

In-shell egg heating times in a 75°C/167°F water bath based on circumference

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ø cm	Heating time to core temperature							
	60°C 140°F	61°C 142°F	62°C 143½°F	63°C 145½°F	64°C 147°F	65°C 149°F	66°C 151°F	67°C 152½°F
5	2:15	2:19	2:24	2:29	2:35	2:42	2:49	2:56
5½	2:37	2:43	2:48	2:54	3:01	3:09	3:17	3:26
6	3:01	3:08	3:14	3:21	3:29	3:37	3:47	3:57
6½	3:27	3:34	3:42	3:50	3:58	4:08	4:18	4:30
7	3:55	4:03	4:11	4:20	4:30	4:41	4:52	5:06
7½	4:24	4:33	4:42	4:52	5:03	5:15	5:28	5:43
8	4:55	5:04	5:15	5:26	5:38	5:52	6:07	6:23
8½	5:27	5:38	5:49	6:02	6:15	6:30	6:47	7:05
9	6:01	6:13	6:26	6:40	6:54	7:11	7:29	7:49
9½	6:37	6:50	7:04	7:19	7:35	7:53	8:13	8:35
10	7:15	7:29	7:44	8:00	8:18	8:38	8:59	9:23
10½	7:54	8:09	8:26	8:43	9:03	9:24	9:47	10:14
11	8:34	8:51	9:09	9:28	9:49	10:12	10:38	11:06
11½	9:17	9:35	9:54	10:15	10:38	11:03	11:30	12:01
12	10:01	10:20	10:41	11:04	11:28	11:55	12:24	12:57
12½	10:47	11:07	11:30	11:54	12:20	12:49	13:21	13:56
13	11:34	11:56	12:20	12:46	13:14	13:45	14:19	14:57
13½	12:23	12:47	13:13	13:40	14:11	14:44	15:20	16:01
14	13:14	13:39	14:07	14:36	15:09	15:44	16:23	17:06
14½	14:06	14:34	15:03	15:34	16:08	16:46	17:27	18:14
15	15:00	15:29	16:00	16:34	17:10	17:50	18:34	19:23
15½	15:56	16:27	16:59	17:35	18:13	18:56	19:42	20:34
16	16:54	17:26	18:01	18:39	19:19	20:04	20:54	21:49
16½	17:48	18:21	18:58	19:37	20:19	21:06	21:57	22:54
17	18:53	19:30	20:08	20:50	21:36	22:26	23:21	24:23
17½	19:56	20:34	21:15	21:59	22:48	23:40	24:38	25:43
18	21:00	21:40	22:23	23:10	24:00	24:56	25:57	27:05
18½	22:06	22:48	23:33	24:22	25:16	26:14	27:18	28:30
19	23:13	23:57	24:45	25:37	26:32	27:34	28:41	29:57
19½	24:22	25:09	25:59	26:53	27:52	28:56	30:07	31:26
20	25:33	26:22	27:14	28:11	29:12	30:19	31:34	32:57
20½	26:45	27:36	28:31	29:30	30:35	31:45	33:03	34:30
21	27:59	28:53	29:50	30:52	31:59	33:13	34:34	36:05
21½	29:15	30:11	31:11	32:16	33:26	34:43	36:08	37:43
22	30:32	31:30	32:33	33:41	34:54	36:15	37:43	39:23
22½	31:51	32:52	33:57	35:08	36:24	37:48	39:21	41:04
23	33:14	34:18	35:26	36:39	38:00	39:27	41:04	42:52
23½	34:36	35:42	36:53	38:10	39:33	41:05	42:45	44:38
24	36:00	37:09	38:23	39:43	41:09	42:44	44:29	46:26
24½	37:26	38:38	39:54	41:17	42:47	44:26	46:15	48:17

Table 1. Heating time to a desired core temperature in a 167°F/75°C water bath. The circumference is measured in centimeters around the skinnier part of the egg. I'd suggest starting with the 149°F/65°C column; then go to a higher temperature if you want a thicker yolk or a lower temperature if you want a thinner yolk. I computed the times using a thermal diffusivity of $1.85 \times 10^{-7} \text{ m}^2/\text{s}$, a $\beta = 1.8$, and a surface heat transfer coefficient of $200 \text{ W}/\text{m}^2\text{-K}$.