Rules of DIVISIBILITY

differentiated
interactive notes &
practice worksheets

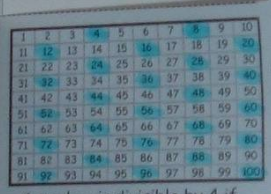
by Joy M. Hall

Fonts by www.kevinandamanda.com

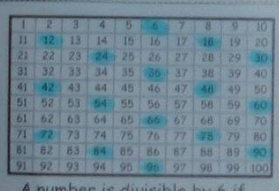
Rules of Divisibility

it is even.
(end with 0, 2, 4, 6, or 8)

A number is divisible by 3 if...

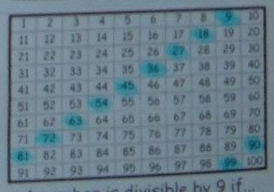

A number is divisible by 4 if...

it ends in a 5 or a 0.


A number is divisible by 6 if...

A number is divisible by 7 if...

must be visible by & 4.


A number is divisible by 9 if...

*A number is divisible by 10 if it ends in 0!

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

A number is divisible by 3 if...

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

A number is divisible by 5 if...

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

A number is divisible by 7 if...

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

A number is divisible by 9 if...

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

A number is divisible by 2 if...

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

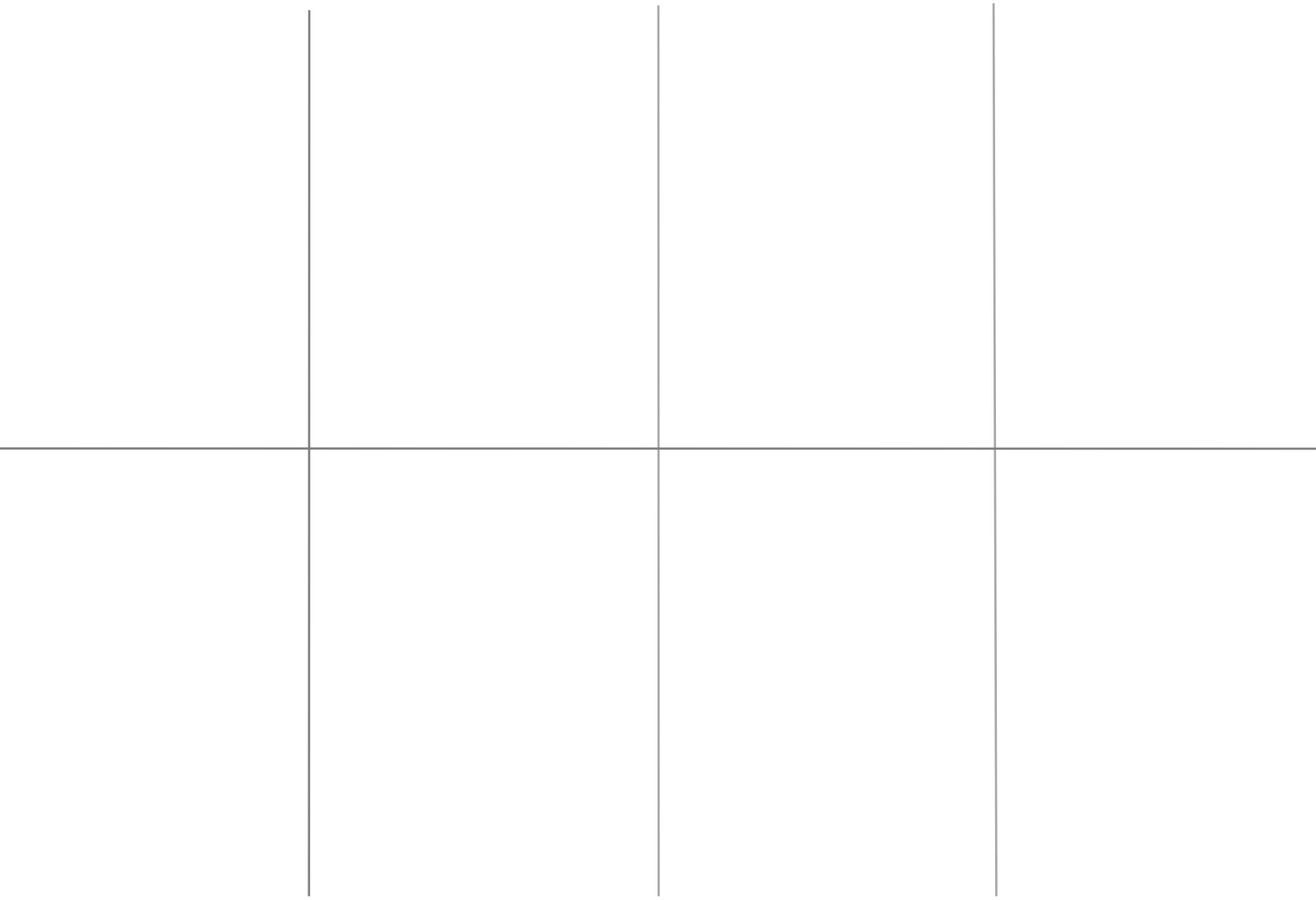
A number is divisible by 4 if...

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

A number is divisible by 6 if...

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

A number is divisible by 8 if...



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

A number is divisible by 3 if...

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

A number is divisible by 5 if...

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

A number is divisible by 7 if...

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

A number is divisible by 9 if...

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

A number is divisible by 2 if...

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

A number is divisible by 4 if...

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

A number is divisible by 6 if...

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

A number is divisible by 8 if...

1. Add all the digits. 2. If the sum is divisible by 3, so is the number. (3, 6, 9, 12, 15.... – can use the hundreds chart to check) Example: 645 = 6+4+5 = 15	it is even. (It ends with a 0, 2, 4, 6, or 8.)
it ends in a <u>5</u> or a <u>0</u>.	the last two digits are divisible by 4. (4, 8, 12, 16, 20.... – can use the hundreds chart to check)
1. Take the last digit and double it. 2. Subtract that from the remaining numbers. 3. Repeat until you have 1 or 2 digits. 4. Is that number divisible by 7? 5. If so, do a quick mental math division to double check.	it is divisible by <u>BOTH</u> 2 and 3. Both rules have to work.
1. Add all the digits. 2. If the sum is divisible by 9, so is the number. (9, 18, 27, 45 .... – can use the hundreds chart to check) Example: 342 = 3+4+2 = 9	the last three digits in the number are divisible by 8.

Directions: Cut on the dotted lines and glue the notes on the inside of the foldable rules of divisibility page.

NOTE: There is one extra note that will be glued on the notes page separately from the rest.

the last three digits in the number are divisible by 8.	
1. Take the last digit and double it. 2. Subtract that from the remaining numbers. 3. Repeat until you have 1 or 2 digits. 4. Is that number divisible by 7? 5. If so, do a quick mental math division to double check.	the last two digits are divisible by 4. (4, 8, 12, 16, 20.... – can use the hundreds chart to check)
it ends in a 5 or a 0.	* A number is divisible by 10 if it ends with a 0.
it is even. (It ends with a 0, 2, 4, 6, or 8.)	it is divisible by BOTH 2 and 3. Both rules have to work.
1. Add all the digits. 2. If the sum is divisible by 3, so is the number. (3, 6, 9, 12, 15.... – can use the hundreds chart to check) Example: 645 = 6+4+5 = 15	1. Add all the digits. 2. If the sum is divisible by 9, so is the number. (9, 18, 27, 45 .... – can use the hundreds chart to check) Example: 342 = 3+4+2 = 9

name _____ date _____

Directions: Use your notes on Rules of Divisibility to complete this page. Circle each divisor that the number is divisible by.

1. **432**

is this number divisible by...

2 3 4 5 6 7 8 9 10

2. **357**

is this number divisible by...

2 3 4 5 6 7 8 9 10

3. **2,360**

is this number divisible by...

2 3 4 5 6 7 8 9 10

4. **5,671**

is this number divisible by...

2 3 4 5 6 7 8 9 10

5. **16,303**

is this number divisible by...

2 3 4 5 6 7 8 9 10

6. **38,475**

is this number divisible by...

2 3 4 5 6 7 8 9 10

7. **400,005**

is this number divisible by...

2 3 4 5 6 7 8 9 10

8. **782,340**

is this number divisible by...

2 3 4 5 6 7 8 9 10

9. **7,321,694**

is this number divisible by...

2 3 4 5 6 7 8 9 10

10. **6,862,356**

is this number divisible by...

2 3 4 5 6 7 8 9 10

Copyright © 2012 Joy M. Hall

name answer key date _____

Directions: Use your notes on Rules of Divisibility to complete this page. Circle each divisor that the number is divisible by.

1. **432**

is this number divisible by...

(2) (3) (4) 5 (6) 7 (8) (9) 10

2. **357**

is this number divisible by...

2 (3) 4 5 6 (7) 8 9 10

3. **2,360**

is this number divisible by...

(2) 3 (4) (5) 6 7 (8) 9 (10)

4. **5,671**

is this number divisible by...

2 3 4 5 6 7 8 9 10

5. **16,303**

is this number divisible by...

2 3 4 5 6 (7) 8 9 10

6. **38,475**

is this number divisible by...

2 (3) 4 (5) 6 7 8 (9) 10

7. **400,005**

is this number divisible by...

2 (3) 4 (5) 6 7 8 (9) 10

8. **782,340**

is this number divisible by...

(2) (3) (4) (5) (6) 7 8 9 (10)

9. **7,321,694**

is this number divisible by...

(2) 3 4 5 6 7 8 9 10

10. **6,862,356**

is this number divisible by...

(2) (3) (4) 5 (6) 7 8 (9) 10

Copyright © 2012 Joy M. Hall

name _____ date _____

Directions: Use your notes on Rules of Divisibility to complete this page. Circle each divisor that the number is divisible by.

1. **432**

is this number divisible by...

2 3 5 10

2. **357**

is this number divisible by...

2 3 5 10

3. **2,360**

is this number divisible by...

2 3 5 10

4. **5,671**

is this number divisible by...

2 3 5 10

5. **16,303**

is this number divisible by...

2 3 5 10

6. **38,475**

is this number divisible by...

2 3 5 10

7. **400,005**

is this number divisible by...

2 3 5 10

8. **782,340**

is this number divisible by...

2 3 5 10

9. **7,321,694**

is this number divisible by...

2 3 5 10

10. **6,862,356**

is this number divisible by...

2 3 5 10

Copyright © 2012 Joy M. Hall

name answer key date _____

Directions: Use your notes on Rules of Divisibility to complete this page. Circle each divisor that the number is divisible by.

1. **432**

is this number divisible by...

(2) (3) 5 10

2. **357**

is this number divisible by...

2 (3) 5 10

3. **2,360**

is this number divisible by...

(2) 3 (5) (10)

4. **5,671**

is this number divisible by...

2 3 5 10

5. **16,303**

is this number divisible by...

2 3 5 10

6. **38,475**

is this number divisible by...

2 (3) (5) 10

7. **400,005**

is this number divisible by...

2 (3) (5) 10

8. **782,340**

is this number divisible by...

(2) (3) (5) (10)

9. **7,321,694**

is this number divisible by...

(2) 3 5 10

10. **6,862,356**

is this number divisible by...

(2) (3) 5 10

Copyright © 2012 Joy M. Hall

name _____ date _____

Directions: Use your notes on Rules of Divisibility to complete this page. Circle each divisor that the number is divisible by.

1. **210**

is this number divisible by...

2 3 4 5 6 7 8 9 10

2. **588**

is this number divisible by...

2 3 4 5 6 7 8 9 10

3. **1,105**

is this number divisible by...

2 3 4 5 6 7 8 9 10

4. **4,132**

is this number divisible by...

2 3 4 5 6 7 8 9 10

5. **20,043**

is this number divisible by...

2 3 4 5 6 7 8 9 10

6. **13,156**

is this number divisible by...

2 3 4 5 6 7 8 9 10

7. **211,032**

is this number divisible by...

2 3 4 5 6 7 8 9 10

8. **362,880**

is this number divisible by...

2 3 4 5 6 7 8 9 10

9. **2,031,037**

is this number divisible by...

2 3 4 5 6 7 8 9 10

10. **4,128,796**

is this number divisible by...

2 3 4 5 6 7 8 9 10

Copyright © 2012 Joy M. Hall

name answer key date _____

Directions: Use your notes on Rules of Divisibility to complete this page. Circle each divisor that the number is divisible by.

1. **210**

is this number divisible by...

(2) (3) 4 (5) (6) (7) 8 9 (10)

2. **588**

is this number divisible by...

(2) (3) (4) 5 (6) (7) 8 9 10

3. **1,105**

is this number divisible by...

2 3 4 (5) 6 7 8 9 10

4. **4,132**

is this number divisible by...

(2) 3 (4) 5 6 7 8 9 10

5. **20,043**

is this number divisible by...

2 (3) 4 5 6 7 8 (9) 10

6. **13,156**

is this number divisible by...

(2) 3 (4) 5 6 7 8 9 10

7. **211,032**

is this number divisible by...

(2) (3) (4) 5 (6) 7 (8) (9) 10

8. **362,880**

is this number divisible by...

(2) (3) (4) (5) (6) (7) (8) (9) (10)

9. **2,031,037**

is this number divisible by...

2 3 4 5 6 7 8 9 10

10. **4,128,796**

is this number divisible by...

(2) 3 (4) 5 6 (7) 8 9 10

Copyright © 2012 Joy M. Hall

name _____ date _____

Directions: Use your notes on Rules of Divisibility to complete this page. Circle each divisor that the number is divisible by.

1. **210**

is this number divisible by...

2 3 5 10

2. **588**

is this number divisible by...

2 3 5 10

3. **1,105**

is this number divisible by...

2 3 5 10

4. **4,132**

is this number divisible by...

2 3 5 10

5. **20,043**

is this number divisible by...

2 3 5 10

6. **13,156**

is this number divisible by...

2 3 5 10

7. **211,032**

is this number divisible by...

2 3 5 10

8. **362,880**

is this number divisible by...

2 3 5 10

9. **2,031,037**

is this number divisible by...

2 3 5 10

10. **4,128,796**

is this number divisible by...

2 3 5 10

Copyright © 2012 Joy M. Hall

name answer key date _____

Directions: Use your notes on Rules of Divisibility to complete this page. Circle each divisor that the number is divisible by.

1. **210**

is this number divisible by...

(2) (3) (5) (10)

2. **588**

is this number divisible by...

(2) (3) 5 10

3. **1,105**

is this number divisible by...

2 3 (5) 10

4. **4,132**

is this number divisible by...

(2) 3 5 10

5. **20,043**

is this number divisible by...

2 (3) 5 10

6. **13,156**

is this number divisible by...

(2) 3 5 10

7. **211,032**

is this number divisible by...

(2) (3) 5 10

8. **362,880**

is this number divisible by...

(2) (3) (5) (10)

9. **2,031,037**

is this number divisible by...

2 3 5 10

10. **4,128,796**

is this number divisible by...

(2) 3 5 10

Copyright © 2012 Joy M. Hall

thank you for downloading

Rules of DIVISIBILITY

If you like this product, I sincerely hope you'll come visit me at my blog and my facebook page or drop me a message at joy@mrsjoyhall.com.

Be sure to click the "follow me" button on TeachersPayTeachers to get emailed whenever I post a new product!