## Recipe Reformulation: Mac and cheese recipes (serving weight 234 g)

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| --- | --- | --- | --- | --- | --- |
| **Original** | | **Nutritionally Improved** | | **Flavor Enhanced Nutritionally Improved** | |
| ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** |
| Butter, salted | 77 | Butter, unsalted | 25 | Butter, unsalted | 25 |
| All Purpose Flour | 22.8 | Vegetable Oil | 20 | Vegetable Oil | 20 |
| 2% Milk | 711 | All Purpose Flour | 22.8 | All Purpose Flour | 22.8 |
| American Cheese | 329 | Skim Milk | 711 | Skim Milk | 711 |
| Salt | 0.5 | American Cheese, Boar's Head reduced sodium + fat | 164.5 | American Cheese, Boar's Head reduced sodium + fat | 164.5 |
| Pasta, cooked, no salt added | 1020 | American Cheese | 164.5 | American Cheese | 164.5 |
| Breadcrumbs, dry, plain | 157 | Pasta, cooked, no salt added | 1020 | Pasta, cooked, no salt added | 1020 |
| Butter, salted (added to breadcrumbs) | 25 | Breadcrumbs, dry, plain | 157 | Onion Powder | 6 |
|  |  | Butter, unsalted (added to breadcrumbs) | 15 | Garlic Powder | 3 |
|  |  | Oil (added to breadcrumbs) | 10 | Mustard Seed, ground | 1 |
|  |  |  |  | Paprika | 0.5 |
|  |  |  |  | Cayenne | 0.25 |
|  |  |  |  | Breadcrumbs, dry, plain | 157 |
|  |  |  |  | Butter, unsalted (added to breadcrumbs | 15 |
|  |  |  |  | Oil (added to breadcrumbs) | 10 |

## Recipe Reformulation: Chicken pot pie recipes (serving weight 252 g)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Original** | | **Nutritionally Improved** | | **Flavor Enhanced Nutritionally Improved** | |
| ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** |
| Butter, salted | 75 | Butter, unsalted | 25 | Butter, unsalted | 25 |
| Onions | 60 | Vegetable Oil | 25 | Vegetable Oil | 25 |
| Peas, frozen | 140 | Onions | 60 | Onions | 60 |
| Carrots, frozen | 140 | Peas, frozen | 140 | Peas, frozen | 140 |
| Flour | 42 | Carrots, frozen | 140 | Carrots, frozen | 140 |
| Chicken Stock | 415 | Flour | 42 | Flour | 42 |
| Whole Milk | 165 | Chicken Stock, unsalted | 415 | Chicken Stock, unsalted | 415 |
| Chicken Breast, bnl/skl, raw, diced | 546 | Evaporated Milk, non-fat | 165 | Evaporated Milk, non-fat | 165 |
| Salt | 8 | Chicken Breast, bnl/skl, raw, diced | 546 | Chicken Breast, bnl/skl, raw, diced | 546 |
| Black Pepper | 0.5 | Salt | 3.5 | Salt | 3.5 |
| Pie Crust, refrigerated, unroll | 2 each | Black Pepper | 0.5 | Black Pepper | 1 |
|  |  | Pie Crust, refrigerated, unroll | 2 each | Onion Powder | 4.5 |
|  |  |  |  | Garlic Powder | 4.5 |
|  |  |  |  | Rosemary, crushed | 0.5 |
|  |  |  |  | Sage | 0.25 |
|  |  |  |  | Thyme | 0.15 |
|  |  |  |  | Pie Crust, refrigerated, unroll | 2 each |

## Recipe Reformulation: Meatloaf recipes (serving weight 140 g)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Original** | | **Nutritionally Improved** | | **Flavor Enhanced Nutritionally Improved** | |
| ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** |
| Ground Beef 80/20, raw | 648.57 | Ground Beef 95/5, raw | 639.4 | Ground Beef 95/5, raw | 639.4 |
| Breadcrumbs, plain | 78.78 | Breadcrumbs, plain | 78.78 | Breadcrumbs, plain | 78.78 |
| Crushed Tomatoes (Cento Brand - in box) | 92.54 | Crushed Tomatoes (Cento Brand - in box) | 92.54 | Crushed Tomatoes (Cento Brand - in box) | 92.54 |
| Whole Milk | 30.35 | Whole Milk | 30.35 | Whole Milk | 30.35 |
| Egg | 162.42 | Egg | 162.42 | Egg | 162.42 |
| Salt | 6 | Salt | 2 | Salt | 2 |
| Black Pepper | 1 | Black Pepper | 1 | Parsley | 1.5 |
|  |  |  |  | Onion Powder | 8 |
|  |  |  |  | Garlic Powder | 6.5 |
|  |  |  |  | Black Pepper | 2.5 |
|  |  |  |  | Cumin | 0.8 |
|  |  |  |  | Mustard Seed, ground | 1.2 |
|  |  |  |  | Cayenne | 0.2 |

## Recipe Reformulation: Taco Meat recipes (serving weight 27 g)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Original** | | **Nutritionally Improved** | | **Flavor Enhanced Nutritionally Improved** | |
| ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** |
| Ground Beef, 80/20, raw | 677.6 | Ground Beef, 95/5, raw | 667.6 | Ground Beef, 95/5, raw | 667.6 |
| Vegetable Oil | 37.7 | Vegetable Oil | 37.7 | Vegetable Oil | 37.7 |
| Garlic, fresh, minced | 8.1 | Garlic, fresh, minced | 8.1 | Garlic, fresh, minced | 8.1 |
| Salt | 7.3 | Salt | 3 | Salt | 3 |
| Chili Powder | 10.1 | Chili Powder | 10.1 | Chili Powder | 15 |
| Cumin | 0.5 | Cumin | 0.5 | Cumin | 2 |
| Black Pepper | 0.2 | Black Pepper | 0.2 | Black Pepper | 0.5 |
|  |  | Water | 118 | Garlic Powder | 2 |
|  |  |  |  | Onion Powder | 3 |
|  |  |  |  | Coriander | 1 |
|  |  |  |  | Paprika | 4.5 |
|  |  |  |  | Cayenne Pepper | 0.25 |
|  |  |  |  | Mexican Oregano | 0.5 |
|  |  |  |  | Water | 118 |

## Recipe Reformulation: Cheese Pizza recipes (serving weight 140 g)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pizza Sauce** | | | | | |
| **Original** | | **Nutritionally Improved** | | **Flavor Enhanced Nutritionally Improved** | |
| ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** |
| Hunt's Tomato Sauce, no salt added | 1000 | Hunt's Tomato Sauce, no salt added | 1000 | Hunt's Tomato Sauce, no salt added | 1000 |
| Sugar | 20 | Sugar | 5 | Sugar | 5 |
| Olive Oil | 50 | Olive Oil | 30 | Olive Oil | 30 |
| Salt, iodized | 14 | Salt, iodized | 6 | Salt, iodized | 6 |
| Oregano, dried leaves | 0.5 | Oregano, dried leaves | 0.5 | Oregano, dried leaves | 1.5 |
| Basil, dried leaves | 0.35 | Basil, dried leaves | 0.35 | Basil, dried leaves | 1.2 |
|  |  |  |  | Onion Powder | 8 |
|  |  |  |  | Garlic Powder | 6 |
| **Cheese Pizza** | | | | | |
| **Original** | | **Nutritionally Improved** | | **Flavor Enhanced Nutritionally Improved** | |
| ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** |
| Boboli 12" Thin Pizza Crust, 1 each | 284 | Boboli 12" Thin Pizza Crust, 1 each | 284 | Boboli 12" Thin Pizza Crust, 1 each | 284 |
| Pizza Sauce OG 001v | 150 | Pizza Sauce IP 001v | 150 | Pizza Sauce IPS 001v | 150 |
| Kraft Shredded Mozzarella Cheese, whole milk | 224 | Kraft Shredded Mozzarella Cheese, part-skim milk | 112 | Kraft Shredded Mozzarella Cheese, part-skim milk | 112 |
|  |  |  |  | Oregano, dried leaves | 1 |
|  |  |  |  | Basil, dried leaves | 0.4 |
|  |  |  |  | Onion Powder | 2.4 |
|  |  |  |  | Garlic Powder | 1.2 |

## Recipe Reformulation: Pasta with tomato meat sauce recipes (serving weight 248 g)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Tomato Sauce** | | | | | |
| **Original** | | **Nutritionally Improved** | | **Flavor Enhanced Nutritionally Improved** | |
| ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** |
| Hunt's Tomato Sauce, no salt added | 1000 | Hunt's Tomato Sauce, no salt added | 1000 | Hunt's Tomato Sauce, no salt added | 1000 |
| Sugar | 14.42 | Olive Oil | 10 | Olive Oil | 10 |
| Olive Oil | 10 | Salt, iodized | 6 | Salt, iodized | 6 |
| Salt, iodized | 10.3 | Oregano, dried leaves | 0.5 | Oregano, dried leaves | 1 |
| Oregano, dried leaves | 0.5 | Basil, dried leaves | 0.35 | Basil, dried leaves | 1 |
| Basil, dried leaves | 0.35 |  |  | Onion Powder | 10 |
|  |  |  |  | Garlic Powder | 8 |
|  |  |  |  | Black Pepper, shaker grind | 0.5 |
|  |  |  |  | Paprika | 2 |
| **Pasta with Tomato Meat Sauce** | | | | | |
| **Original** | | **Nutritionally Improved** | | **Flavor Enhanced Nutritionally Improved** | |
| ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** |
| Rotini Pasta, cooked w/o salt | 1107.76 | Rotini Pasta, cooked w/o salt | 1107.76 | Rotini Pasta, cooked w/o salt | 1107.76 |
| Tomato Sauce OG 002v | 835.77 | Tomato Sauce IP 002v | 835.77 | Tomato Sauce IPS 005v | 835.77 |
| Ground Beef, 80/20, raw | 285.47 | Ground Beef, 95/5, raw | 281.26 | Ground Beef, 95/5, raw | 281.26 |
| Salt, iodized | 2.61 | Salt, iodized | 1.5 | Salt, iodized | 1.5 |

## Recipe Reformulation: Chili recipes (serving weight 254 g)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Original** | | **Nutritionally Improved** | | **Flavor Enhanced Nutritionally Improved** | |
| ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** |
| Onions, raw, diced | 148.1 | Onions, raw, diced | 148.1 | Onions, raw, diced | 148.1 |
| Green Peppers, diced | 80.8 | Green Peppers, diced | 80.8 | Green Peppers, diced | 80.8 |
| Ground Beef, 80/20, raw | 678.2 | Ground Beef, 95/5, raw | 668.24 | Ground Beef, 95/5, raw | 668.24 |
| Salt | 6 | Salt | 6 | Salt | 6 |
| Chili Powder | 12 | Chili Powder | 12 | Chili Powder | 30 |
| Red Kidney Beans, canned with liquid | 527.7 | Red Kidney Beans, canned with liquid, no salt | 527.7 | Garlic Powder | 7 |
| Beans | 308.4 | Beans | 342.06 | Onion Powder | 8 |
| Liquid | 219.26 | Liquid | 185.64 | Cumin | 6 |
| Diced Tomatoes, canned, packed in juice | 610.9 | Diced Tomatoes, canned, packed in juice, no salt | 610.9 | Coriander | 3 |
| Tomatoes | 375.5 | Tomatoes | 375.83 | Crushed Red Pepper | 2 |
| Liquid | 235.38 | Liquid | 235.07 | Red Kidney Beans, canned with liquid, no salt | 527.7 |
| Tomato Sauce, canned | 305.4 | Tomato Sauce, canned, no salt | 305.4 | Beans | 342.06 |
|  |  |  |  | Liquid | 185.64 |
|  |  |  |  | Diced Tomatoes, canned, packed in juice, no salt | 610.9 |
|  |  |  |  | Tomatoes | 375.83 |
|  |  |  |  | Liquid | 235.07 |
|  |  |  |  | Tomato Sauce, canned, no salt | 305.4 |

## Recipe Reformulation: Chicken with cream sauce recipes (cream sauce only; serving weight 42 g)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Original** | | **Nutritionally Improved** | | **Flavor Enhanced Nutritionally Improved** | |
| ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** |
| Butter, salted | 106.87 | Vegetable Oil | 71.31 | Vegetable Oil | 71.31 |
| All Purpose Flour | 59.64 | All Purpose Flour | 62.58 | All Purpose Flour | 62.58 |
| Salt | 22.26 | Skim Milk | 488.6 | Skim Milk | 488.6 |
| Whole Milk | 931.24 | Non-Fat Evaporated Milk | 488.6 | Non-Fat Evaporated Milk | 488.6 |
|  |  | Salt | 8.91 | Salt | 8.91 |
|  |  |  |  | Onion Powder | 9 |
|  |  |  |  | Garlic Powder | 5.5 |
|  |  |  |  | Mustard Seed, ground | 3 |
|  |  |  |  | Black Pepper | 1 |
|  |  |  |  | Parsley Flakes | 0.3 |
|  |  |  |  | Dill Weed | 0.2 |

For the taste testing, the cream sauce was served with 1 half piece of baked chicken tender

## Recipe Reformulation: Brownie recipes (serving weight 40 g)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Original** | | **Nutritionally Improved** | | **Flavor Enhanced Nutritionally Improved** | |
| ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** |
| Vegetable Oil | 224 | Canola Oil | 224 | Canola Oil | 224 |
| All Purpose Flour | 186 | All Purpose Flour | 186 | All Purpose Flour | 186 |
| Unsweetened Cocoa Powder | 26.67 | Unsweetened Cocoa Powder | 26.67 | Unsweetened Cocoa Powder | 26.67 |
| Salt | 7.75 | Salt | 3 | Salt | 3 |
| Semi-Sweet Chocolate | 112 | Semi-Sweet Chocolate | 112 | Semi-Sweet Chocolate | 112 |
| Granulated Sugar | 403.2 | Granulated Sugar | 252 | Granulated Sugar | 252 |
| Eggs | 200 | Eggs | 200 | Eggs | 200 |
|  |  |  |  | Vanilla Extract | 18.9 |

## Recipe Reformulation: Apple pie recipes (serving weight 125 g)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Original** | | **Nutritionally Improved** | | **Flavor Enhanced Nutritionally Improved** | |
| ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** | ***Ingredients*** | ***Weight (g)*** |
| Granny Smith Apples, peeled, cored, diced | 1134 | Granny Smith Apples, peeled, cored, diced | 1134 | Granny Smith Apples, peeled, cored, diced | 1134 |
| Sugar | 200 | Sugar | 75 | Sugar | 75 |
| Lemon Juice | 30.5 | Lemon Juice | 30.5 | Lemon Juice | 30.5 |
| Cinnamon, ground | 1.5 | Cinnamon, ground | 1.5 | Cinnamon, ground - Saigon | 3.5 |
| Salt | 1.2 | Salt | 0.5 | Salt | 0.5 |
| All Purpose Flour | 15.5 | All Purpose Flour | 15.5 | All Purpose Flour | 15.5 |
| Butter, unsalted | 85.2 | Butter, unsalted | 25 | Butter, unsalted | 25 |
| Great Value Pie Crust, refrigerated | 2 each | Water | 60 | Water | 60 |
|  |  | Great Value Pie Crust, refrigerated | 2 each | Vanilla Extract | 8 |
|  |  |  |  | Great Value Pie Crust, refrigerated | 2 each |