information: Integration of Other Subjects: Integration of Reading: Integration of Technology:	Reading (vocabulary, problem solving, analyzing expectation) Reading for information and interpretation. Computer, Projector, PowerPoint, Internet
Modeling:	Discuss the value of careful review, the process that should occur when errors are made and the importance of reviewing material that students are less comfortable with.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Discuss Instructions for the review on pages 264-266. Have the students review the Headings and address and questions or requests for immediate remediation.
	After the Lesson
Independent Practice	Text page 264-266 {1-54} AIG: {1-54} Assign Test Form B
Closure / Assessment:	Have co-operative learning groups review and discuss their answers before turning their papers in for correction by the teacher.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities:	There are many activities connected with this lesson
Vocabulary Matching Practice	
Practice Test	
Fractions Quiz Bowl	
Fractions Millionaire	

Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

<b>CHAPTER</b> Chapter Test	
5 Form B	
Multiply. Write each answer in simplest form.	Solve each equation. Write the answer in simplest form.
<b>1.</b> $\frac{5}{7} \cdot \frac{3}{4}$	<b>13.</b> $\frac{2}{3}a = 4$
<b>2.</b> $\frac{6}{11} \cdot \frac{5}{6}$	<b>14.</b> $12t = \frac{1}{4}$
Evaluate the expression $y \cdot \frac{1}{8}$ for each value of v. Write the answer in	<b>15.</b> $\frac{8y}{11} = 6$
simplest form.	<b>16.</b> $\frac{1}{2} = \frac{n}{8}$
<b>3.</b> $y = \frac{16}{17}$	Find the least common multiple (LCM).
<b>4.</b> $y = \frac{0}{11}$	<b>17.</b> 6 and 8
Multiply. Write each answer in simplest form.	<b>18.</b> 5 and 11
<b>5.</b> $\frac{2}{3} \cdot 4\frac{1}{2}$	<b>19.</b> 27, 90, and 84
$6 4^{\frac{1}{2}} e^{\frac{1}{2}}$	<b>20.</b> 3, 5, and 8
Find each product. Write the answer	Estimate each sum or difference by rounding to $0^{-\frac{1}{2}}$ or 1
in simplest form.	1 2
<b>7.</b> $1\frac{1}{2} \cdot 3\frac{1}{6}$	<b>21.</b> $\frac{1}{12} + \frac{3}{4}$
<b>8.</b> $3\frac{2}{3} \cdot 5\frac{1}{5}$	<b>22.</b> $\frac{15}{16} - \frac{2}{3}$
Find the reciprocal.	<b>23.</b> $\frac{17}{20} + \frac{1}{2}$
<b>9.</b> $\frac{7}{6}$	<b>24.</b> $\frac{9}{10} - \frac{7}{8}$
<b>10.</b> $\frac{1}{8}$	
Divide. Write each answer in simplest form.	
<b>11.</b> $\frac{9}{11} \div 4$	
<b>12.</b> $2\frac{9}{10} \div 3\frac{1}{3}$	

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#### Date Class

#### **CHAPTER** Chapter Test 5 Form B, continued

Add or subtract. Write each answer in simplest form.

**25.**  $\frac{5}{6} - \frac{7}{12}$ **26.**  $\frac{7}{8} - \frac{5}{12}$ **27.**  $\frac{15}{24} + \frac{4}{24}$ **28.**  $\frac{3}{10} + \frac{3}{8}$ 

Find each sum or difference. Write the answer in simplest form.

**29.**  $3\frac{3}{4} + 2\frac{1}{8}$ **30.**  $9\frac{4}{5} - 2\frac{1}{2}$ 

Subtract. Write each answer in simplest form.

**31.**  $7\frac{1}{8} - 2\frac{5}{8}$ **32.** 9 -  $2\frac{2}{5}$ **33.**  $15\frac{2}{9} - 7\frac{5}{6}$ 

**34.** 12 -  $7\frac{2}{15}$ 

Solve each equation. Write the solution in simplest form.

**35.** 
$$y + 4\frac{1}{10} = 7$$
 \_\_\_\_\_\_  
**36.**  $7\frac{1}{6} = y - 3\frac{2}{3}$  \_\_\_\_\_\_  
**37.**  $\frac{4}{7}a = 6$  \_\_\_\_\_\_  
**38.**  $n - 2\frac{2}{5} = 5\frac{9}{10}$  \_\_\_\_\_\_

**39.** Pat has a  $5\frac{3}{4}$  pound mixture of pecans and cashews. The mix includes  $2\frac{2}{3}$  pounds of cashews. How many pounds are pecans?

40. At the end of her shift at The Deli Shop, Maria had sold  $15\frac{3}{4}$  pounds of sliced turkey and  $21\frac{2}{3}$  pounds of ham. What was the total weight of the meat?

**Essential Question** 

Has your life improved or do you feel burdened by the steps you took after the last chapter to improve your test taking? (Explain)

#### Wayne County Schools 21<sup>st</sup> Century Instructional Lesson Plan Computation with Fractions Assessment

NAME:		Subj	ject: I	Math			
Date:		Grad	de Lev	vel (s): 6			
Standards/Objectives Addressed (NCSCOS)							
1.03, 1.04b, 1.04d, 1.06, Compare and order ration of solutions; Use exponen numbers; Develop flexibil estimation, calculators or perimeter/circumference a	1.07, 2.02, 5.02; al numbers; Describe the e tial, scientific, and calculat ity in solving problems by s computers, and paper and and area of plane figures; I	effect o or nota selectin pencil; Use and	of opera ation to ng strat Solve d evalu	ations on s write very egies and problems ate algebr	ize; Judge the reason / large and very smal using mental comput involving aic expressions.	ablene I ation,	ess
Essential Question(s)	) (In student-friendly term	is)					
Has your life improved or your test taking? (Explain	do you feel burdened by th າ)	ne step:	s you t	ook after t	he last chapter to im	prove	
Assess (Look at student	data to plan. Use formative	e and/c	or sum	mative ass	essments.)		
Examine student per	formance on concepts	reviev	w.				
High Yield Instructio	nal Strategies (check	all that	at app	oly to the	e lesson)		
Identifying similarities and differences	Reinforcing effort and providing recognition	✓ N r	Nonling. Tepreser	uistic ntation	Setting objectives and providing feedback	<b>~</b>	
Questions, cues, and advance organizers	Summarizing and note taking		Coopera earning	itive	Generating and testing hypotheses		
Homework and practice							
Learner Diversity <ul> <li>How will you diffe</li> </ul>	rentiate to meet the needs	of all le	earners	s in your cl	ass?		
504 modifications ET	and RA.						
Engage (Anticipatory Capture the stude Consider novelty,	r Set) nts' attention, stimulate th meaning and emotion.	eir thin	ıking aı	nd help the	em access prior knowl	edge.	
Today we will assess our mastery of Computation with Fractions.							
Instructional Practic	es Used in this Lesson	1					
Coaching	Providing Dire	ections	/ /	Learning	Centers		
Discussion	Providing opportunities practice	for		Teacher-d Answers	lirected Questions and	k	
Hands-on experiences	Direct Instruc	tion		Modeling			$\square$
Presentation	Testing		~	Other:			

Suggested brained-based learning	activities promoting the a	bove Instructional Practices
Think-Pair-Share	Instructional Games	Music/Rhyme/Rhythm/Rap
Thinking Maps	Student Facilitators	Movement
Technology Integration	✓ Storytelling	Humor
Use of visuals	Field Trips(Virtual)	Project/Problem- Based Learning
Metaphor/Simile/Analogy	Reciprocal Teaching	Mnemonics
Peer/Self Assessment	Drawing or illustrating	Other:
Writing/Reflecting/Journals	✓ Simulations/Role Play	Other:
Type(s) of Grouping Used: small groupstudent	pairswhole grou	p _✓_individual
Content Chunks: How will y Transitions should be used Involve students in an ana Use reflective activities to Give students time to thin Give students the opportu apply it to a real-world sit	you divide and teach t d every 5-15 minutes to ke alysis of their explorations. clarify and modify student k, plan, investigate and org nity to expand and solidify uation.	he content? ep the students' brains engaged. understanding. ganize collected information. their understanding of the concept and/or
See next page for instructio	onal detail.	
<ul> <li>Evaluate (Feedback/Closur</li> <li>Evaluate throughout the left</li> <li>Present students with a so</li> <li>What assessment(s) will be</li> </ul>	e) esson. Are students able to coring guide (such as a rub be used to be sure the stud	o answer the Essential Question(s)? ric) at the beginning to self-assess. ents are successful?
Write a paragraph evaluatio you do well on? What did y and what would you like to	on of your expected per you have trouble with? do differently for the	erformance on this test. What did How did you prepare for this test next exam?
<ul> <li>Describe, Analyze, Reflect:</li> <li>How effective was the less understanding? Cite evide support your view.</li> <li>What caused the lesson to</li> <li>What did you do to contrik</li> <li>What learning did you take differently next time?</li> </ul>	son? How did the strategies ence of student work, perfo o go well? What challenges oute to the lesson's effectiv e from this lesson to apply	s help the students deepen their ormance, behaviors, and/or remarks to did you encounter? reness? to future lessons? What would you do

Date:	Time Frame: 80 minutes
	Computation with Fractions Assessment
Essential Question:	Has your life improved or do you feel burdened by the steps you took after the last chapter to improve your test taking? (Explain)
Objective (s) Numbers: Outcomes:	<b>1.03, 1.04b, 1.04d, 1.06, 1.07, 2.02, 5.02;</b> Compare and order rational numbers; Describe the effect of operations on size; Judge the reasonableness of solutions; Use exponential, scientific, and calculator notation to write very large and very small numbers; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; Solve problems involving perimeter/circumference and area of plane figures; Use and evaluate algebraic expressions.
Materials:	Cumulative Assessment (Form B)
Anticipatory Set:	Today we will assess our mastery of Computation with Fractions.
	During the Lesson
Presentation of Information: Integration of Other Subjects: Integration of Reading:	Writing (evaluation) Reading (vocabulary, problem solving, analyzing expectation) Reading for information and interpretation.
Integration of Technology:	Computer, Projector, PowerPoint, Internet
Modeling:	Review the Practice Test, answer questions and model answers.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Discuss the Instructions.
	After the Lesson
Independent Practice	Assign Cumulative Review Test Form B
Closure / Assessment:	Write a paragraph evaluation of your expected performance on this test. What did you do well on? What did you have trouble with? How did you prepare for this test and what would you like to do differently for the next exam?

Choose a Journal entry to share with your class.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are many activities connected with this lesson Vocabulary Matching Practice Practice Test Fractions Quiz Bowl Fractions Millionaire

	tive Test						
5 Form B							
Select the best answ 1 Order the number	<b>ver.</b> rs 134–146–119	<b>7.</b> Identify the missing numbers in the sequence 1, 2, <u>?</u> , 8, 16, <u>?</u> , 64,					
from least to grea <b>A</b> 134, 119, 146 <b>B</b> 146, 134, 119	<b>C</b> 119, 134, 146 <b>D</b> 119, 146, 134	<b>A</b> 3, 32 <b>B</b> 4, 32	<b>C</b> 3, 48 <b>D</b> 4, 24				
<ul> <li><b>2.</b> Estimate 13,253 thousands.</li> </ul>	+ 8,789 rounding to	<b>6.</b> Evaluate 3x - <b>F</b> 50 <b>G</b> 38	H 22 J 36				
<b>G</b> 21,000 <b>G</b> 21,000	H 22,000 J 23,000	<ol> <li>Choose the erepresents the and identify it</li> </ol>	expression that e phrase " <i>y</i> plus 18" as a numerical or				
<b>A</b> 3 <sup>5</sup> <b>B</b> 5 <sup>5</sup>	<b>C</b> $3^{3}$ <b>D</b> $5^{3}$	algebraic exp A 18 <i>y</i> , nume B 18 <i>y</i> , algeb C <i>v</i> + 18, nu	rression. rical raic merical				
<ul> <li>4. Simplify (25 + 20</li> <li>F 13</li> <li>G 5</li> </ul>	) ÷ 5 + 2 <sup>2</sup> . H 33 J 121	<ul> <li>D y + 18, alg</li> <li>10. Which of the for the equati</li> </ul>	gebraic following is a solution on $14p + 7 = 35$ ?				
<ol> <li>Which represents</li> <li>Distributive Properties</li> <li>16 × 4?</li> </ol>	the use of the erty in determining	<b>F</b> $p = 1$ <b>G</b> $p = 2$	<b>H</b> $p = 3$ <b>J</b> $p = 4$				
<b>A</b> $10 \times 4 + 6 \times$ <b>B</b> $16 + 16 + 16$ <b>C</b> $4 \times 16$ <b>D</b> $4 \times 4 \times 4$	4 + 16	<b>11.</b> Solve $r + 12$ <b>A</b> $r = 5$ <b>B</b> $r = 12$ <b>12.</b> Solve $14 = 6$	= 27. <b>C</b> $r = 15$ <b>D</b> $r = 39$				
<ol> <li>Lisa receives \$5 babysitting her lit watches him 8 ho money will she m</li> </ol>	per hour for le brother. If she burs, how much ake?	<b>F</b> $a = 3$ <b>G</b> $a = 14$ <b>13.</b> Solve $5t = 12$	<b>H</b> $a = 15$ <b>J</b> $a = 25$ <b>J</b> $a = 25$				
F \$32 G \$45	H \$40 J \$13	<b>A</b> $t = 25$ <b>B</b> $t = 10$ <b>14.</b> Solve $\frac{c}{12} = 4$	<b>C</b> $t = 120$ <b>D</b> $t = 625$				
		<b>F</b> $c = 3$ <b>G</b> $c = 48$	<b>H</b> $c = 12$ <b>J</b> $c = 16$				

#### Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

CHA	PTER Cumulati	ve Test			
	Form B, co	ntinued			
15.	Order the decimals from least to greate <b>A</b> 0.8, 0.73, 0.75	0.75, 0.73, 0.8 est. <b>C</b> 0.75, 0.73, 0.8	23.	What is the prime f 120? <b>A</b> $2 \times 3^2 \times 5$	factorization of <b>C</b> $2^2 \times 3 \times 5^2$
	<b>B</b> 0.8, 0.75, 0.73	<b>D</b> 0.73, 0.75, 0.8		<b>B</b> $2^3 \times 3 \times 5$	$\mathbf{D} 2^2 \times 3 \times 7$
<ul><li>16.</li><li>17.</li><li>18.</li></ul>	Add 0.75 + 0.224. <b>F</b> 0.974 <b>G</b> 0.149 A volume of 0.570 how many milliliters <b>A</b> 5.7 mL <b>B</b> 57 mL Express 3,258,000 notation. <b>F</b> 3.258 $\times$ 10 <sup>4</sup> <b>G</b> 3.258 $\times$ 10 <sup>5</sup>	H 0.526 J 0.279 liters is equal to s? C 570 mL D 5700 mL in scientific H $3.258 \times 10^{6}$ J $3.258 \times 10^{7}$	24.	What is the greates of 28, 42, and 56? <b>F</b> 7 <b>G</b> 4 Order the following greatest to least: 0 <b>A</b> 0.68, 0.72, $\frac{3}{4}$ <b>B</b> 0.72, $\frac{3}{4}$ , 0.68 <b>C</b> $\frac{3}{4}$ , 0.68, 0.72 <b>D</b> $\frac{3}{4}$ , 0.72, 0.68	St common factor <b>H</b> 14 <b>J</b> 28 1 numbers from .68, $\frac{3}{4}$ , 0.72.
19.	Multiply 12.2 × 0.6 <b>A</b> 6.10 <b>B</b> 7.32	<b>C</b> 8.54 <b>D</b> 7.92	26.	Which of the follow fractions are equivare $\mathbf{F} = \frac{6}{9}, \frac{8}{12}, \frac{14}{21}$	ing sets of alent to $\frac{2}{3}$ ?
20.	Divide 8.35 ÷ 0.25 F 16.7 G 8.10	H 41.75 J 33.4		$\mathbf{G} \; \frac{3}{6}, \frac{8}{12}, \frac{12}{18}$ $\mathbf{H} \; \frac{12}{18}, \frac{18}{27}, \frac{24}{48}$ $\mathbf{G} \; \mathbf{G} \; $	
21.	Evaluate 23.1 ÷ <i>y</i> • A 0.21 B 2.1	for <i>y</i> = 11. <b>C</b> 2.3 <b>D</b> 11.1	27.	<b>J</b> $\frac{1}{9}$ , $\frac{1}{18}$ , $\frac{1}{21}$ Order the fractions to greatest.	$\frac{1}{2}, \frac{4}{7}, \frac{3}{8}$ from least
22.	The number 42 is of of the following: 2, <b>F</b> 3, 7, 12 <b>G</b> 2, 4, 7	divisible by which 3, 4, 7, 12? H 2, 3, 7 J 3, 4, 12		<b>A</b> $\frac{3}{8}, \frac{4}{7}, \frac{1}{2}$ <b>B</b> $\frac{3}{8}, \frac{1}{2}, \frac{4}{7}$ <b>C</b> $\frac{1}{2}, \frac{3}{8}, \frac{4}{7}$ <b>D</b> $\frac{4}{7}, \frac{1}{2}, \frac{3}{8}$	

Date	Class	
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CHAPTER Cumula	ative Test			
5 Form B,	continued			
28. What is the valu	ue of $\frac{6}{7} - \frac{2}{7}$ ?	<b>34.</b> Find the leas 16 and 30.	t common multiple of	
<b>F</b> $\frac{3}{7}$	<b>H</b> 0	<b>F</b> 90	<b>H</b> 180	
$\mathbf{G} \frac{4}{7}$	<b>J</b> $1\frac{1}{7}$	<b>G</b> 480	<b>J</b> 240	
<b>29.</b> What is the valusimplest form?	ue of 6 × $\frac{4}{9}$ in	<b>35.</b> Estimate the rounding to (	sum of $\frac{3}{5} + \frac{7}{8}$ by ), $\frac{1}{2}$ , or 1.	
<b>A</b> $2\frac{4}{2}$	<b>c</b> $2\frac{2}{2}$	<b>A</b> $\frac{1}{2}$	<b>C</b> $1\frac{1}{2}$	
<b>B</b> $3\frac{1}{2}$	<b>D</b> $6\frac{4}{9}$	<b>B</b> 1	<b>D</b> 2	
<b>30.</b> What is the value	ue of $\frac{3}{4} \times \frac{2}{5}$ in	<b>36.</b> What is the vision simplest form	value of <del>8</del> – <del>5</del> in n?	
simplest form?	3	<b>F</b> $\frac{1}{3}$	<b>H</b> 1	
<b>F</b> $\frac{3}{10}$	$H\frac{3}{4}$	$G\frac{1}{40}$	<b>J</b> $1\frac{13}{12}$	
<b>G</b> $\frac{4}{5}$	<b>J</b> $\frac{6}{20}$	18	18	
<b>31.</b> What is the valusimplest form?	ue of $5\frac{2}{5} \times \frac{5}{6}$ in	<b>37.</b> What is the vision simplest form	value of $2\frac{2}{3} + 4\frac{1}{5}$ in 1?	
$\Delta 5^{\frac{1}{2}}$	<b>c</b> $4^{\frac{2}{2}}$	A 015	$\mathbf{U}  0_{\overline{2}}$	
9	• '3 1	<b>B</b> $6\frac{2}{5}$	<b>D</b> $6\frac{11}{15}$	
<b>B</b> $5\frac{0}{10}$	<b>D</b> $4\frac{1}{2}$		1 . 1 .	
32. What is the valu	ue of $8\frac{2}{7} \div 2\frac{1}{4}$ in	38. What is the v simplest form	value of $3\frac{1}{2} - 1\frac{1}{6}$ in 1?	
simplest form?	1	<b>F</b> $2\frac{1}{6}$	<b>H</b> $2\frac{1}{3}$	
<b>F</b> 3 <sup>10</sup> / <sub>63</sub>	<b>H</b> $6\frac{1}{28}$	<b>G</b> $1\frac{2}{2}$	<b>J</b> $1\frac{5}{6}$	
<b>G</b> $10\frac{15}{28}$	<b>J</b> 18 <u>9</u>	5	0	
<b>00</b> Only for all the fully in the		<b>39.</b> What is the solution to the following		
<b>33.</b> Solve for <i>g</i> in th $\frac{8g}{11} = 4$ .	e following equation:	form?	$x + x = 14\frac{-}{6}$ , in simplest	
<b>A</b> $g = 3\frac{3}{4}$	<b>C</b> $g = 5\frac{1}{2}$	<b>A</b> $x = 20\frac{7}{12}$	<b>C</b> $x = 2\frac{40}{69}$	
<b>B</b> $a = 2\frac{10}{11}$	<b>D</b> $q = 4\frac{8}{44}$	<b>B</b> $x = 9\frac{1}{12}$	<b>D</b> $x = 85\frac{7}{24}$	
<u> </u>	J 11			

#### CHAPTER Cumulative Test 5 Form B, continued **40.** Find the missing values in the table. $2 \times (n - 1)$ n 2 2 4 8 **F** 8, 16 **H** 6, 14 **G** 7, 15 **J** 6, 12 **41.** Solve for *k*. $35 \div k = 5$ **A** $k = \frac{1}{7}$ **C** k = 30**D** k = 40**B** k = 7**42.** Express $2.41 \times 10^4$ in standard form. **F** 241 **H** 24,100 **G** 2,410 **J** 241,000 **43.** Solve for $x. \frac{543}{x} = 181$ **C** $x = \frac{1}{3}$ **A** x = 3**B** x = 6**D** x = 8144. What are the factors of 48? **F** 1, 2, 4, 8, 18, 24, 48 **H** 1, 2, 3, 4, 6, 8, 12, 16, 24, 48 **G** 1, 2, 3, 4, 6, 8, 9, 12, 48 **J** 1, 3, 4, 12, 14, 24, 36, 48

- 45. Oatmeal canisters 12 inches high are being stacked next to 18 inch tall paint cans. What is the shortest height at which the stacks will be the same height?
  - **A** 24 in. **C** 32 in.
  - **D** 216 in. **B** 36 in.
- **46.** What is the value of  $3\frac{1}{4} \times 1\frac{1}{2}$  in simplest form?

**F** 
$$2\frac{1}{6}$$
 **H**  $1\frac{3}{4}$   
**G**  $3\frac{1}{8}$  **J**  $4\frac{7}{8}$ 

**47.** Solve for *g* in the following equation:  $8g = \frac{24}{35}$ .

**A** 
$$g = \frac{3}{35}$$
  
**B**  $g = \frac{1}{8}$ 
**C**  $g = \frac{3}{32}$   
**D**  $g = \frac{1}{14}$ 

48. What is the distance around the rectangular picture frame shown?



F 
$$13\frac{1}{3}$$
 in.H  $27\frac{1}{2}$  in.G  $13\frac{3}{4}$  in.J  $41\frac{1}{4}$  in.

#### **Computation with Fractions Assessment**

l	А	В	С	D
2	F	G	Н	J
3	А	В	С	D
1	F	G	Н	J
5	А	В	С	D
5	F	G	Н	J
7	Α	В	С	D
3	F	G	Н	J
)	А	В	С	D
10	F	G	Н	J
1	А	В	С	D
12	F	G	Н	J
13	А	В	С	D
14	F	G	Н	J
15	А	В	С	D
16	F	G	Н	J
17	А	В	С	D
18	F	G	Н	J
19	А	В	С	D
20	F	G	Н	J
21	А	В	С	D
22	F	G	Н	J
23	А	В	С	D
24	F	G	Н	J
25	А	В	С	D
26	F	G	Н	J
27	А	В	С	D

28	F	G	Н	J
29	А	В	С	D
30	F	G	Н	J
31	А	В	С	D
32	F	G	Н	J
33	А	В	С	D
34	F	G	Н	J
35	А	В	С	D
36	F	G	Н	J
37	А	В	С	D
38	F	G	Н	J
39	А	В	С	D
40	F	G	Н	J
41	А	В	С	D
42	F	G	Н	J
43	А	В	С	D
44	F	G	Н	J
45	А	В	С	D
46	F	G	Н	J
47	А	В	С	D
48	F	G	Н	J

1	А	В	С	D
2	F	G	Н	J
3	А	В	С	D
4	F	G	Н	J
5	А	В	С	D
6	F	G	Н	J
7	А	В	С	D
8	F	G	Н	J
9	А	В	С	D
10	F	G	Н	J
11	Α	В	С	D
12	F	G	Н	J
13	Α	В	С	D
14	F	G	Н	J
15	А	В	С	D
16	F	G	Н	J
17	А	В	С	D
18	F	G	Н	J
19	А	В	С	D
20	F	G	Н	J
21	А	В	С	D
22	F	G	Н	J
23	А	В	С	D
24	F	G	Н	J
25	А	В	С	D
26	F	G	Н	J
27	А	В	С	D

Name \_

**Computation with Fractions Assessment** 

28	F	G	Н	J
29	А	В	С	D
30	F	G	Н	J
31	А	В	С	D
32	F	G	Н	J
33	А	В	С	D
34	F	G	Н	J
35	Α	В	С	D
36	F	G	Н	J
37	А	В	С	D
38	F	G	Н	J
39	А	В	С	D
40	F	G	Н	J
41	А	В	С	D
42	F	G	Н	J
43	А	В	С	D
44	F	G	Н	J
45	А	В	С	D
46	F	G	Н	J
47	А	В	С	D
<b>48</b>	F	G	Н	J
## Computation with Fractions Assessment

1	А	В		D	
2	F	G		J	
3	А	В	С		
4		G	Н	J	
5		В	С	D	
6	F	G		J	
7	А		С	D	
8	F	G		J	
9	А	В	С		
10	F		Н	J	
11	А	В		D	
12	F	G	Н		
13		В	С	D	
14	F		Н	J	
15	А	В	С		
16		G	Н	J	
17	А	В		D	
18	F	G		J	
19	А		С	D	
20	F	G	Н		
21	А		С	D	
22	F	G		J	
23	А		С	D	
24	F	G		J	
25	А	В	С		
26		G	Н	J	
27	А		С	D	

28	F		Н	J
29	А	В		D
30		G	Н	J
31	А	В	С	
32		G	Н	J
33	А	В		D
34	F	G	Н	
35	А	В		D
36	F		Н	J
37		В	С	D
38	F	G		J
39	А		С	D
40	F	G		J
41	А		С	D
42	F	G		J
43		В	С	D
44	F	G		J
45	А		С	D
46	F	G	Н	
47		В	С	D
48	F	G		J

Chapter 5 Assessment

100% 13

12 92%

11 85%

77% 10

9 69%

62% 8

7 54%

6 46%

38% 5

31% 4

3 23%

15% 2

8% 1

0 0%