

Dr. Berry

- ① Enclosed is the derivation of data we used to calculate the Apollo 15 K intakes.
- ② We are currently further analysing this question to tell us what confidence should be placed in the data i.e., do we know the intake of any particular nutrient $\pm 5\%$, $\pm 10\%$ or $\pm 50\%$. We should have this answer in another week.
- ③ We are writing a cash order to have the Apollo 15 food set reanalysed completely.
- ④ We are going to fill in holes in Apollo food analytical data and design the Apollo 16 menus to meet a set of minimal nutritional requirements.

Paul Rambaut-

11/8/71

not loaded & K⁺.

RED

SNACK LIST

	<u>K</u> mg
Cheese Cracker Cubes	35
Sugar Cookie Cubes	55
Jellied Fruit Candy	1
Pecans	104
Black Coffee - 3	204
Cheese Sandwich	24
Citrus Beverage - 2	132
Grape Drink	4
Applesauce	71
Chocolate Bar	132
Caramel Candy	36
Mixed Fruit	156
Total	954

RED

DAY 2

Meal A

	<u>K</u>	ms
Fruit Cocktail	90	
Sausage Patties	139	
Spiced Fruit Cereal	217	
Orange Drink	5	
Cocoa	297	
2A Total	748	

Meal B

Turkey and Gravy	382
Cranberry-Orange	22
Pineapple Fruitcake	56
Vanilla Pudding	168
Chocolate Pudding	384
Apricot Bar ($\frac{1}{2}$)	307
Cheese Spread	37
Bread, average	36
2B Total	1392

Meal C

Cream of Chicken Soup	110
Frankfurters	297
Banana Pudding	83
Brownies (4)	100
Pineapple-Grapefruit Drink	9
Cream of Tomato Soup	291
Meatballs and Sauce	430
Romaine Soup	310
2C Total	1630

Day 2 Total	3770
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RED

DAY 2

<u>Meal A</u>	<u>K</u>
Fruit Cocktail	90
Sausage Patties	139
Spiced Fruit Cereal	217
Orange Drink	5
Cocoa	297
2A Total	748

ms

<u>Meal B</u>	
Turkey and Gravy	382
Cranberry-Orange	22
Pineapple Fruitcake	56
Vanilla Pudding	168
Chocolate Pudding	384
Apricot Bar ($\frac{1}{2}$)	307
Cheese Spread	37
Bread, average	36
2B Total	1392

<u>Meal C</u>	
Cream of Chicken Soup	110
Frankfurters	297
Banana Pudding	83
Brownies (4)	100
Pineapple-Grapefruit Drink	9
Cream of Tomato Soup	291
Meatballs and Sauce	430
Romaine Soup	310
2C Total	1630

Day 2 Total	3770
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RED

DAY 3

Meal A

Scrambled Eggs

Bacon Squares (6)

Corn Flakes

Apricots

Cocoa

3A Total

K *my*

472

206

131

373

297

1479

Meal B

Lobster Bisque

Butterscotch Pudding

Orange-Pineapple Drink

Diced Peaches - Can

Bread Slices, average

Tuna Sandwich Spread, 1/3 can

3B Total

211

193

6

184

36

142

772

Meal C

Shrimp Cocktail

Beef Steak

Peaches - Dried

Caramel Candy

3C Total

174

317

482

36

1009

Day 3 Total

3260

RED

DAY 4

<u>Meal A</u>	<u>K</u>
Canadian Bacon and Applesauce	114
Corn Flakes	131
Cocoa	297
Jelly	50
Bread	36
Bread	36
Chicken Salad Spread - $\frac{1}{2}$ can	190
4A Total	854

mg

<u>Meal B</u>	
Chicken and Rice Soup	167
Meatballs and Sauce	430
Lemon Pudding	90
Sugar Cookies	55
Grape Punch	1
Bread	36
Jelly	50
Chicken and Rice	125
4B Total	954

<u>Meal C</u>	
Cocoa	297
Beef and Gravy	536
Apricots	373
Pork and Potatoes	313
Chocolate Pudding	384
Fortified Grapefruit Drink	11
4C Total	1914
Day 4 Total	3722

RED

DAY 5

Meal A

	<u>K</u> <i>my</i>
Peaches	85
Bacon Bars	275
Fortified Grapefruit Drink	11
Cocoa	297
Scrambled Eggs	236
Total 5A	904

Meal B

Cream of Tomato Soup	291
Pineapple-Grapefruit Drink	9
Fortified Grapefruit Drink	11
Bread Slice - 2	72
Ham Salad Spread - 1/3 can	137
Caramel Candy	36
Frankfurters	297
Total 5B	556

Day 5 Total	1757
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RED

DAY 6

Meal A

	<u>K</u>
Peaches	85
Bacon Bars	275
Graham Cracker Cubes	149
Orange-Pineapple Drink	6
Cocoa	297
Scrambled Eggs	236
Fruit Bar	615
6A Total	1048

Meal B

Salmon Salad	262
Orange-Grapefruit Drink	7
Frankfurter	297
Chocolate Bar	132
Pecans	104
Peach Ambrosia	253
6B Total	1055

Day 6 Total

2718

RED

DAY 7

Meal A

	<u>K</u>	mg
Sausage Patties	139	
Corn Flakes	131	
Fortified Grapefruit Drink	11	
Cocoa	297	
Apricots	373	
Beef Steak	317	
7A Total	1268	

Fruit Bar	615
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Meal B

Shrimp Cocktail	174
Canadian Bacon with Applesauce	114
Brownies (6)	149
Cheese Cracker Cubes	53
Orange Drink	5
Grape Drink	4
Meatballs with Sauce	430
7B Total	929

Day 7 Total	2812
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RED

DAY 8

Meal A

Bacon Bars	275
Cinnamon Toast	78
Pork and Potatoes	313
Orange-Pineapple Drink	6
Cocoa	297
Peaches - Dried	482
Beef Steak	317
8A Total	1768

Fruit Bar	615
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Meal B

Tuna Salad	231
Chicken and Rice	125
Chocolate Pudding	384
Grape Punch	1
Turkey and Gravy	382
8B Total	1123

Meal C

Pork and Potatoes	313
Chocolate Pudding	384
Fortified Grapefruit Drink	11
Beef and Gravy	536
Apricots	373
8C Total	1617

Day 8 Total	5123
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RED

DAY 9

K my

Meal A

Scrambled Eggs	236
Peaches	85
Bacon Bars (2)	69
Fortified Grapefruit Drink	11
Cocoa	297
Cocoa	297
9A Total	995

Meal B

Pea Soup	417
Salmon Salad	262
Applesauce	71
Cheese Cracker Cubes	35
Orange-Grapefruit Drink	7
Hamburger	170
9B Total	962

Meal C

Cream of Tomato Soup	291
Spaghetti with Meat Sauce	340
Grape Drink	4
Peach Ambrosia	253
Chocolate Bar	132
9C Total	1020

Day 9 Total

2977

RED

DAY 10

Meal A

	<u>K</u>
Fruit Cocktail	90
Orange Drink	5
Cocoa	297
Scrambled Eggs	236
Spiced Fruit Cereal	217
10A Total	845

my

Meal B

Pineapple Fruitcake	56
Turkey and Gravy	382
Cranberry Orange	22
Vanilla Pudding	168
Citrus Beverage	66
Ham Salad Spread, 1/3 can	163
Bread, average	36
10 B Total	893

Meal C

Crab Mushroom Soup	176
Frankfurters	297
Chocolate Pudding	384
Grape Punch	1
Peanut Butter	629
Bread	36
Cream of Tomato Soup	291
Salmon Salad	262
10C Total	2076

Day 10 Total

3814

RED

DAY 11

Meal A

Peaches

Grape Drink

Cocoa

Spiced Fruit Cereal

Scrambled Eggs

11A Total

K *my*

184

4

297

217

236

938

Meal B

Lobster Bisque

Bread

Ham Sandwich Spread, 1/3 Can

Lemon Pudding

Cocoa

Shrimp Cocktail

Chocolate Pudding

11B Total

211

36

163

90

297

174

384

1355

Meal C

Beef Steak

Chicken and Rice Soup

Tuna Salad

Brownies

Peaches IMB

11C Total

264

167

231

100

482

1244

Day 11 Total

3536

RED

DAY 12

Meal A

	<u>K</u>
Fruit Cocktail	90
Orange Drink	5
Cocoa	297
Spaghetti	680
Peaches - Dried	482
12A Total	1554

Meal B

Chicken and Rice Soup	167
Frankfurters	297
Grape Punch	1
Pork and Potatoes	313
Cheese Cracker Cubes	35
Peaches	482
Total 12B	1295

Meal C

Beef and Gravy	536
Apricot Fruit Bar	615
Spaghetti	340
Chicken and Rice	125
Crab Mushroom Soup	176
Peach Ambrosia	253
12C Total	2045

Day 12 Total

4894

SNACK LIST

WHITE

	<u>K</u>
Cheese Cracker Cubes	35
Sugar Cookie Cubes	55
Lemon Pudding	90
Jellied Fruit Candy	1
Pecans	104
Coffee with Cream and Sugar	106
Black Coffee	68
Crab Mushroom Soup	176
Cheese Sandwich	26
Citrus Beverage - 3	198
Brownies	100
Apricots	373
Total	1332

WHITE

DAY 2

Meal A

	<u>K</u>
Coffee	106
Fruit Cocktail	90
Sausage Patties	139
Orange Drink	5
Spiced Fruit Cereal	217
2A Total	557

Meal B

Turkey and Gravy	382
Vanilla Pudding	168
Citrus Beverage	66
Pineapple-Grapefruit Drink	9
Chocolate Bar	132
Frankfurters	297
2B Total	1054

Meal C

Cream of Chicken Soup	110
Banana Pudding	83
Brownies	100
Pineapple-Grapefruit Drink	9
Cranberry Orange	22
Pineapple Fruitcake	56
2C Total	380

Day 2 Total	1991
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WHITE

DAY 3

<u>Meal A</u>	<u>K</u> <i>ny</i>
Bacon Bars	275
Grape Drink	4
Cocoa	297
Scrambled Eggs - 2	472
3A Total	1048

<u>Meal B</u>	
Lobster Bisque	211
Bread Slice	36
Tuna Sandwich Spread	142
Butterscotch Pudding	193
Pineapple-Orange Drink	6
Peaches - Can	184
3B Total	772

<u>Meal C</u>	
Shrimp Cocktail	174
Beef Steak	317
Peaches - Dried	482
Caramel Candy	36
Orange-Grapefruit Drink	7
Coffee	106
3C Total	1122

Day 3 Total	2942
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WHITE

DAY 4

Meal A

	<u>K</u> <i>my</i>
Canadian Bacon with Applesauce	114
Corn Flakes	131
Pineapple Drink	9
Cocoa	297
Mixed Fruit	156
4A Total	707

Meal B

Chicken and Rice Soup	167
Meatballs with Sauce	430
Lemon Pudding	90
Sugar Cookies	55
Grape Punch	1
Coffee	106
4B Total	849

Meal C

Beef and Gravy	536
Apricots	373
Pork and Potatoes	313
Chocolate Pudding	384
Fortified Grapefruit Drink	11
4C Total	1617

Day 4 Total	3173
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WHITE

DAY 5

Meal A

	<u>K</u> <i>my</i>
Peaches (RSB)	85
Bacon Bars (4)	137
Fortified Grapefruit Drink	11
Cocoa	297
Scrambled Eggs	236
5A Total	766

Meal B

Pea Soup	417
Salmon Salad	262
Applesauce	71
Cheese Crackers	35
Orange-Grapefruit Drink	7
Hamburger	170
5B Total	962

Meal C

Cream of Tomato Soup	291
Spaghetti with Meat Sauce	340
Grape Drink	4
Peach Ambrosia	253
Chocolate Bar	132
5C Total	1020

Day 5 Total

2748

WHITE

DAY 6

Meal A

	<u>K</u> <i>my</i>
Fruit Cocktail	90
Sausage	139
Spiced Fruit Cereal	217
Coffee	106
6A Total	552

Meal B

Turkey and Gravy	382
Cranberry Orange	22
Pineapple Fruitcake	56
Vanilla Pudding	168
Citrus Beverage	66
6B Total	694

Meal C

Cream of Chicken Soup	110
Banana Pudding	83
Brownies	100
Pineapple-Grapefruit Drink	9
Frankfurters	297
6C Total	599

Day 6 Total	1845
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WHITE

DAY 7

Meal A

	<u>K</u> <i>mg</i>
Bacon Bars (2)	69
Grape Drink	4
Cocoa	297
Scrambled Eggs	236
Peaches - Can	184
7A Total	790

Meal B

Lobster Bisque	211
Butterscotch Pudding	193
Orange-Pineapple Drink	6
Bread, average	36
Ham Sandwich Spread	488
7B Total	934

Meal C

Shrimp Cocktail	174
Beef Steak	317
Peaches - Dried	482
Caramel Candy	36
Orange-Grapefruit Drink	7
7C Total	1016

Day 7 Total	2740
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WHITE

DAY 8

Meal A

	<u>K</u> <i>my</i>
Mixed Fruit	156
Canadian Bacon with Applesauce	114
Pineapple-Grapefruit Drink	9
Cocoa	297
Corn Flakes	131
8A Total	707

Meal B

Chicken and Rice Soup	167
Meatballs with Sauce	430
Lemon Pudding	90
Sugar Cookies	55
Coffee	106
8B Total	848

Meal C

Beef and Gravy	536
Pork and Scalloped Potatoes	313
Chocolate Pudding	384
Apricots	373
Grapefruit Drink	11
8C Total	1617

Day 8 Total	3172
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WHITE

DAY 9

<u>Meal A</u>	<u>K</u> <i>my</i>
Bacon Bars (2)	69
Peaches (RSB)	85
Grapefruit Drink	11
Cocoa	297
Scrambled Eggs	236
9A Total	698
 <u>Meal B</u>	
Pea Soup	417
Salmon Salad	262
Applesauce	71
Cheese Crackers	35
Orange-Grapefruit Drink	7
Hamburger	170
9B Total	962
 <u>Meal C</u>	
Cream of Tomato Soup	291
Spaghetti with Meat Sauce	340
Grape Drink	4
Peach Ambrosia	353
Chocolate Bar	132
9C Total	1020
 Day 9 Total	2680

WHITE

DAY 10

<u>Meal A</u>	<u>K</u>
Spiced Fruit Cereal	217
Fruit Cocktail	90
Sausage Patties	139
Orange Drink	5
Coffee	106
10A Total	557

<u>Meal B</u>	
Turkey and Gravy	382
Cranberry Orange	22
Pineapple Fruitcake	56
Vanilla Pudding	168
Citrus Beverage	66
10B Total	694

<u>Meal C</u>	
Frankfurters	297
Banana Pudding	83
Brownies	100
Pineapple-Grapefruit Drink	9
Romaine	310
10C Total	799

Day 10 Total	2050
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WHITE

DAY 11

<u>Meal A</u>	<u>K</u>
Peaches - Can	184
Spiced Fruit Cereal	217
Cocoa	297
Grape Drink	4
11A Total	702

<u>Meal B</u>	
Lobster Bisque	211
Butterscotch Pudding	193
Orange-Pineapple Drink	6
Ham Salad Spread	162
Bread, average	72
Salmon Salad	262
11B Total	906

<u>Meal C</u>	
Beef Steak	317
Peaches-Dried	482
Tomato Soup	291
Tuna Salad	231
Orange-Grapefruit Drink	7
Shrimp Cocktail	174
11C Total	1502

Day 11 Total	3110
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WHITE

DAY 12

<u>Meal A</u>	<u>K</u>
Fruit Cocktail	90
Corn Flakes	131
Pineapple-Grapefruit Drink	9
Coffee	106
12A Total	336

<u>Meal B</u>	
Chicken and Rice Soup	167
Grape Punch	1
Beef Stew	199
Butterscotch Pudding	193
Applesauce	71
12B Total	631

<u>Meal C</u>	
Hamburger	170
Chicken Stew	247
Orange Drink	5
Peach Ambrosia	253
12C Total	675

Day 12 Total	1642
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BLUE

SNACK LIST

K

Cheese Cracker Cubes	35
Sugar Cookie Cubes	55
Jellied Fruit Candy	1
Pecans	104
Black Coffee - 3	204
Cheese Sandwich	24
Citrus Beverage - 2	132
Grape Drink	4
Chocolate Bar	132
Caramel Candy	36
Total	727

BLUE

DAY 2

<u>Meal A</u>	<u>K</u>
Fruit Cocktail	90
Sausage Patties	139
Orange Drink	5
Cocoa	297
Spiced Fruit Cereal	217
2A Total	748

<u>Meal B</u>	
Turkey and Gravy	382
Frankfurters	297
Vanilla Pudding	168
Citrus Beverage	66
Cheddar Cheese Spread	37
Bread, average	36
Apricot Bar - $\frac{1}{2}$	307
2B Total	1293

<u>Meal C</u>	
Cream of Chicken Soup	110
Banana Pudding	83
Brownies	100
Pineapple-Grapefruit Drink	9
Beef and Gravy	536
Cranberry-Orange	22
Pineapple Fruitcake	56
2C Total	916

Day 2 Total	2957
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BLUE

DAY 3

<u>Meal A</u>	<u>K</u>
Bacon Bars	275
Grape Drink	4
Cocoa	297
Scrambled Eggs	472
3A Total	1048

<u>Meal B</u>	
Lobster Bisque	211
Butterscotch Pudding	193
Orange-Pineapple Drink	6
Diced Peaches	184
Bread, average	36
Tuna Sandwich Spread, 1/3 can	142
3B Total	772

<u>Meal C</u>	
Beef Steak	317
Peaches	482
Caramel Candy	36
Shrimp Cocktail	174
Orange-Grapefruit Drink	7
3C Total	1016

Day 3 Total	2836
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BLUE

DAY 4

<u>Meal A</u>	<u>K</u>
Canadian Bacon with Applesauce	114
Corn Flakes	131
Pineapple-Grapefruit Drink	9
Cocoa	297
Mixed Fruit	156
4A Total	707

<u>Meal B</u>	
Chicken and Rice Soup	167
Meatballs with Sauce	430
Lemon Pudding	90
Sugar Cookies	55
Grape Punch	1
Cheddar Cheese Spread	37
Chicken Salad Spread, 1/2 can	190
Bread, 2 average	72
4B Total	1042

<u>Meal C</u>	
Apricots IMB	373
Chocolate Pudding	384
Fortified Grapefruit Drink	11
4C Total	768

Day 4 Total	2517
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BLUE

DAY 5

<u>Meal A</u>	<u>K</u>
Peaches	85
Bacon Bars (3)	103
Fortified Grapefruit Drink	11
Cocoa	297
Scrambled Eggs	236
5A Total	732

<u>Meal B</u>	
Cream of Tomato Soup	291
Pineapple Grapefruit Drink	9
Fortified Grapefruit Drink	11
Caramel Candy	36
Bread, average	36
Frankfurters	297
Grapefruit Drink	11
5B Total	691

Day 5 Total	1423
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BLUE

DAY 6

<u>Meal A</u>	<u>K</u>
Scrambled Eggs	236
Peaches	85
Bacon Bars	275
Graham Crackers	149
Orange-Pineapple Drink	6
Cocoa	297
6A Total	1048

<u>Meal B</u>	
Salmon Salad	262
Orange-Grapefruit Drink	7
Frankfurters	297
Chocolate Bar	132
Pecans	104
Peach Ambrosia	253
6B Total	1055

Apricot Bar	615
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Day 6 Total	2718
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BLUE

DAY 7

<u>Meal A</u>	<u>K</u>
Sausage Patties	139
Corn Flakes	131
Fortified Grapefruit Drink	11
Cocoa	297
Apricots	373
Beef Steak	317
7A Total	1268
 <u>Meal B</u>	
Shrimp Cocktail	174
Canadian Bacon with Applesauce	114
Brownies (6)	149
Cheese Cracker Cubes	53
Orange Drink	5
Grape Drink	4
Meatballs w/sauce	430
7B Total	929
 Fruit Bar	615
 Day 7 Total	2812

BLUE

DAY 8

<u>Meal A</u>	<u>K</u>
Bacon Bars	275
Cinnamon Toast	78
Orange-Pineapple Drink	6
Cocoa	297
Peaches	482
Beef Steak	317
8A Total	1455
Fruit Bar	615
<u>Meal B</u>	
Tuna Salad	231
Chicken and Rice	125
Chocolate Pudding	384
Grape Punch	1
Turkey and Gravy	382
8B Total	1123
<u>Meal C</u>	
Chocolate Pudding	384
Fortified Grapefruit Drink	11
Beef and Gravy	536
Apricots	422
8C Total	1353

BLUE

DAY 9

Meal A

	<u>K</u>
Peaches	85
Scrambled Eggs	472
Grapefruit Drink	11
Grape Drink	4
Orange-Grapefruit	7
Bacon Bars (2)	69
9A Total	648

Meal B

Pea Soup	417
Salmon Salad	262
Applesauce	71
Cheese Crackers	35
Orange-Grapefruit Drink	7
Citrus Drink	66
Hamburger	170
9B Total	1028

Meal C

Cream of Tomato Soup	291
Spaghetti with Meat Sauce	340
Grape Drink	4
Peach Ambrosia	253
Chocolate Bar	132
Vanilla Pudding	168
9C Total	1188

Day 9 Total	2864
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BLUE

DAY 10

<u>Meal A</u>	<u>K</u>
Fruit Cocktail	90
Sausage Patties	139
Orange Drink	5
Orange Drink	5
Spiced Fruit Cereal	217
10A Total	456

<u>Meal B</u>	
Turkey and Gravy	382
Cranberry-Orange	22
Pineapple Fruitcake	56
Citrus Beverage	66
Ham Sandwich Spread	162
Bread	36
10B Total	724

<u>Meal C</u>	
Lobster Bisque	211
Frankfurters	297
Pineapple-Grapefruit Drink	9
Peaches	482
Orange-Grapefruit Drink	7
10C Total	1006

Day 10 Total	2186
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BLUE

DAY 11

<u>Meal A</u>	<u>K</u>
Diced Peaches	184
Grape Drink	4
Apricots	373
Orange-Grapefruit Drink	7
11A Total	568

<u>Meal B</u>	
Romaine Soup	310
Bread, average	36
Ham Sandwich Spread, 1/3 can	163
Lemon Pudding	90
Pineapple-Orange Drink	9
Salmon Salad	271
Apricots	373
11B Total	1251

<u>Meal C</u>	
Shrimp Cocktail	174
Beef Steak	264
Peaches	482
Caramel Candy	36
Orange-Grapefruit Drink	7
Tuna Salad	231
11C Total	1194

Day 11 Total	3013
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BLUE

DAY 12

<u>Meal A</u>	<u>K</u>
Fruit Cocktail	90
Scrambled Eggs	236
Pineapple-Grapefruit Drink	9
Apricots	373
Sausage	139
Peaches - Dried	482
12A Total	1329

<u>Meal B</u>	
Tuna Salad	231
Applesauce	71
Beef Stew	199
Grapefruit Drink	11
Apricots	373
12B Total	885

<u>Meal C</u>	
Hamburger	170
Chicken and Rice Soup	167
Apricot Bar	615
Grapefruit Drink	22
Peach Ambrosia	253
12C Total	1227

Day 12 Total	3441
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