

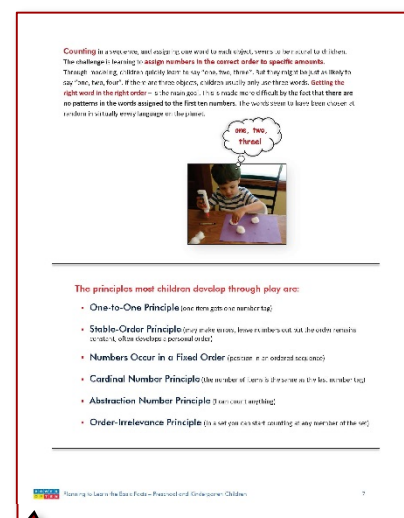
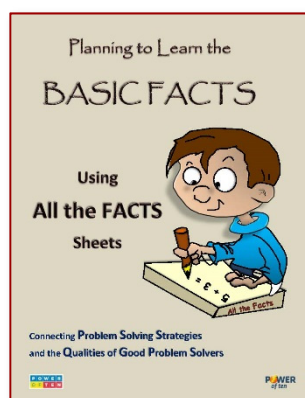
Assessment, Evaluation and Reporting

A Quick Guide Fact Families All the Facts

Assessment is possibly the most crucial step in the teaching/learning process. Students require feedback or must self-correct for learning to occur. Much of what we learn occurs because we have made an error. We should learn to celebrate these moments.

This package assumes that the student can count to 10. The earliest stages in numeracy involve learning to count. There are six patterns (principles) learned in this process *(see page 7 of the Planning to Learn the Basic Facts)*.

If a student cannot count to 10, it will be very difficult to teach addition and subtraction. A combination of games and direct instruction will be necessary. The focus should be on teaching order and subitization using Power of Ten™ cards, dice, dominoes, and counting games (Snakes and Ladders).




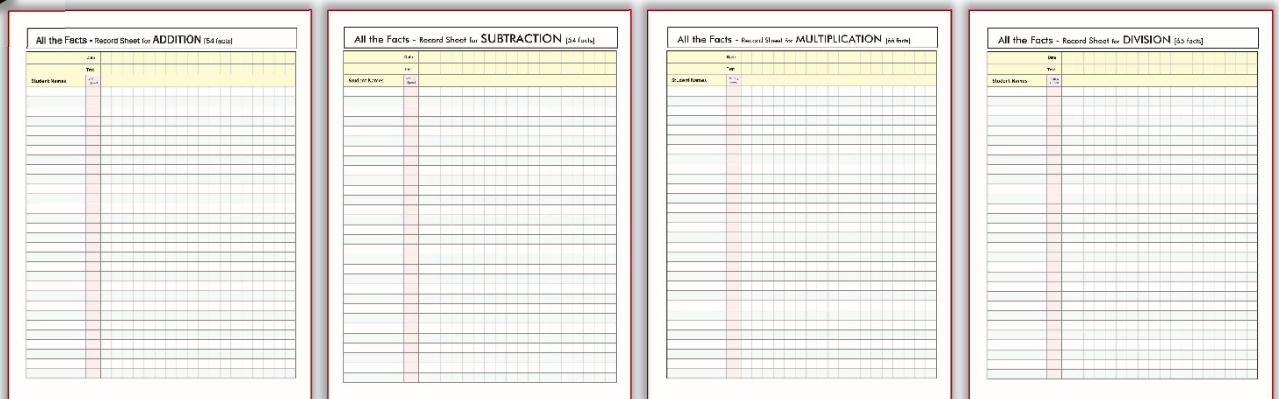
Stage 1: (page 4 of this document) – **Assessment Sheet** includes **subitization games, order** and **connecting numerals to amounts**.

Stage 2: (page 5 of this document) – **Assessment Sheet** includes **subitization games** and **connecting Fact Families** and **Friendly Numbers to addition and subtraction patterns** using the **Fact Families** sheets where the sums are less than or equal to ten.

Stage 3: (page 6 of this document) – **Assessment Sheet** includes **games** designed to teach **patterns and strategies for adding equations that have sums greater than 10 and less than 20**. These are taught using Forms A and B and then assessed using the **All the Facts** sheets.

Stage 4: (page 7 of this document) – **Assessment Sheet** includes **games** and **connecting the knowledge of doubles and doubling to multiplication** using the **All the Fact Multiplication Patterns** sheets and eventually to the **All the Facts Multiplication** and **Division** Sheets.

 **Record Sheets:** **All the Facts** for **all four operations (+, -, x, ÷)**
(pages 8–11 of this document).



The image displays four record sheets for 'All the Facts' for Addition, Subtraction, Multiplication, and Division. Each sheet has a header with the title and a grid for recording facts. The sheets are arranged horizontally.

All the Facts - Record Sheet for ADDITION (54 facts)	
Fact	Student Name
1 + 1 = 2	
1 + 2 = 3	
1 + 3 = 4	
1 + 4 = 5	
1 + 5 = 6	
1 + 6 = 7	
1 + 7 = 8	
1 + 8 = 9	
1 + 9 = 10	
2 + 1 = 3	
2 + 2 = 4	
2 + 3 = 5	
2 + 4 = 6	
2 + 5 = 7	
2 + 6 = 8	
2 + 7 = 9	
2 + 8 = 10	
2 + 9 = 11	
3 + 1 = 4	
3 + 2 = 5	
3 + 3 = 6	
3 + 4 = 7	
3 + 5 = 8	
3 + 6 = 9	
3 + 7 = 10	
3 + 8 = 11	
3 + 9 = 12	
4 + 1 = 5	
4 + 2 = 6	
4 + 3 = 7	
4 + 4 = 8	
4 + 5 = 9	
4 + 6 = 10	
4 + 7 = 11	
4 + 8 = 12	
4 + 9 = 13	
5 + 1 = 6	
5 + 2 = 7	
5 + 3 = 8	
5 + 4 = 9	
5 + 5 = 10	
5 + 6 = 11	
5 + 7 = 12	
5 + 8 = 13	
5 + 9 = 14	
6 + 1 = 7	
6 + 2 = 8	
6 + 3 = 9	
6 + 4 = 10	
6 + 5 = 11	
6 + 6 = 12	
6 + 7 = 13	
6 + 8 = 14	
6 + 9 = 15	
7 + 1 = 8	
7 + 2 = 9	
7 + 3 = 10	
7 + 4 = 11	
7 + 5 = 12	
7 + 6 = 13	
7 + 7 = 14	
7 + 8 = 15	
7 + 9 = 16	
8 + 1 = 9	
8 + 2 = 10	
8 + 3 = 11	
8 + 4 = 12	
8 + 5 = 13	
8 + 6 = 14	
8 + 7 = 15	
8 + 8 = 16	
8 + 9 = 17	
9 + 1 = 10	
9 + 2 = 11	
9 + 3 = 12	
9 + 4 = 13	
9 + 5 = 14	
9 + 6 = 15	
9 + 7 = 16	
9 + 8 = 17	
9 + 9 = 18	

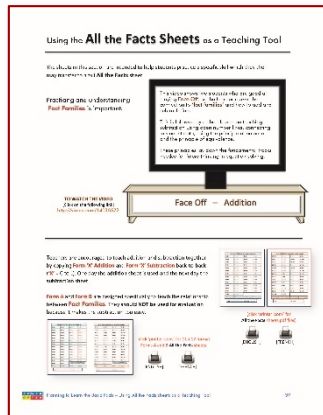
All the Facts - Record Sheet for SUBTRACTION (54 facts)	
Fact	Student Name
2 - 1 = 1	
3 - 1 = 2	
3 - 2 = 1	
4 - 1 = 3	
4 - 2 = 2	
4 - 3 = 1	
5 - 1 = 4	
5 - 2 = 3	
5 - 3 = 2	
5 - 4 = 1	
6 - 1 = 5	
6 - 2 = 4	
6 - 3 = 3	
6 - 4 = 2	
6 - 5 = 1	
7 - 1 = 6	
7 - 2 = 5	
7 - 3 = 4	
7 - 4 = 3	
7 - 5 = 2	
7 - 6 = 1	
8 - 1 = 7	
8 - 2 = 6	
8 - 3 = 5	
8 - 4 = 4	
8 - 5 = 3	
8 - 6 = 2	
8 - 7 = 1	
9 - 1 = 8	
9 - 2 = 7	
9 - 3 = 6	
9 - 4 = 5	
9 - 5 = 4	
9 - 6 = 3	
9 - 7 = 2	
9 - 8 = 1	
10 - 1 = 9	
10 - 2 = 8	
10 - 3 = 7	
10 - 4 = 6	
10 - 5 = 5	
10 - 6 = 4	
10 - 7 = 3	
10 - 8 = 2	
10 - 9 = 1	

All the Facts - Record Sheet for MULTIPLICATION (54 facts)	
Fact	Student Name
1 x 1 = 1	
1 x 2 = 2	
1 x 3 = 3	
1 x 4 = 4	
1 x 5 = 5	
1 x 6 = 6	
1 x 7 = 7	
1 x 8 = 8	
1 x 9 = 9	
2 x 1 = 2	
2 x 2 = 4	
2 x 3 = 6	
2 x 4 = 8	
2 x 5 = 10	
2 x 6 = 12	
2 x 7 = 14	
2 x 8 = 16	
2 x 9 = 18	
3 x 1 = 3	
3 x 2 = 6	
3 x 3 = 9	
3 x 4 = 12	
3 x 5 = 15	
3 x 6 = 18	
3 x 7 = 21	
3 x 8 = 24	
3 x 9 = 27	
4 x 1 = 4	
4 x 2 = 8	
4 x 3 = 12	
4 x 4 = 16	
4 x 5 = 20	
4 x 6 = 24	
4 x 7 = 28	
4 x 8 = 32	
4 x 9 = 36	
5 x 1 = 5	
5 x 2 = 10	
5 x 3 = 15	
5 x 4 = 20	
5 x 5 = 25	
5 x 6 = 30	
5 x 7 = 35	
5 x 8 = 40	
5 x 9 = 45	
6 x 1 = 6	
6 x 2 = 12	
6 x 3 = 18	
6 x 4 = 24	
6 x 5 = 30	
6 x 6 = 36	
6 x 7 = 42	
6 x 8 = 48	
6 x 9 = 54	
7 x 1 = 7	
7 x 2 = 14	
7 x 3 = 21	
7 x 4 = 28	
7 x 5 = 35	
7 x 6 = 42	
7 x 7 = 49	
7 x 8 = 56	
7 x 9 = 63	
8 x 1 = 8	
8 x 2 = 16	
8 x 3 = 24	
8 x 4 = 32	
8 x 5 = 40	
8 x 6 = 48	
8 x 7 = 56	
8 x 8 = 64	
8 x 9 = 72	
9 x 1 = 9	
9 x 2 = 18	
9 x 3 = 27	
9 x 4 = 36	
9 x 5 = 45	
9 x 6 = 54	
9 x 7 = 63	
9 x 8 = 72	
9 x 9 = 81	

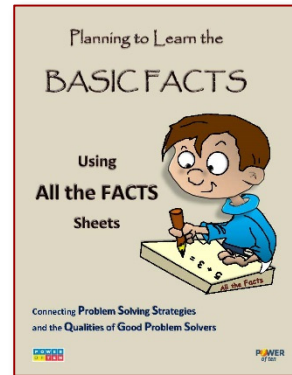
All the Facts - Record Sheet for DIVISION (54 facts)	
Fact	Student Name
2 ÷ 1 = 2	
3 ÷ 1 = 3	
4 ÷ 1 = 4	
5 ÷ 1 = 5	
6 ÷ 1 = 6	
7 ÷ 1 = 7	
8 ÷ 1 = 8	
9 ÷ 1 = 9	
10 ÷ 1 = 10	
2 ÷ 2 = 1	
3 ÷ 2 = 1.5	
4 ÷ 2 = 2	
5 ÷ 2 = 2.5	
6 ÷ 2 = 3	
7 ÷ 2 = 3.5	
8 ÷ 2 = 4	
9 ÷ 2 = 4.5	
10 ÷ 2 = 5	
3 ÷ 3 = 1	
4 ÷ 3 = 1.33	
5 ÷ 3 = 1.67	
6 ÷ 3 = 2	
7 ÷ 3 = 2.33	
8 ÷ 3 = 2.67	
9 ÷ 3 = 3	
10 ÷ 3 = 3.33	
4 ÷ 4 = 1	
5 ÷ 4 = 1.25	
6 ÷ 4 = 1.5	
7 ÷ 4 = 1.75	
8 ÷ 4 = 2	
9 ÷ 4 = 2.25	
10 ÷ 4 = 2.5	
5 ÷ 5 = 1	
6 ÷ 5 = 1.2	
7 ÷ 5 = 1.4	
8 ÷ 5 = 1.6	
9 ÷ 5 = 1.8	
10 ÷ 5 = 2	
6 ÷ 6 = 1	
7 ÷ 6 = 1.17	
8 ÷ 6 = 1.33	
9 ÷ 6 = 1.5	
10 ÷ 6 = 1.67	
7 ÷ 7 = 1	
8 ÷ 7 = 1.14	
9 ÷ 7 = 1.29	
10 ÷ 7 = 1.43	
8 ÷ 8 = 1	
9 ÷ 8 = 1.13	
10 ÷ 8 = 1.25	
9 ÷ 9 = 1	
10 ÷ 9 = 1.11	

Please see the following chapters for more details on Assessment and Evaluation

Planning to Learn the Basic Facts



(see pages 39 – 68)



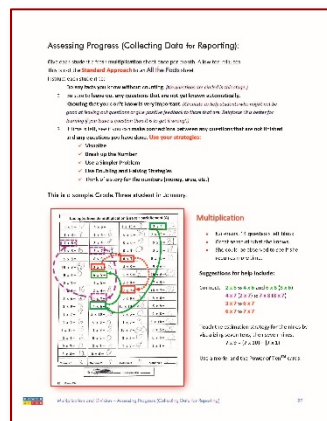
Grade Level Expectations for Basic Number Facts using the Power of Ten™ Touchable Moments™ Mastering the Basics

All the Facts sheets

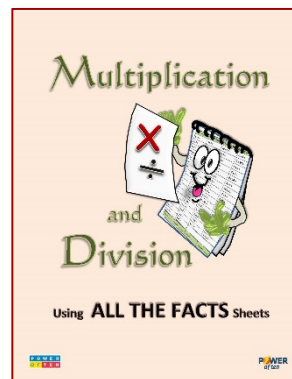
Grade	Level	Number	Operation	Fact	Answer
1	1	10	+	10	20
1	2	10	+	10	20
1	3	10	+	10	20
1	4	10	+	10	20
1	5	10	+	10	20
1	6	10	+	10	20
1	7	10	+	10	20
1	8	10	+	10	20
1	9	10	+	10	20
1	10	10	+	10	20
1	11	10	+	10	20
1	12	10	+	10	20
1	13	10	+	10	20
1	14	10	+	10	20
1	15	10	+	10	20
1	16	10	+	10	20
1	17	10	+	10	20
1	18	10	+	10	20
1	19	10	+	10	20
1	20	10	+	10	20
1	21	10	+	10	20
1	22	10	+	10	20
1	23	10	+	10	20
1	24	10	+	10	20
1	25	10	+	10	20
1	26	10	+	10	20
1	27	10	+	10	20
1	28	10	+	10	20
1	29	10	+	10	20
1	30	10	+	10	20
1	31	10	+	10	20
1	32	10	+	10	20
1	33	10	+	10	20
1	34	10	+	10	20
1	35	10	+	10	20
1	36	10	+	10	20
1	37	10	+	10	20
1	38	10	+	10	20
1	39	10	+	10	20
1	40	10	+	10	20
1	41	10	+	10	20
1	42	10	+	10	20
1	43	10	+	10	20
1	44	10	+	10	20
1	45	10	+	10	20
1	46	10	+	10	20
1	47	10	+	10	20
1	48	10	+	10	20
1	49	10	+	10	20
1	50	10	+	10	20
1	51	10	+	10	20
1	52	10	+	10	20
1	53	10	+	10	20
1	54	10	+	10	20
1	55	10	+	10	20
1	56	10	+	10	20
1	57	10	+	10	20
1	58	10	+	10	20
1	59	10	+	10	20
1	60	10	+	10	20
1	61	10	+	10	20
1	62	10	+	10	20
1	63	10	+	10	20
1	64	10	+	10	20
1	65	10	+	10	20
1	66	10	+	10	20
1	67	10	+	10	20
1	68	10	+	10	20
1	69	10	+	10	20
1	70	10	+	10	20
1	71	10	+	10	20
1	72	10	+	10	20
1	73	10	+	10	20
1	74	10	+	10	20
1	75	10	+	10	20
1	76	10	+	10	20
1	77	10	+	10	20
1	78	10	+	10	20
1	79	10	+	10	20
1	80	10	+	10	20
1	81	10	+	10	20
1	82	10	+	10	20
1	83	10	+	10	20
1	84	10	+	10	20
1	85	10	+	10	20
1	86	10	+	10	20
1	87	10	+	10	20
1	88	10	+	10	20
1	89	10	+	10	20
1	90	10	+	10	20
1	91	10	+	10	20
1	92	10	+	10	20
1	93	10	+	10	20
1	94	10	+	10	20
1	95	10	+	10	20
1	96	10	+	10	20
1	97	10	+	10	20
1	98	10	+	10	20
1	99	10	+	10	20
1	100	10	+	10	20

See page 61 for appropriate times for administering the **All the Facts** sheets.

Multiplication and Division Using ALL THE FACTS Sheets



(see pages 27–34)



Stage 1 – Assessing Readiness – Subitization

Colour in half the oval to indicate the activity has been introduced.

Colour in the entire oval to indicate student mastery. That student is ready to move to Stage 2.

[illegible]

Note: students do not have to play all the games but must have all the circles filled in the 'skills' section before independently beginning the Fact Families sheet.

Colour in half the oval to indicate the activity has been introduced.

Colour in the entire oval to indicate student mastery. That student is ready to move to Stage 3.

Note: Students do not have to play all the games but must have all the circles filled in the 'skills' section before independently beginning Stage 3, the All the Facts sheet.

Colour in the entire oval to indicate student mastery. That student is ready to move to Stage 4.

Note: Students do not have to play all the games but must have all the circles filled in the 'skills' section before independently beginning Stage 4, the Multiplication Patterns Getting Started sheet.

Stage 4 - Assessing Knowledge of Basic Facts - Evaluation Record for the Basic Multiplication Patterns Getting Sarterd sheet

Colour in half the oval to indicate the activity has been introduced.

Colour in the entire oval to indicate student mastery. That student is ready for All the Facts mult/div sheet.

Name	Games				Skills to Assess											
	Double	Double-Double	Doubles Challenge	Strategy 500	Understands pattern for:			Connects 10 x pattern to 5 x pattern	Knows 2 x 'doubling' pattern	Connects 2 x 'doubling' pattern to 4 x	Connects 4 x 'doubling' pattern to 8 x	Stage 5 # of x facts known in 10 min.	Stage 5 # of ÷ facts known in 10 min.	Stage 5 # of x facts known in ____ min.	Stage 5 # of ÷ facts known in ____ min.	
					0 x	1 x	10 x									

Note: students do not have to play all the games but must have all the circles filled in the 'skills' section before independently beginning Stage 5, the *All the Facts Multiplication and Division* sheets. Once the student knows the facts in 10 min. start to reduce the time to 8 min. and then 6 min. (Grade 5), and then 3 min. (Grade 6). Timed tests under 10 minutes can induce anxiety— be aware that some students may require more time than the limits stated due to handwriting or other anxiety issues. Have those students finish the sheet after the time limit in a place agreeable to the student.

All the Facts - Record Sheet for **ADDITION** [54 facts]

[illegible]

All the Facts - Record Sheet for SUBTRACTION [54 facts]

[illegible]

All the Facts - Record Sheet for **MULTIPLICATION** [66 facts]

[illegible]

All the Facts - Record Sheet for **DIVISION** [65 facts]

[illegible]