

Glycemic Index and Glycemic Load

Glycemic Load is more important than Glycemic Index

Most of the systems in our bodies are homeostatic: They work to keep their area of responsibility stable at whatever level current conditions require. Your metabolism strives to keep your blood glucose level at a healthy value. Although most candy has a relatively high Glycemic Index, eating a single piece of candy will result in a relatively small glycemic response. This is because your body's glycemic response is dependent on both the **type** AND the **amount** of carbohydrate consumed. This concept, known as **Glycemic Load**, was first popularized in 1997 by Dr. Walter Willett and associates at the Harvard School of Public Health. Glycemic Load is calculated this way:

$$GL = GI/100 \times (\text{Total Carbohydrates minus Dietary Fiber})$$

Dietary fiber does not count toward the Glycemic Load, therefore it is a more accurate and useful attribute to track

Therefore, you can control your glycemic response by consuming low-GI foods and/or by restricting your intake of carbohydrates.

The table below shows values of the Glycemic Index (GI) and Glycemic Load (GL) for a few common foods.

GI's of 55 or below are considered low, and 70 or above are considered high. GL's of 10 or below are considered low, and 20 or above are considered high.

GI and GL for Common Foods

Lowest Glycemic Index to Highest					Lowest Glycemic Load to Highest				
GI	Food	Serving Size	Net Carbs	GL	GL	Food	Serving Size	GI	Net Carbs
14	Peanuts	4 oz (113g)	15	2	1	Bean sprouts	1 cup (104g)	25	4
25	Bean sprouts	1 cup (104g)	4	1	2	Peanuts	4 oz (113g)	14	15
25	Grapefruit	1/2 large (166g)	11	3	2	Carrots	1 large (72g)	47	5
30	Pizza	2 slices (260g)	42	13	3	Grapefruit	1/2 large (166g)	25	11
33	Lowfat yogurt	1 cup (245g)	47	16	6	Apples	1 medium (138g)	38	16
38	Apples	1 medium (138g)	16	6	6	Oranges	1 medium (131g)	48	12
42	Spaghetti	1 cup (140g)	38	16	7	Popcorn	2 cups (16g)	72	10
47	Carrots	1 large (72g)	5	2	8	Sugar (sucrose)	1 tbsp (12g)	68	12
48	Oranges	1 medium (131g)	12	6	8	Watermelon	1 cup (154g)	72	11
52	Bananas	1 large (136g)	27	14	9	Honey	1 tbsp (21g)	55	17
54	Potato chips	4 oz (114g)	55	30	10	Ice cream	1 cup (72g)	61	16
55	Snickers Bar	1 bar (113g)	64	35	10	White bread	1 slice (30g)	70	14
55	Brown rice	1 cup (195g)	42	23	12	Oatmeal	1 cup (234g)	58	21
55	Honey	1 tbsp (21g)	17	9	13	Pizza	2 slices (260g)	30	42
58	Oatmeal	1 cup (234g)	21	12	14	Bananas	1 large (136g)	52	27
61	Ice cream	1 cup (72g)	16	10	16	Lowfat yogurt	1 cup (245g)	33	47
64	Macaroni and cheese	1 serving (166g)	47	30	16	Spaghetti	1 cup (140g)	42	38
64	Raisins	1 small box (43g)	32	20	20	Raisins	1 small box (43g)	64	32
64	White rice	1 cup (186g)	52	33	23	Brown rice	1 cup (195g)	55	42
68	Sugar (sucrose)	1 tbsp (12g)	12	8	28	Baked potato	1 medium (173g)	85	33
70	White bread	1 slice (30g)	14	10	30	Potato chips	4 oz (114g)	54	55
72	Watermelon	1 cup (154g)	11	8	30	Macaroni and cheese	1 serving (166g)	64	47
72	Popcorn	2 cups (16g)	10	7	33	White rice	1 cup (186g)	64	52
85	Baked potato	1 medium (173g)	33	28	35	Snickers Bar	1 bar (113g)	55	64
100	Glucose	(50g)	50	50	50	Glucose	(50g)	100	50

More on Glycemic Index and Glycemic Load: www.glycemicindex.com.

More useful info: <http://nutritiondata.self.com/topics/glycemic-index#ixzz3liyBfuHI>

A MORE EXHAUSTIVE LIST

FOOD	Glycemic load per serving	Serving size (grams)	Glycemic index (glucose = 100)
BAKERY PRODUCTS AND BREADS			
Banana cake, made with sugar	14	60	47
Banana cake, made without sugar	12	60	55
Sponge cake, plain	17	63	46
Vanilla cake with vanilla frosting (Betty Crocker)	24	111	42
Apple, made with sugar	13	60	44
Apple, made without sugar	9	60	48
Waffles, Aunt Jemima (Quaker Oats)	10	35	76
Bagel, white, frozen	25	70	72
Baguette, white, plain	15	30	95
Coarse barley bread, 75-80% kernels, average	7	30	34
Hamburger bun	9	30	61
Kaiser roll	12	30	73
Pumpernickel bread	7	30	56
50% cracked wheat kernel bread	12	30	58
White wheat flour bread	10	30	71
"Wonder Bread," average	10	30	73
Whole wheat bread, average	9	30	71
100% Whole Grain bread (Natural Ovens)	7	30	51
Pita bread, white	10	30	68
Corn tortilla	12	50	52
Wheat tortilla	8	50	30
BEVERAGES			
Coca Cola®, average	16	250 mL	63
Fanta®, orange soft drink	23	250 mL	68
Lucozade®, original (sparkling glucose drink)	40	250 mL	95+
Apple juice, unsweetened, average	30	250 mL	44
Cranberry juice cocktail (Ocean Spray®)	24	250 mL	68
Gatorade	12	250 mL	78
Orange juice, unsweetened	12	250 mL	50
Tomato juice, canned	4	250 mL	38
BREAKFAST CEREALS AND RELATED PRODUCT			
All-Bran, average	12	30	55
Coco Pops, average	20	30	77
Cornflakes, average	23	30	93
Cream of Wheat, (Nabisco)	17	250	66
Cream of Wheat, Instant (Nabisco)	22	250	74
Grapenuts, average	16	30	75
Muesli, average	16	30	66
Oatmeal, average	13	250	55
Instant oatmeal, average	30	250	83
Puffed wheat, average	17	30	80
Raisin Bran, (Kellogg's)	12	30	61
Special K, (Kellogg's)	14	30	69
GRAINS			

Pearled barley, average	12	150	28
Sweet corn on the cob, average	20	150	60
Couscous, average	9	150	65
Quinoa	13	150	53
White rice, average	43	150	89
Quick cooking white basmati	28	150	67
Brown rice, average	16	150	50
Converted, white rice (Uncle Ben's,	14	150	38
Whole wheat kernels, average	11	50	30
Bulgur, average	12	150	48
COOKIES AND CRACKERS			
Graham crackers	14	25	74
Vanilla wafers	14	25	77
Shortbread	10	25	64
Rice cakes, average	17	25	82
Rye crisps, average	11	25	64
Soda crackers	12	25	74
DAIRY PRODUCTS AND ALTERNATIVES			
Ice cream, regular	6	50	57
Ice cream, premium	3	50	38
Milk, full fat	5	250mL	41
Milk, skim	4	250 mL	32
Reduced-fat yogurt with fruit, average	11	200	33
FRUITS			
Apple, average	6	120	39
Banana, ripe	16	120	62
Dates, dried	18	60	42
Grapefruit	3	120	25
Grapes, average	11	120	59
Orange, average	4	120	40
Peach, average	5	120	42
Peach, canned in light syrup	5	120	40
Pear, average	4	120	38
Pear, canned in pear juice	5	120	43
Prunes, pitted	10	60	29
Raisins	28	60	64
Watermelon	4	120	72
BEANS AND NUTS			
Baked beans, average	6	150	40
Blackeye peas, average	10	150	33
Black beans	7	150	30
Chickpeas, average	3	150	10
Chickpeas, canned in brine	9	150	38
Navy beans, average	9	150	31
Kidney beans, average	7	150	29
Lentils, average	5	150	29
Soy beans, average	1	150	15
Cashews, salted	3	50	27
Peanuts, average	0	50	7

PASTA and NOODLES			
Fettucini, average	15	180	32
Macaroni, average	23	180	47
Macaroni and Cheese (Kraft)	32	180	64
Spaghetti, white, boiled, average	22	180	46
Spaghetti, white, boiled 20 min, average	26	180	58
Spaghetti, wholemeal, boiled, average	17	180	42
SNACK FOODS			
Corn chips, plain, salted, average	11	50	42
Fruit Roll-Ups	24	30	99
M & M's, peanut	6	30	33
Microwave popcorn, plain, average	6	20	55
Potato chips, average	12	50	51
Pretzels, oven-baked	16	30	83
Snickers Bar	18	60	51
VEGETABLES			
Green peas, average	4	80	51
Carrots, average	2	80	35
Parsnips	4	80	52
Baked russet potato, average	33	150	111
Boiled white potato, average	21	150	82
Instant mashed potato, average	17	150	87
Sweet potato, average	22	150	70
Yam, average	20	150	54
MISCELLANEOUS			
Hummus (chickpea salad dip)	0	30	6
Chicken nuggets, frozen, reheated in microwave oven	7	100	46
Pizza, plain baked dough, served with parmesan	22	100	80
Pizza, Super Supreme (Pizza Hut)	9	100	36
Honey, average	12	25	61

The complete list of the glycemic index and glycemic load for more than 1,000 foods can be found in the article "International tables of glycemic index and glycemic load values: 2008" by Fiona S. Atkinson, Kaye Foster-Powell, and Jennie C. Brand-Miller in the December 2008 issue of [Diabetes Care](#), Vol. 31, number 12, pages 2281-2283.