



Warm up Grade 6

Date: Sept. 26



1) Compare using $<$ or $>$

a) $+10 > -20$

b) $-1 > -16$

c) $+5 < +30$

2) What is the lowest common multiple (LCM) between 4, 6?

4, 8, 12, 16
6, 12

$LCM(4,6) = 12$

3) Write the following in standard form

a) 3 trillion 2 hundred million 6 thousands six hundred

3 000 200 006 600

b) $50\,000\,000\,000 + 4\,000\,000\,000 + 60\,000\,000 + 2000 + 6$

54 060 002 006

Day 12 Gr 6 Math Ch 2 Lesson 4 Prime and Composite OKeefe.notebook September 26, 2019

Homework Solutions #1a,b,c,d #9
 Page 56-58 #2a,b,c,d #10
 #4a,b,c,d #13
 #5a,b #14
 #6a
 #8

1) first 10 multiples of

- a) 2: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20
- b) 5: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50
- c) 8: 8, 16, 24, 32, 40, 48, 56, 64, 72, 80
- d) 7: 7, 14, 21, 28, 35, 42, 49, 56, 63, 70

2) First 6 multiples of

- a) 12: 12, 24, 36, 48, 60, 72
- b) 11: 11, 22, 33, 44, 55, 66
- c) 16: 16, 32, 48, 64, 80, 96
- d) 15: 15, 30, 45, 60, 75, 90

4) Which #s 21, 24, 45, 30, 42, 60, 84 multiples of?

a) 3: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60, 63, 69, 72, 75, 78, 81, 84, ...

b) 12: 12, 24, 36, 48, 60, 72, 84

c) 7: 7, 14, 21, 28, 35, 42, 49, 56, 63, 70, 77, 84

d) 15: 15, 30, 45, 60, 75, 90

6a) 3: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60
 4: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52, 56, 60, 64, 68
 6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90

12, 36, 60 are 3 common multiples of 3, 4, 6

8) 8:00 pm
 Every 6min

- 8:06
- 8:12
- 8:18
- 8:24
- 8:30
- 8:36
- 8:42
- 8:48
- 8:54
- 9:00

8) 8:00 pm
 Every 9min

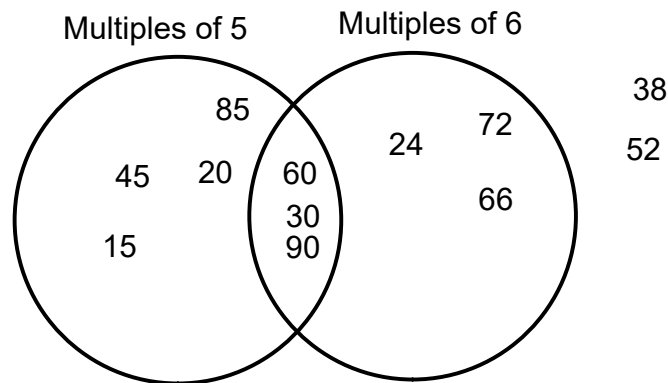
- 8:09
- 8:18
- 8:27
- 8:36
- 8:45
- 8:54
- 9:03
- 9:12
- 9:17
- 9:26

Pg 57 #9 #10 #13 #14

Spider 9) 8: 8, 16, 24, 32, 40, 48, 56, 64, 72, 80

Ants 6: 6, 12, 18, 24, 30, 36, 48, 54, 60, 66, 72, 78, 84, 90

- 10) Draw a large Venn diagram with 2 overlapping loops.
 Label the loops Multiples of 5 and Multiples of 6
 Sort these numbers in the Venn diagram:
 45, 24, 52, 30, 66, 15, 85, 90, 72, 60, 20, 38



- 13) Common multiples of 8 and 3

8: 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 96, 104

3: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60
 63, 69, 72, 75, 78, 81, 84, 87, 90, 93, 96, 99, 102

- a) 32 is not in both list it is NOT a common multiple
- b) 72 is in both list so it is a common multiple
- c) 48 is in both list so it is a common multiple
- d) 54 is not in both list it is NOT a common multiple
- e) 66 is not in both list it is NOT a common multiple
- f) 96 is in both list so it is a common multiple

- 14) Pack of 5 (Patties)

5: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80,
 85, 90, 95, 100, 105, 110, 115, 120, 125

Pack of 8 (buns)

8: 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 96, 104, 112,
120 128

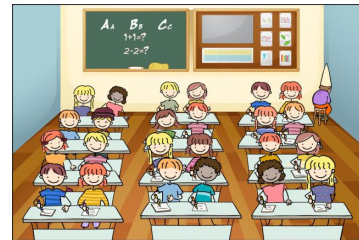
24 packs of patties & 15 packs of buns

Ch.2 (Lesson 3: Exploring Multiples)

Specific Outcomes

- Demonstrate an understanding of place value for numbers greater than one million. (6N1)
- Solve problems involving large numbers, using technology. (6N2)
- Demonstrate an understanding of factors and multiples by:
 - determining multiples and factors of numbers less than 100
 - identifying prime and composite numbers
 - solving problems involving multiples. (6N3)
- Explain and apply the order of operations, excluding exponents, with and without technology (limited to whole numbers). (6N9)

●Today



Prime & Composite



Definition

Product - answer to a **multiplication** problem

- Factor – a number that is multiplied by another to give a product.
- - a number that divides evenly into another number

ex) $7 \times 8 = 56$

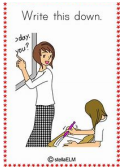
factors product

A diagram illustrating the components of a multiplication equation. The equation is $7 \times 8 = 56$. Below the numbers 7 and 8, the word "factors" is written. Two arrows point from "factors" to 7 and 8. Below the number 56, the word "product" is written. An arrow points from "product" to 56.

ex) $56 \div 8 = 7$

factors

A diagram illustrating the components of a division equation. The equation is $56 \div 8 = 7$. Below the numbers 8 and 7, the word "factors" is written. Two arrows point from "factors" to 8 and 7.



Definitions

- **Prime Number** – a number that has only two factors, itself and 1.

Example: 7 is *prime* because the only numbers that will divide into it evenly are 1 and 7.

First few prime numbers

2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37...

PRIME NUMBERS TO 100

Prime numbers are numbers that are only divisible by themselves and by 1.

	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

- **Composite number** – a number that has more than two factors.

ex) 8 is a composite number

$$1 \times 8 = 8$$

$$2 \times 4 = 8$$

so 8 has the factors 1, 2, 4, 8

.



One is special because . . .

One is not prime.

(because it does not have exactly two different factors).

1

One is not Composite.

(because it does not have more than 2 factors).



How to model factors

Make different rectangles from the following numbers



"What multiplies to give me 16?"

a) 16 tiles can make different rectangles

$$1 \times 16$$

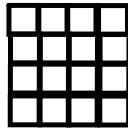
$$2 \times 8$$

$$4 \times 4$$

Factors of 16
1, 2, 4, 8, 16



or



or

How to model factors

You try

Make different rectangles from the following numbers



a) 6 tiles can make _____ different rectangles

$$1 \times 6$$

$$2 \times 3$$

Factors of 6

1, 2, 3, 6

You won't have to draw tiles as long as you can write what multiplies to get the product.

Example list the factors of 48

$$1 \times 48$$

$$2 \times 24$$

$$3 \times 16$$

$$4 \times 12$$

$$6 \times 8$$


Factors of 48

1, 2, 3, 4, 6, 8, 12, 16, 24, 48

Class/Homework

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#1b, c, d, f, g, 

#3) Write the factors of 80 then write yes or no beside a - h

#5 HINT multiples of 12 may help to determine





#12

#15

Practice

You may use Colour Tiles or counters to model your solutions.

1. List all the factors of each number.

a) 6

b) 9

c) 25

d) 30

e) 12

f) 50

g) 28

h) 98

i) 20

j) 63

2. a) Name a prime number.
Explain how you know it is a prime number.
- b) Name a composite number.
Explain how you know it is a composite number.

3. Which numbers below are factors of 80?

How do you know?

a) 2

b) 3

c) 4

d) 5

e) 6

f) 8

g) 9

h) 10

4. Which of the numbers 2, 3, 4, 5, 6, 8, 9, 12, 15, 17, and 19 are factors of:

- a) 24? b) 38? c) 45? d) 51?

What strategy did you use to find out?

5. Eggs are packaged in cartons of 12.
Which of these numbers of eggs can be packaged
in full cartons? How do you know?

- a) 96 b) 56 c) 60 d) 74



6. Write 3 numbers between 30 and 50 that have:
- a) exactly 2 factors each
 - b) more than 2 factors each

7. Write 3 numbers less than 100 that have exactly 4 factors each.

8. Sort these numbers as prime or composite.

How did you decide where to place each number?

59 93 97 87 73 45



9. Between 20 and 28 students signed up for the chess club. The students could not be divided exactly into groups of 2, 3, 4, or 5. How many students signed up for the chess club? Show your work.



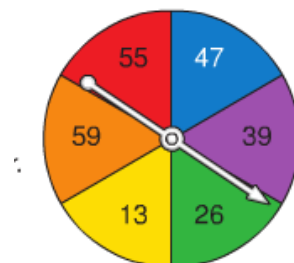
10. How many numbers between 70 and 80 are prime numbers?
What numbers are they?
Explain how you know they are prime numbers. _____

11. How many days in September have a prime number date?
How many have a composite number date?
Show how you know.

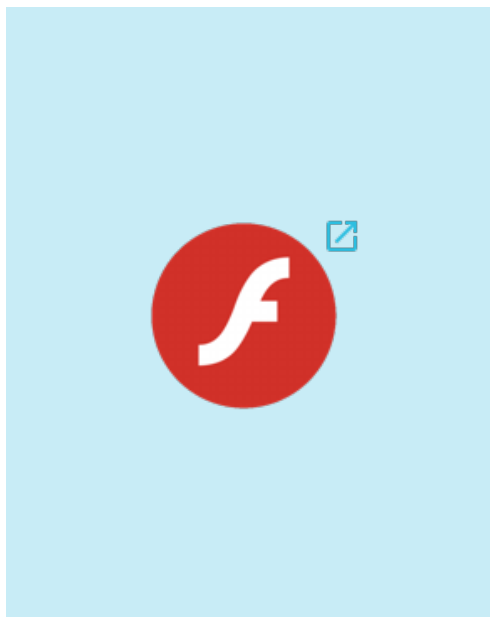


12. How can you tell that 32 and 95 are not prime numbers without finding their factors?

13. Brigitte and Stéphane play a game with this spinner.
Brigitte gets a point if the pointer lands on a prime number.
Stéphane gets a point if the pointer lands on a composite number.
The first person to get 20 points wins. Who is more likely to win?
How do you know?



14. A student said, "All prime numbers except for the number 2 are odd. So, all odd numbers must be prime numbers." Do you agree with the student? Explain.



15. Copy this Carroll diagram.

	Prime	Composite
Even		
Odd		

Sort the numbers from 2 to 30.

Attachments

Integer questions for practice Solutions.notebook