

Grade 4 Prime/Composite Study Guide

Students will have access to their Multiples, Primes, and Composites Booklet for the test. This is a different booklet than the one they brought home for studying. Pages from this resource are at the end of the Study Guide to use for practice questions.

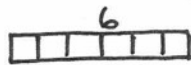
1) Multiples:

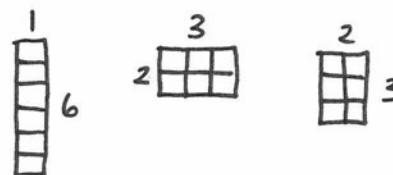
- a) Student booklet p. 1-6
- b) Hint for students "skip count"
- c) Name the first 5 multiples for numbers
 - i) Multiples of 5 = 5, 10, 15, 20, 25
- d) Use repeated addition for multiples that are larger numbers
 - i) Multiples of 13 = 13, 26, 39, 52, 65
 - (1) $13 + 13 = 26$
 - (2) $26 + 13 = 39$
 - (3) $39 + 13 = 52$
 - (4) $52 + 13 = 65$

2) Factors

- a) Student booklet p.7-16
- b) Factor x Factor = Product
 - i) $3 \times 4 = 12$
 - ii) 3 and 4 are factors of 12
 - iii) 12 is a multiple of 3 and 4 (12 is said when you skip count by 3s and it is said when you skip count by 4s)

- c) Rectangular Arrays

Factors of 6 \rightarrow 1 



- d) Factor Pairs:

Factor Pairs for 18	
1	18
2	9
3	6

- e) Factor Arc or Rainbows

18 : (1 , 2 , 3 , 6 , 9 , 18)



3) Common Factors

- a) Student booklet p. 17-18
- b) To solve for common factors
 - i) Step 1: list all the factors of each number (use factor rainbow/arc from #2e)
 - ii) Step 2: identify common factors

$$6: (1, 2, 3, 6)$$
$$18: (1, 2, 3, 6, 9, 18)$$

Common Factors: 1, 2, 3, 6

4) Greatest Common Factors (GCF)

- a) Student booklet p. 19-23
- b) To solve for the greatest common factor
 - i) Step 1: list all the factors of each number (use factor rainbow/arc from #2e)
 - ii) Step 2: identify common factors
 - iii) Step 3: Determine which is the largest

$$6: (1, 2, 3, 6)$$

$$18: (1, 2, 3, 6, 9, 18)$$

Common Factors: 1, 2, 3, 6

$$\text{GCF} = 6$$

5) Prime and Composite Numbers

- a) Student booklet p. 24-30
- b) Prime Numbers: have factors of only itself and 1
 - i) Examples: 2, 5, 7, 11
- c) Composite Numbers: have factors other than 1 and itself
 - i) Examples: 4, 9, 12, 15
- d) One is NEITHER prime nor composite because it does not have at least 2 factors

Practice Questions

1) Write the first five multiples of 7.

7 = _____, _____, _____, _____, _____

2) Circle the numbers that are multiples of 6.

18 15 12 60 52 38 91 36 48

3) Write the first 5 multiples of 19.

19 = _____, _____, _____, _____, _____

4) Write the first 5 multiples of 24.

24 = _____, _____, _____, _____, _____

5) Harva buys four books that each cost \$17. How much money does she spend?

6) What factor pair does the array below show? _____ x _____ = _____

7) You are arranging eight desks into a rectangle in class. How many ways could you make different rectangles with the desks?

8) What factor pair does the array below show? $\underline{\quad} \times \underline{\quad} = \underline{\quad}$

9) Factors of 30: (\quad)

10) Factors of 93: (\quad)

11) List the common factors of 21 and 28?

12) What is the greatest common factor of 45 and 60?

13) What is the greatest common factor of 60 and 75?

14) Mali bakes 28 cookies and 35 brownies for a bake sale. She wants to package them in boxes with the same number of treats in each box. She does not want to mix the cookies and brownies. What is the greatest number of baked goods she can put in each box?

15) A composite number has factors other than one and itself.

True or False

16) Which of the following are prime numbers

a) 1, 2, 3, 4

b) 1, 3, 5, 7

c) 4, 6, 8, 10

d) 2, 3, 5, 7

17) Circle all the composite numbers in the list below.

1 11 18 10 24 14 3 29 5 27 17 25 23 4 15 2

Multiples, Primes and Composites Booklet

Multiples of 2

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

Multiples of 3

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

Multiples of 4

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

Multiples of 5

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

Multiples of 6

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

Multiples of 7

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

Multiples of 8

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

Multiples of 9

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

Multiples of 10

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

Multiples of 11

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

Multiples of 12


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

Prime and Composite

Legend

 Neither prime nor composite


 Prime

 Composite

Are there more prime or composite numbers?

How many numbers are prime? _____

Sieve of Eratosthenes

	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
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