

## Food Measurement Aids for Infants and Toddlers - Conversion Guide for Dietary Interviewers

<b>Cups, Sippy Cups, and Glasses</b>												
<b>C1 (Fluid Ounces, FO), page 3</b>												
<b>Measured volume (FO)</b>	<b>5.0</b>	<b>5.5</b>	<b>6.0</b>	<b>6.5</b>	<b>7.0</b>	<b>7.5</b>	<b>8.0</b>	<b>8.5</b>	<b>9.0</b>	<b>9.5</b>	<b>10.0</b>	<b>Cup NOT measured</b>
<b>Base and A</b>	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.8	0.7
<b>A</b>	0.8	0.9	0.9	1.0	1.1	1.2	1.3	1.3	1.4	1.5	1.6	1.4
<b>A and B</b>	1.3	1.5	1.6	1.7	1.8	1.9	2.1	2.2	2.3	2.4	2.6	2.3
<b>B</b>	1.8	2.0	2.2	2.3	2.5	2.7	2.9	3.0	3.2	3.4	3.6	3.1
<b>B and C</b>	2.3	2.5	2.8	3.0	3.2	3.4	3.7	3.9	4.1	4.3	4.6	4.0
<b>C</b>	2.8	3.0	3.4	3.6	3.9	4.2	4.4	4.7	5.0	5.3	5.6	4.8
<b>C and D</b>	3.4	3.6	4.0	4.3	4.7	5.0	5.3	5.6	6.0	6.3	6.6	5.8
<b>D</b>	3.9	4.2	4.6	5.0	5.4	5.8	6.2	6.6	7.0	7.3	7.7	6.7
<b>D and Rim</b>	4.5	4.9	5.3	5.8	6.2	6.6	7.1	7.5	8.0	8.4	8.9	7.7
<b>To the Rim</b>	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	8.7

<b>C2 (Fluid Ounces, FO), page 3</b>															
<b>Measured volume (FO)</b>	<b>5.0</b>	<b>5.5</b>	<b>6.0</b>	<b>6.5</b>	<b>7.0</b>	<b>7.5</b>	<b>8.0</b>	<b>8.5</b>	<b>9.0</b>	<b>9.5</b>	<b>10.0</b>	<b>10.5</b>	<b>11.0</b>	<b>11.5</b>	<b>Cup NOT measured</b>
<b>Base and A</b>	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.0
<b>A</b>	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	1.9
<b>A and B</b>	1.5	1.6	1.7	1.9	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0	3.1	3.3	2.8
<b>B</b>	1.9	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.3	3.5	3.7	3.9	4.1	4.3	3.6
<b>B and C</b>	2.4	2.6	2.8	3.0	3.3	3.5	3.7	4.0	4.2	4.4	4.7	4.9	5.1	5.4	4.6
<b>C</b>	2.8	3.1	3.4	3.6	3.9	4.2	4.5	4.8	5.1	5.3	5.6	5.9	6.2	6.5	5.5
<b>C and D</b>	3.4	3.7	4.1	4.4	4.7	5.0	5.4	5.7	6.0	6.4	6.7	7.0	7.4	7.7	6.6
<b>D</b>	3.9	4.3	4.7	5.1	5.4	5.8	6.2	6.6	7.0	7.4	7.8	8.2	8.5	8.9	7.6
<b>D and Rim</b>	4.5	4.9	5.4	5.9	6.2	6.7	7.1	7.6	8.0	8.4	8.9	9.3	9.8	10.2	8.7
<b>To the Rim</b>	5.0	5.5	6.0	6.6	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	9.8

**C3 (Fluid Ounces, FO), page 4**

<b>Measured volume (FO)</b>	<b>4.5</b>	<b>5.0</b>	<b>5.5</b>	<b>6.0</b>	<b>6.5</b>	<b>7.0</b>	<b>7.5</b>	<b>8.0</b>	<b>8.5</b>	<b>9.0</b>	<b>9.5</b>	<b>Cup NOT measured</b>
<b>Base and A</b>	0.6	0.6	0.7	0.8	0.8	0.9	0.9	1.0	1.1	1.2	1.2	0.8
<b>A</b>	1.1	1.3	1.4	1.5	1.6	1.8	1.9	2.0	2.1	2.3	2.4	1.5
<b>A and B</b>	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	3.8	4.0	2.5
<b>B</b>	2.6	2.9	3.2	3.5	3.8	4.1	4.4	4.6	4.9	5.2	5.5	3.5
<b>B and C</b>	3.2	3.5	3.9	4.2	4.6	4.9	5.3	5.6	6.0	6.4	6.7	4.3
<b>C</b>	3.7	4.2	4.6	5.0	5.4	5.8	6.2	6.6	7.1	7.5	7.9	5.0
<b>C and Rim</b>	4.1	4.6	5.0	5.5	5.9	6.4	6.9	7.3	7.8	8.3	8.7	5.5
<b>To the Rim</b>	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	6.0

**C4 (Fluid Ounces, FO), page 4**

<b>Measured volume (FO)</b>	<b>5.0</b>	<b>5.5</b>	<b>6.0</b>	<b>6.5</b>	<b>7.0</b>	<b>7.5</b>	<b>8.0</b>	<b>8.5</b>	<b>9.0</b>	<b>9.5</b>	<b>9.5</b>	<b>10.0</b>	<b>10.5</b>	<b>Cup NOT measured</b>
<b>Base and A</b>	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.5
<b>A</b>	0.7	0.7	0.8	0.8	0.9	1.0	1.0	1.1	1.2	1.2	1.2	1.3	1.4	1.0
<b>A and B</b>	1.2	1.2	1.4	1.4	1.5	1.7	1.8	1.9	2.0	2.1	2.1	2.2	2.4	1.8
<b>B</b>	1.6	1.7	1.9	2.0	2.2	2.3	2.5	2.6	2.8	2.9	2.9	3.1	3.3	2.5
<b>B and C</b>	2.1	2.3	2.5	2.6	2.8	3.0	3.2	3.4	3.6	3.8	3.8	4.1	4.3	3.3
<b>C</b>	2.5	2.8	3.0	3.3	3.5	3.8	4.0	4.3	4.5	4.8	4.8	5.0	5.3	4.0
<b>C and D</b>	3.3	3.7	4.0	4.3	4.6	4.9	5.2	5.6	5.9	6.2	6.2	6.6	6.9	5.3
<b>D</b>	4.1	4.5	4.9	5.3	5.7	6.1	6.5	6.9	7.3	7.7	7.7	8.1	8.5	6.5
<b>D and Rim</b>	4.6	5.0	5.5	5.9	6.3	6.8	7.2	7.7	8.1	8.6	8.6	9.1	9.5	7.3
<b>To the Rim</b>	5	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	9.5	10.0	10.5	8.0

C5 (Fluid Ounces, FO), page 5														
Measured volume (FO)	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	Cup NOT measured
Base and A	0.7	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.1
A	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.0	2.1	2.2	2.3	2.4	2.5	2.1
A and B	2.2	2.4	2.5	2.7	2.8	2.9	3.1	3.2	3.3	3.5	3.6	3.8	3.9	3.3
B	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.5	4.7	4.9	5.1	5.3	4.4
B and C	4.0	4.2	4.5	4.7	4.9	5.2	5.4	5.7	5.9	6.2	6.4	6.7	6.9	5.8
C	4.9	5.2	5.5	5.8	6.1	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	7.1
C and D	5.9	6.3	6.6	7.0	7.4	7.7	8.1	8.5	8.8	9.2	9.6	9.9	10.3	8.6
D	6.9	7.3	7.7	8.2	8.6	9.1	9.5	9.9	10.4	10.8	11.2	11.6	12.0	10.1
D and Rim	7.5	7.9	8.4	8.9	9.3	9.8	10.3	10.7	11.2	11.6	12.1	12.6	13.0	10.9
To the Rim	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	11.7

C6 (Fluid Ounces, FO), page 6															
Measured volume (FO)	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	14.0	15.0	16.0	Cup NOT measured
Base and A	0.7	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.3	1.4	1.5	1.1
A	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.3	2.5	2.7	2.9	2.1
A and B	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.3	3.4	3.6	3.7	4.0	4.3	4.6	3.3
B	3.1	3.3	3.5	3.7	3.9	4.1	4.3	4.5	4.7	4.9	5.1	5.5	5.9	6.3	4.5
B and C	4.1	4.3	4.6	4.8	5.0	5.3	5.6	5.8	6.1	6.3	6.6	7.1	7.6	8.1	5.8
C	5.0	5.3	5.6	5.9	6.2	6.5	6.8	7.1	7.4	7.7	8.0	8.6	9.2	9.8	7.0
C and D	5.9	6.3	6.7	7.0	7.3	7.7	8.1	8.4	8.8	9.2	9.5	10.3	11.0	11.7	8.4
D	6.8	7.2	7.7	8.1	8.5	8.9	9.4	9.8	10.2	10.6	11.1	11.9	12.8	13.6	9.7
D and Rim	7.4	7.9	8.4	8.8	9.3	9.7	10.2	10.6	11.1	11.6	12.0	13.0	13.9	14.8	10.6
To the Rim	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	14.0	15.0	16.0	11.4

**C7 (Fluid Ounces, FO), page 6**

<b>Measured volume (FO)</b>	<b>8.0</b>	<b>8.5</b>	<b>9.0</b>	<b>9.5</b>	<b>10.0</b>	<b>10.5</b>	<b>11.0</b>	<b>11.5</b>	<b>12.5</b>	<b>13.0</b>	<b>13.5</b>	<b>14.0</b>	<b>14.5</b>	<b>15.0</b>	<b>15.5</b>	<b>16.0</b>	<b>Cup NOT measured</b>
<b>Base and A</b>	0.8	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.4
<b>A</b>	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.4	2.4	2.5	2.6	2.7	2.8	2.9	3.0	2.7
<b>A and B</b>	2.4	2.5	2.7	2.8	3.0	3.1	3.3	3.4	3.7	3.8	3.9	4.1	4.2	4.4	4.5	4.7	4.2
<b>B</b>	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.9	5.1	5.3	5.5	5.7	5.9	6.1	6.3	5.6
<b>B and C</b>	4.2	4.4	4.7	5.0	5.2	5.5	5.7	6.0	6.5	6.7	7.0	7.3	7.5	7.8	8.0	8.3	7.3
<b>C</b>	5.1	5.4	5.8	6.1	6.4	6.7	7.0	7.4	8.0	8.3	8.6	9.0	9.3	9.6	9.9	10.2	9.0
<b>C and D</b>	6.0	6.4	6.8	7.2	7.5	7.9	8.3	8.7	9.4	9.8	10.1	10.5	10.9	11.3	11.6	12.0	10.6
<b>D</b>	6.9	7.3	7.7	8.2	8.6	9.0	9.5	9.9	10.8	11.2	11.6	12.0	12.5	12.9	13.3	13.8	12.1
<b>D and Rim</b>	7.5	7.9	8.4	8.9	9.3	9.8	10.3	10.7	11.6	12.1	12.6	13.0	13.5	14.0	14.4	14.9	13.1
<b>To the Rim</b>	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	14.1

**C8 (Fluid Ounces, FO), page 6**

<b>Measured volume (FO)</b>	<b>8.0</b>	<b>8.5</b>	<b>9.0</b>	<b>9.5</b>	<b>10.0</b>	<b>10.5</b>	<b>11.0</b>	<b>11.5</b>	<b>12.0</b>	<b>12.5</b>	<b>13.0</b>	<b>14.0</b>	<b>15.0</b>	<b>16.0</b>	<b>Cup NOT measured</b>
<b>Base and A</b>	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.1	1.1	0.8
<b>A</b>	1.1	1.2	1.3	1.4	1.4	1.5	1.6	1.6	1.7	1.8	1.9	2.0	2.1	2.3	1.6
<b>A and B</b>	1.9	2.1	2.2	2.3	2.4	2.5	2.7	2.8	2.9	3.0	3.1	3.4	3.6	3.9	2.7
<b>B</b>	2.7	2.9	3.1	3.2	3.4	3.6	3.7	3.9	4.1	4.2	4.4	4.7	5.1	5.4	3.8
<b>B and C</b>	3.7	3.9	4.2	4.4	4.6	4.9	5.1	5.3	5.5	5.8	6.0	6.5	6.9	7.4	5.2
<b>C</b>	4.6	4.9	5.2	5.6	5.8	6.1	6.4	6.7	7.0	7.3	7.6	8.2	8.8	9.4	6.5
<b>C and D</b>	5.7	6.0	6.4	6.8	7.1	7.5	7.9	8.2	8.6	8.9	9.3	10.0	10.7	11.4	8.0
<b>D</b>	6.7	7.1	7.6	8.0	8.4	8.9	9.3	9.7	10.1	10.6	11.0	11.8	12.7	13.5	9.4
<b>D and Rim</b>	7.4	7.8	8.3	8.8	9.2	9.7	10.1	10.6	11.1	11.5	12.0	12.9	13.8	14.8	10.3
<b>To the Rim</b>	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	14.0	15.0	16.0	11.1

**P1 (OZ), page 7**

Amount Consumed		Know Pouch Amount (OZ)							Pouch as pictured (when participant does not know the net weight)
Percent	Fraction	4	4.2	4.22	4.23	4.4	4.5	6	
10	1/10	0.40	0.42	0.42	0.42	0.44	0.45	0.60	0.42
20	1/5	0.80	0.84	0.84	0.85	0.88	0.90	1.20	0.85
25	1/4	1.00	1.05	1.06	1.06	1.10	1.13	1.50	1.06
30	3/7	1.20	1.26	1.27	1.27	1.32	1.35	1.80	1.27
33	1/3	1.33	1.40	1.41	1.41	1.47	1.50	2.00	1.41
40	2/5	1.60	1.68	1.69	1.69	1.76	1.80	2.40	1.69
50	1/2	2.00	2.10	2.11	2.12	2.20	2.25	3.00	2.12
60	3/5	2.40	2.52	2.53	2.54	2.64	2.70	3.60	2.54
67	2/3	2.67	2.80	2.81	2.82	2.93	3.00	4.00	2.82
70	7/10	2.80	2.94	2.95	2.96	3.08	3.15	4.20	2.96
75	3/4	3.00	3.15	3.17	3.17	3.30	3.38	4.50	3.17
80	4/5	3.20	3.36	3.38	3.38	3.52	3.60	4.80	3.38
90	9/10	3.60	3.78	3.80	3.81	3.96	4.05	5.40	3.81
100	1	4.00	4.20	4.22	4.23	4.40	4.50	6.00	4.23

**P2 (OZ), page 7**

<b>Amount Consumed</b>		<b>Know Pouch Amount (OZ)</b>				<b>Pouch as pictured (when participant does not know the net weight)</b>
<b>Percent</b>	<b>Fraction</b>	<b>3</b>	<b>3.17</b>	<b>3.2</b>	<b>3.5</b>	
<b>10</b>	<b>1/10</b>	0.30	0.32	0.32	0.35	0.32
<b>20</b>	<b>1/5</b>	0.60	0.63	0.64	0.71	0.63
<b>25</b>	<b>1/4</b>	0.75	0.79	0.80	0.88	0.79
<b>30</b>	<b>3/7</b>	0.90	0.95	0.96	1.06	0.95
<b>33</b>	<b>1/3</b>	1.00	1.06	1.07	1.18	1.06
<b>40</b>	<b>2/5</b>	1.20	1.27	1.28	1.41	1.27
<b>50</b>	<b>1/2</b>	1.50	1.59	1.60	1.77	1.59
<b>60</b>	<b>3/5</b>	1.80	1.90	1.92	2.12	1.90
<b>67</b>	<b>2/3</b>	2.00	2.11	2.13	2.35	2.11
<b>70</b>	<b>7/10</b>	2.10	2.22	2.24	2.47	2.22
<b>75</b>	<b>3/4</b>	2.25	2.38	2.40	2.65	2.38
<b>80</b>	<b>4/5</b>	2.40	2.54	2.56	2.82	2.54
<b>90</b>	<b>9/10</b>	2.70	2.85	2.88	3.18	2.85
<b>100</b>	<b>1</b>	3.00	3.17	3.20	3.53	3.17

<b>Spoons (page 8)</b>				
	<b>S1</b> (infant spoon)	<b>S2</b> (toddler spoon)	<b>S3</b> (teaspoon)	<b>S4</b> (tablespoon)
<b>Level</b>	1/6 TS	1/2 TS	1 TS	1 TB
<b>Heaping</b>	1/3 TS	1 TS	2 TS	2 TB

<b>Bowls (pages 9-11)</b>						
	<b>B1</b>	<b>B2</b>	<b>B3</b>	<b>B4</b>	<b>B5</b>	<b>B6</b>
<b>Base and A</b>	0.1 CP	0.2 CP	0.2 CP	0.2 CP	0.2 CP	0.2 CP
<b>A</b>	0.2 CP	0.3 CP	0.4 CP	0.3 CP	0.3 CP	0.3 CP
<b>A and B</b>	0.3 CP	0.5 CP	0.5 CP	0.4 CP	0.5 CP	0.6 CP
<b>B</b>	0.4 CP	0.7 CP	0.6 CP	0.5 CP	0.6 CP	0.8 CP
<b>B and C</b>	0.5 CP	0.9 CP	0.8 CP	0.7 CP	0.8 CP	1.1 CP
<b>C</b>	0.6 CP	1.0 CP	0.9 CP	0.8 CP	1.0 CP	1.3 CP
<b>C and Rim</b>	0.7 CP	1.2 CP	1.0 CP	1.0 CP	1.2 CP	1.4 CP
<b>To the Rim</b>	0.8 CP	1.3 CP	1.1 CP	1.2 CP	1.4 CP	1.5 CP

<b>Circles (page 12)</b>							
Select shape, circle or sphere in NDSR. Enter diameter in inches (").							
<b>CR1</b>	<b>CR2</b>	<b>CR3</b>	<b>CR4</b>	<b>CR5</b>	<b>CR6</b>	<b>CR7</b>	<b>CR8</b>
1"	2"	3"	4"	5"	6"	7"	8"
For 3-D circle, also use grid model or ruler for thickness dimension.							

<b>Grid (page 13)</b>
Select shape, cube (3-D) or rectangle (2-D) in NDSR. Each square is ¼ inch x ¼ inch. For 3-D cube, use grid model or ruler for thickness dimension.

<b>Wedges (page 14)</b>					
<b>Step 1:</b> Enter radius in inches in NDSR	<b>4"</b>	<b>5"</b>	<b>6"</b>	<b>7"</b>	<b>8"</b>
<b>Step 2:</b> Enter width in inches in NDSR. Use the radius and the letter reported to obtain length of the arc.					
	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>A</b>	1.2"	1.5"	1.8"	2.1"	2.4"
<b>B</b>	1.6"	2.0"	2.4"	2.8"	3.1"
<b>C</b>	2.1"	2.6"	3.1"	3.7"	4.2"
<b>D</b>	2.5"	3.1"	3.8"	4.4"	5.0"
<b>E</b>	3.1"	3.9"	4.7"	5.5"	6.3"
<b>F</b>	3.6"	4.5"	5.4"	6.3"	7.2"
<b>G</b>	4.2"	5.2"	6.3"	7.3"	8.4"
<b>H</b>	6.3"	7.8"	9.4"	11.0"	12.6"
For 3-D wedge, use grid model or ruler for thickness dimension.					

<b>Mounds (pages 15-17)</b>							
<b>M1</b>	<b>M2</b>	<b>M3</b>	<b>M4</b>	<b>M5</b>	<b>M6</b>	<b>M7</b>	<b>M8</b>
1 TS	2 TS	1TB	1/4 CP	1/2 CP	3/4 CP	1 CP	1 1/2 CP

**Citation:** Anater AS, Catellier DJ, Levine BA, Krotki KP, Jacquier EF, Eldridge AL, Bronstein KE, Harnack LJ, Lorenzana Peasley JM, Lutes AC. The Feeding Infants and Toddlers Study (FITS) 2016: study design and methods. *J Nutr* 2018;148:1516S–24S.