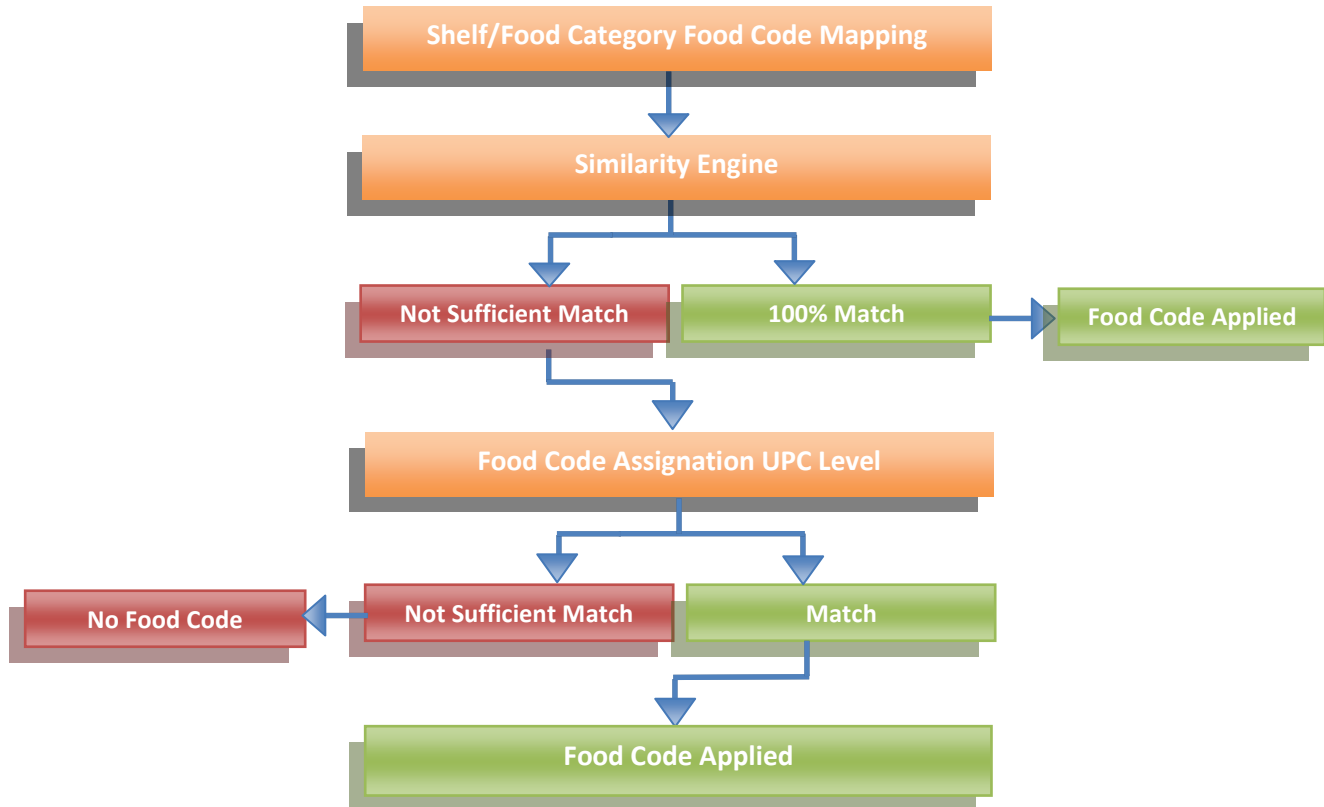




Product Food Code Assignment Process

The following process was employed for the assignment of food codes to food products in order to enable users to access, search, and filter products by their corresponding food code(s), as well as to see all food codes that correspond to a particular packaged product.





Shelf/Food Category Food Code Mapping

Products in the FoodEssentials database are organized according to their food category which is based on particular attributes an individual product possesses. The FoodEssentials food category structure is based on a granular model that starts broadly with the AISLE, becoming more granular at each level, following with the SHELF and finally with the FOOD CATEGORY.

Each product is assigned an aisle, shelf and food category. A product cannot exist in the LabelBASE portal unless it has been assigned a FoodEssentials aisle, shelf and food category. For a complete export of the FoodEssentials Food Categories, please refer to the FE_Food_Categories_130301, made available on the Help tab of LabelBASE.

With regards to the product food code assignment, Shelves and Food Categories were primarily used to determine appropriate food codes for particular food products. The FoodEssentials Food Code expert was contracted to aid in the process of identifying and mapping the most appropriate food codes to the FoodEssentials Shelves and Food Categories. This was very much a manual process.

Similarity Engine

Using the food codes that were already mapped to individual shelves and at times food categories food codes were matched to the most suitable product through the use of a similarity engine. The similarity of food codes and individual products was based on keyword matches from the fields listed below. This similarity engine was designed as an early stage or initial attempt to assign food codes to the products that had the least complexity surrounding the assignment process, in a “lowest hanging fruit” fashion. Any foods that did not match exactly were then assigned food codes on an individual UPC basis.

Product Food Code Assignment UPC Level

FNDDS version 5.0 was used for the product food code assignment. No food categories or products were eliminated for evaluation to receive a food code. Products that did not correspond directly to a food code were divided into one of the following sub-groups based on availability of food codes:

Products that did not have a corresponding food code

- Some products did not have corresponding food codes. For these products, no food code was assigned. A list of these products will be shared with the FDA to determine if a food code should be assigned or if they should remain uncoded.

	UPC	Product Description	Potential Food Code	Potential Food Code Description
Example:	00033844006495	Vanilla Extract	NO MATCH	N/A

- Products that did not have a clear corresponding food code, but had a potential match, will be reviewed by the FDA to determine if the potential match is appropriate.

UPC	Product Description	Potential Food Code	Potential Food Code Description
Example: 00041224183100	Anchovy Paste	26101181	Anchovy, Canned

Products for which there is no corresponding food code in the way they are sold

- Because the food codes relate to products as they are consumed, products not sold ready-to-eat have been assigned multiple food codes, which apply to the various ways it could be prepared.

UPC	Product Description	Potential Food Code	Potential Food Code Description
Example: 00011110823793	Broccoli (with Cheese Sauce)	72201230	Broccoli, cooked, NS as to form, with cheese sauce
		72201232	Broccoli, cooked, from frozen, with cheese sauce

- This was limited to plain cooked varieties and did not include mixed dishes which could include that product. For example, the following food code was **NOT** assigned to the example highlighted below:

UPC	Product Description	Potential Food Code	Potential Food Code Description
Example: 00011110823793	Broccoli (with Cheese Sauce)	72202010	Broccoli casserole (broccoli, noodles, and cream sauce)

Products comprised of multiple complete food products

- Products that are composed of multiple complete food products were assigned food codes for all products included in the package.

UPC	Product Description	Potential Food Code	Potential Food Code Description
Example: 00044700006771	Lunch Combinations, Ham and American, Fun Pack	54301000	Cracker, snack
		92510610	Fruit juice drink
		14410200	Cheese, processed, American or Cheddar type
		25230210	Ham, sliced, prepackaged or deli, luncheon meat
		91718100	Butterfinger

Products for which there was no specific food code, but for which a general food code exists

- NFS food codes were used as “other” categories when a product could not fit into any of the more specific codes within that category. In the example below, the NFS food code was assigned to the product listed.

UPC	Product Description	Potential Food Code	Potential Food Code Description
Example: 059290311419	McVitie’s Digestive Wheat Biscuits	53201000	Cookie, NFS



Assumptions and Comments

At times, a direct match was not possible. The following is a sample of assumptions and rules put in place to maximize the total number of products assigned a food code. This serves as an example of the logic used.

Product Food Code Assignment Comments
Junior baby food is defined as 'Stage 3' or for ages 7-12 months.
All baby food soups containing chicken have been assigned 27644110, Chicken soup, baby food.
Cheese and spinach ravioli has been assigned 58509100, Ravioli, cheese-filled, with tomato sauce, baby food, toddler.
Chicken mixed with any vegetable that does not fit into a specific code has been assigned to either 76605010, Vegetable and chicken, baby food, strained or 76605020, Vegetable and chicken, baby food, junior
Turkey mixed with any vegetable that does not fit into a specific code has been assigned to either
76611010, Vegetable and turkey, baby food, strained, or 76611020, Vegetable and turkey, baby food, junior.
Fruit strips are assigned 67100110, Fruit bar, with added vitamin C, baby food, toddler.
All pasta and cheese sauce products are assigned to 58508000, Macaroni and cheese, baby food, strained or 58508300, Macaroni and cheese, baby food, toddler.
Any rice and vegetable mixture not fitting a specific code is assigned the food code 76501000, vegetables and rice, baby food, strained.
All mixed vegetables not fitting a more specific code are assigned to 76407010, Mixed vegetables, garden vegetables, baby food, strained or 76407020, Mixed vegetables, garden vegetables, baby food, junior.
All non-egg noodle pasta and beef meals are assigned either 58503010, Macaroni, tomatoes, and beef, baby food, strained, 58503020, Macaroni, tomatoes, and beef, baby food, junior, or 58503050, Macaroni with beef and tomato sauce, baby food, toddler.
All whole milk yogurts mixed with fruit or vegetables are assigned the food code 11480010, Yogurt, whole milk, baby food, if there is no specific mixed yogurt code.
Shrimp sold pre-cooked is assigned to 26319110, Shrimp, cooked, NS as to cooking method.
Mixed seafood patties are assigned 27250050, fish cake or patty, NS as to fish.
Any fish sold grilled are assigned to the species-specific, 'cooked, NS as to cooking method' code.
Flatbreads have been assigned the food code 51109100, Bread, pita.
Ciabatta breads have been assigned the food code 51109010, Bread, Italian, Grecian, Armenian.
Portuguese Rolls have been assigned the food code 51000200, Roll, NS as to major flour.
Sandwich Rolls have been assigned the food code 51157000, Roll, hoagie, submarine.
All wheat hamburger and hotdog buns have been assigned the food code 51320010, Roll, wheat or cracked wheat.
All flavored bagels without a specific food code have been assigned the food code 51180010, Bagel.
Flavored focaccia has been assigned the food code 51109010, Bread, Italian, Grecian, Armenian.
All white hamburger and hotdog buns have been assigned the code 51150000, Rolls, white, soft.
All potato bread products have been assigned the food code 51127010, Bread, potato.
Onion rolls have been assigned the food code 51121110, Bread, onion.
Whole grain bread has been assigned the code 51300110, Bread, whole wheat, NS as to 100%.
Whole grain bagels where "wheat" is the first ingredient have been assigned the food code 51301750, Bagels, wheat NS as to 100%.
Filled bagels have been assigned the food code 51180010, Bagel.
Artisan Rolls have been assigned the food code 51150000, Rolls, white, soft.
Turkey sandwiches with cheese are assigned the code 27540310, Turkey sandwich, with spread.
All nutritional drinks are assigned 11623000, Meal supplement or replacement, commercially prepared, ready-to-drink.

Specific amino-acids supplements are assigned as 41430010, protein supplement, powdered.
Energy drink mixes are assigned to 92651000, Energy drink.
Chocolate Chip Cheese Cake is assigned to 53104600, Cheesecake, chocolate.
Cheesecake fillings are assigned to either 53104500, Cheesecake,
53104550, Cheesecake with fruit, or 53104600, Cheesecake, chocolate, depending on the flavor.
Frozen custard is assigned as 13210300, Custard.
If an ice cream cake contains chocolate, it is assigned the food code 53112000, Cake, ice cream and cake roll, chocolate.
Dairy free ice cream products were assigned relevant ice cream codes.
Powdered onion dip is 75608300, Onion soup, dry mix, not reconstituted.
Sauce mixes were assigned prepared sauce codes based on sauce type.
Teriyaki flavored marinades are assigned code 41420400, Teriyaki sauce.
Fruit flavored dessert syrups were assigned 91304030, Topping, fruit
Dietetic codes were interpreted as meaning 'fat free' or 'sugar free.'
Roasted red potatoes are assigned the white potatoes, roasted codes (71104000,
White potato, roasted, NS as to fat added in cooking, 71104010, White potato, roasted, fat not added in cooking, and 71104020, White potato, roasted, fat added in cooking).
Onions and mixed bell peppers are assigned the code 75307000, green peppers and onions, cooked, fat added in cooking.
Yams are assigned the sweetpotatoes codes(73403000, Sweetpotato, baked, peel not eaten, NS as to fat added in cooking, 73403010, Sweetpotato, baked, peel not eaten, fat not added in cooking, and 73403020, Sweetpotato, baked, peel not eaten, fat added in cooking).
Any enriched macaroni product is under the macaroni codes 56101010, Macaroni, cooked, fat not added in cooking, or 56101030, Macaroni, cooked, fat added in cooking
Egg-containing noodles were assigned to 56112010, Noodles, cooked, fat not added in cooking,
or 56112030, Noodles, cooked, fat added in cooking
Long pastas (spaghetti, fettuccine, linguine) are all assigned to the spaghetti codes
56130010, Spaghetti, cooked, fat not added in cooking, or 56131000, Spaghetti, cooked, fat added in cooking.
Lemonade has been assigned the food code 92541010, Fruit flavored drink (formerly lemonade)
Ritz and Butter-type crackers have been assigned the food code, 54301000, Crackers, snack
Sausage included in pizza-type Lunchables has been assigned the food code 14620320, Topping from meat pizza.
Pepperoni included in pizza-type Lunchables has been assigned the food code 14620320, Topping from meat pizza.
Low fat cheese and other low fat toppings included in pizza-type Lunchables have been assigned the food code for the regular fat varieties of these products.
Seasoning packets included in Lunchables have not been coded because there is no food code for seasoning blends.
Chicken Strips and Chicken Tenders are assigned 24198740, Chicken Nuggets
Whole milk yogurt is defined as containing minimum 3.25% milk fat,
Low fat milk is 0.5 to 2% milk fat, and nonfat milk is less than 0.5% milk fat.
Yogurt between 2 and 3.25% milk are assigned fat under yogurt NS as to milk or flavor 24198740
Yogurt with flavors fitting more than 1 food code are categorized under, 11410000, yogurt NS as to milk or flavor
Fruit yogurt drinks are assigned 11553000, fruit smoothie drink, made with fruit or fruit juice and dairy products
Yogurt between 2 and 3.25% milkfat under 11410000, yogurt NS as to milk or flavor.
Salsa con queso is assigned 14620150, Dip, cheese with chili pepper (chili con queso)
All water with fruit flavor is assigned under 94100300, Water, fruit flavored, sweetened, with high fructose corn syrup and low calorie sweetener.

All flavor-less electrolyte water is assigned the food code 94100100, Water, bottled, unsweetened.
Any vinaigrette-style dressing with milk is assigned as 83112900, Milk, vinegar, and sugar dressing.
Any bacon dressing not fitting another code is under 83101500, Bacon dressing (hot).
Flavored rice has been assigned the food code that corresponds to the flavor and not to the type of rice (i.e. Spanish, dirty, etc.).
Rice that has been cooked with a single vegetable has been assigned the food code 581636100, Rice-vegetable medley, if there was no specific corresponding food code.
Mixed greens with carrots has been given the food code 75114000, Mixed salad greens, raw.
Kalamata olives have been assigned the food code 75510020, Olives, black.
Dill relish has been assigned the food code 75503020, Cucumber pickle, relish.
Pickled garlic has been assigned the food code 75111500, Garlic, raw.
Giardiniera has been assigned the food code 75515100, Vegetables, pickled.
Marinated mushrooms have been assigned the food code 75505000, Mushrooms, pickled.
Jalapenos have been assigned the food code 75121000, Pepper, hot chili, raw.
Bruschetta topping has been assigned the food code 75515010, Vegetable relish.
Bologna made with only chicken and pork has been assigned the food code 25220480, Bologna made with chicken, pork, beef.
Kishka has been assigned the food code 25221310, Polish sausage.
Pancetta has been assigned the food code 22601000, Pork bacon, smoked or cured, cooked.
Prasky has been assigned the food code 25221510, salami, soft, cooked.
Pastrami lox have been assigned the food code 27250080, Salmon loaf.
Bugles have been assigned the food code 54401050, Salty snacks, corn or cornmeal base, corn puffs and twists; corn-cheese puffs and twists.
Baked Bugles have been assigned the food code 54401150 Salty snacks, corn or cornmeal base, tortilla chips, lowfat, baked without fat.
Yogurt granola bars have been assigned the food code 53544300, Granola bar, high fiber, coated with non-chocolate yogurt coating.
Rice chips and rice snacks have been assigned the code 54318500, Rice cakes, cracker type
Combined corn and potato snacks have been assigned the code 54402600, Salty snacks, multigrain, chips.
Milk additives were assigned a food code based on if they were "Lite" or "Fat Free" before a food code based on the flavor.
Wing sauce, picante sauce, and chili sauce have been assigned the food code 75511010, Hot pepper sauce.
All steak sauces have been assigned the food code 74406100, Steak sauce, tomato-base.
Corn starch has been assigned the food code 56201800, Cornstarch, hydrolyzed powder.
All apricots have been assigned the food code 62104100, Apricot, dried, uncooked.
All dried apples have been assigned the food code 62101100, Apple, dried, uncooked.
All toaster pastries have been assigned the food code 53530000, breakfast tart.
Crostini and grissini has been assigned the food code, 54305000, Crispbread.
Whole bean coffee has been assigned the food code 92101000, Coffee, made from ground, regular.
Hummus Chips have been assigned the food code 71220000, Vegetable chips.
Chips have a claim of "lightly salted" have been assigned the most appropriate "reduced sodium" chip food code.
Shoestring potatoes have been assigned the food code are food code 71205000, White potato, sticks.
Cornmeal-based sticks have been assigned the food code 54401050, Salty snacks, corn or cornmeal base, corn puffs and twists; corn-cheese puffs and twists.
Pringles were considered to be restructured potato chips and have been assigned food codes accordingly.
Wheat-based snacks and chips have been assigned the food code 54402300, Salty snacks, wheat-based, high fiber.

Packaged fruits that are packed in gel have been assigned the food code 91501020, Gelatin dessert with fruit.
The Tropical Fruit Salad variety of canned from has been assigned the food code 63320100, Fruit salad, Puerto Rican style (Mixture includes bananas, papayas, oranges, etc.) (Ensalada de frutas tropicales).
Sugar-free candy has been assigned the most appropriately matching 'Dietetic' food code.
Chewy classic caramels, caramel cream, caramels, and milk caramels (all basic/plain caramels) have been assign the food code 91703020, Caramel, flavor other than chocolate.
Marshmallow pops have been assigned the food code 91723020, Marshmallow, candy-coated.
Cocoas have been assigned a food code based first on type of milk, and then by any other qualities based on available food codes.
Frozen Yogurt bars have been assigned the food code that corresponds to the type of yogurt used to make the bar.
Neapolitan ice cream was assigned the food code 13110100, Ice cream, regular, flavors other than chocolate.
Guava jelly and jam has been assigned the food code 91407100, Guava paste.
Fruit spread and fruit paste have been assigned the food code 91402000, Jams, preserves, all flavors.
Cranberry jelly and sauce has been assigned the food code 63411010, Cranberry salad, congealed.
Frozen French fries have been assigned the food code 71401020, White potato, french fries, from frozen, oven baked.
Tater tots have been assigned the food code 71505000, White potato, puffs.
Sugar has been given the food code 91101010, Sugar, white, granulated or lump if it does not specify another color or other disqualifying term (such as crystals or rimming sugar) in description or name
All flavors of Ramen Instant Lunch have been given the food code 58407010, Instant soup, noodle.
Menudo (tripe or stomach-lining soup) has been assigned the food code 28311010, Pepperpot (tripe) soup.

FoodEssentials has agreed to supply any assumptions and/or comments made for any individual product as an addition to the original requirements outlined in the original food code task order. As this is an additional requirement, more time is needed to ensure that this data is made available for export on the LabelBASE portal. At the time of printing this documentation, the exact delivery date for this additional functionality was not known.