



Healthy Fats are hot!

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Hot off the Press: 9 new 'food words' added to Webster's

- Plant-based (adjective) = 1. Made or derived from plants; 2. consisting primarily or entirely of food (such as vegetables, fruits, nuts, oils, and beans) derived from plants
- Oat milk = A liquid made from ground oats and water that is usually fortified (as with calcium and vitamins) and used as a milk substitute
- Banh mi = Vietnamese sandwich on spit baguette with meat and pickled veggies
- Pumpkin Spice = mixture of cinnamon, nutmeg, ginger, cloves, and allspice
- Ras el hanout = North African spice mixture includes coriander, ginger, turmeric, peppercorns, cumin, cinnamon, cardamom, cayenne pepper, and other spices



Hot off the Press: 9 new 'food words' added to Webster's

- ▶ Birria = A Mexican dish of stewed meat (or could be hibiscus flowers) seasoned especially with chili peppers
- ▶ Sessionable = Having a light body and a lower-than-average percentage of alcohol
- ▶ Mojo = A sauce, marinade, or seasoning that is usually composed primarily of olive oil, garlic, citrus juice, and spices (such as black pepper and cumin) –often in Cuban food
- ▶ Omakase (o-ma-ka'-say) = A series of small servings or courses (as of sushi) offered at a fixed price and whose selection is left to the chef's discretion

What do you come to mind when you hear 'dietary fat'?



GOOD FATS
vs.
BAD FATS



What is role of fats in foods?

- Provide texture, flavor, aroma to foods
- Provide energy – 9 calories in every gram
- Some have good effects on health, others not so much

Sources of dietary fats

- **Animal sources:** meat, cheese, dairy
- **Plant sources:** vegetable oils, nuts, avocados, seeds
- **“Hidden” dietary fat:** French fries, pasta dishes, baked goods, salad dressings



Visible and hidden fats

Which food on this plate has the most fat?

Bacon?

Eggs?

Hashed Browns?

Muffin?

Bacon = 7 g

Eggs = 14 g

Hashed Browns = 15 g

Muffin = 32 g (600 kcal)



Donald Erickson/iStockphoto



Fats

Limit/Avoid

Saturated Fat

Cholesterol

Trans Fat

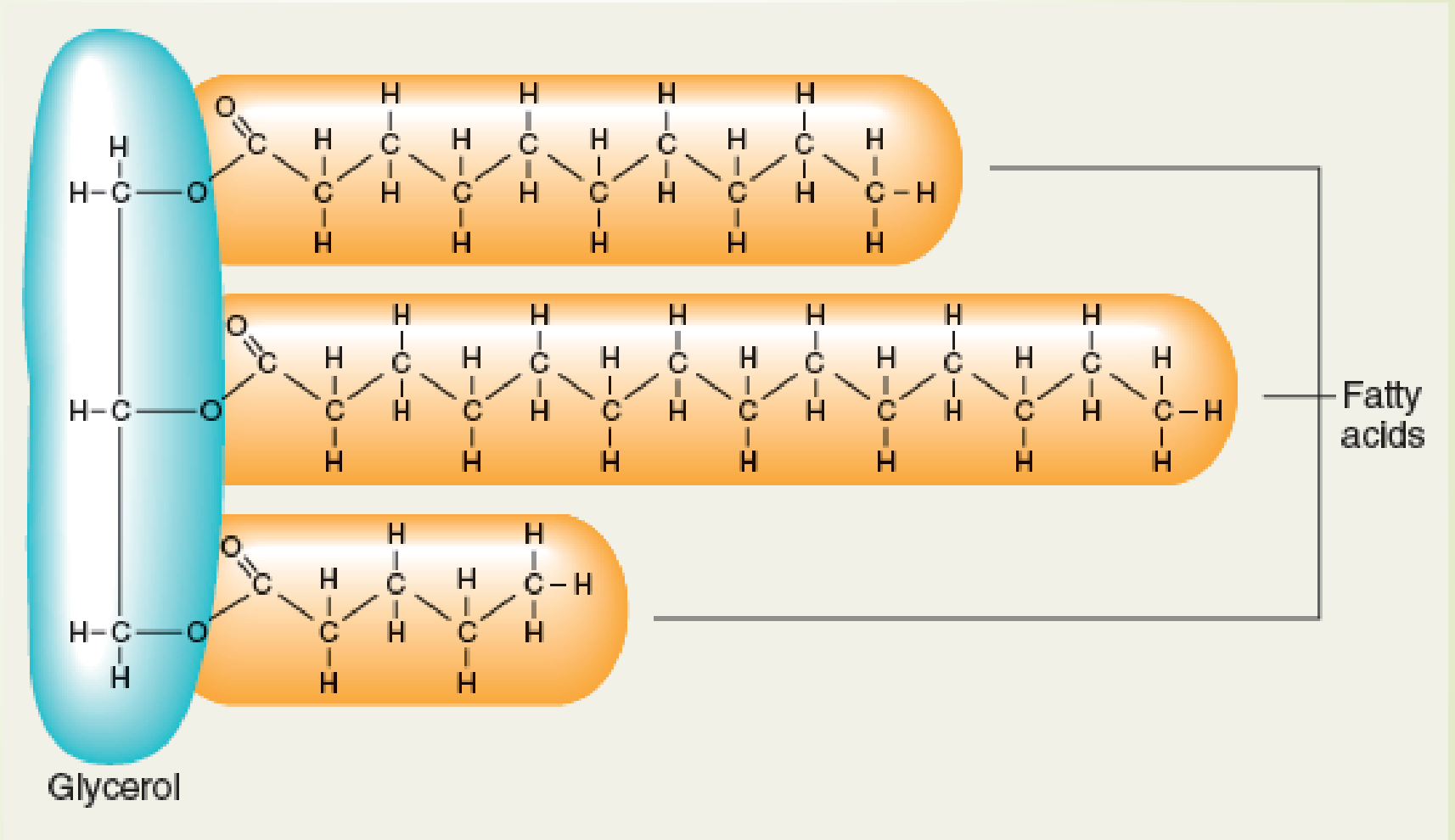
Moderation

Monounsaturated Fat

Polyunsaturated Fat

Omega-3 Fatty Acids

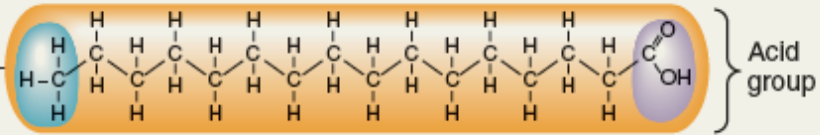
Triglycerides and fatty acids



Triglycerides and fatty acids

A **saturated fat** when each carbon atom is attached to as many hydrogen atoms as possible so that no double bonds form. The fat on the outside of a steak is solid at room temperature because it is high in saturated fatty acids.

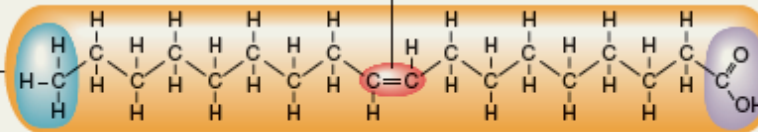
Methyl or omega end



Saturated fatty acid: palmitic acid

A **monounsaturated fatty acid** contains one carbon-carbon double bond. Canola, olive, and peanut oils, as well as nuts and avocados, are high in monounsaturated fatty acids.

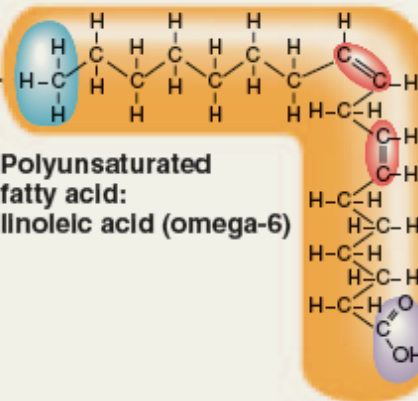
Carbon-carbon double bond



Monounsaturated fatty acid: oleic acid (omega-9)

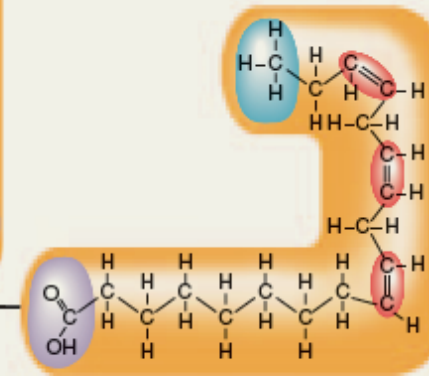
A **polyunsaturated fatty acid** contains more than one carbon-carbon double bond. When the first double bond occurs between the sixth and seventh carbon atoms (from the omega end), the fatty acid is called an **omega-6 (ω -6) fatty acid**. Corn oil, safflower oil, soybean oil, and nuts are sources of omega-6 polyunsaturated fatty acids.

Polyunsaturated fatty acid: linoleic acid (omega-6)



If the first double bond in a polyunsaturated fatty acid occurs between the third and fourth carbon atoms (from the omega end), the fatty acid is an **omega-3 (ω -3) fatty acid**. Fish oils, flaxseed, soybean and canola oils, nuts, and leafy green vegetables are sources of omega-3 polyunsaturated fatty acids.

Polyunsaturated fatty acid: alpha-linolenic acid (omega-3)



Saturated Fats

- Solid at room temperature (lard, butter)
- Mostly in animal foods: meat, dairy
- Tropical oils (coconut, palm kernel)
- Long-chain saturated fats:
 - Increase LDL
 - Associated with heart disease



Saturated Fats - Coconut

- Medium-chain saturated fats:
 - May not have all negative effects
 - Shorter chain
 - Quickly digested and absorbed into the blood stream
 - Bypass peripheral fat tissue
 - Less likely to be stored as fat
 - This doesn't make it a health food



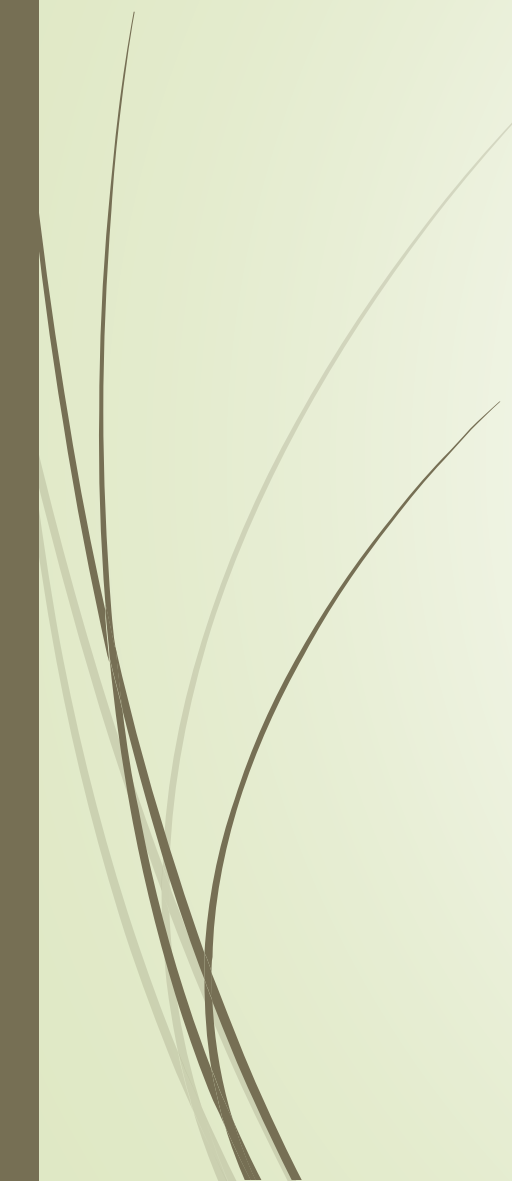
Common sources of Saturated Fat

- Butter
- Ground meat / sausage / fried meat / steaks
- High-fat milk, cheese, yogurt, cottage cheese
- Egg yolks
- Fried foods
- Sour cream
- Chips / Crackers
- Pizza
- Ice cream / Desserts / Candy





How to reduce saturated fats

- Switch to plant-based milks (or use non-fat dairy)
 - Limit animal foods – substitute beans/lentils, meat alternatives, nuts, soy
 - Don't add fat to recipes
 - Swap eggs with plant foods: scrambled tofu, flax in place of eggs in recipes
 - If having fat – choose whole foods that have healthy fat
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Egg Replacers

- 1 T flax plus 3 T water
- ½ mashed banana
- ¼ cup applesauce
- ¼ cup silken tofu
- Ener-G egg replacer
- Just Egg



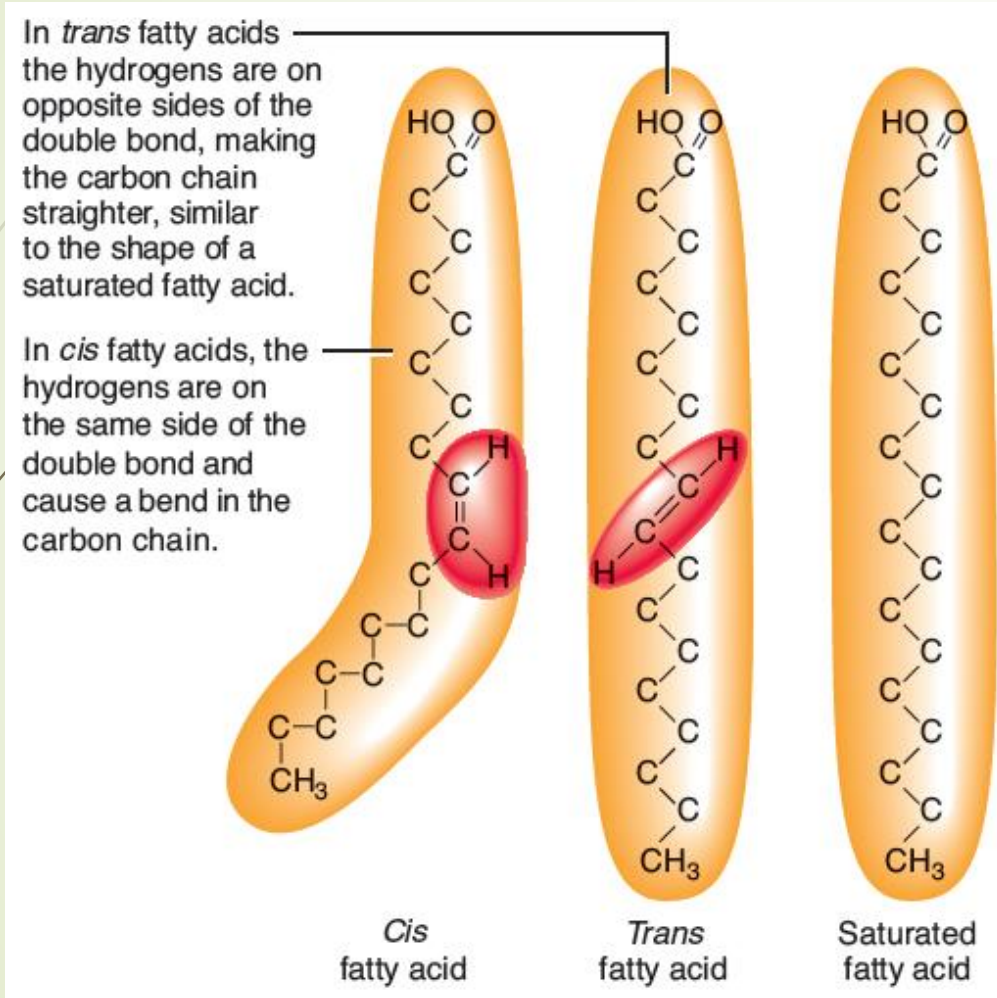


Ingredients

Water, Mung Bean Protein Isolate, Expeller-Pressed Canola Oil, Contains less than 2% of Dehydrated Onion, Gellan Gum, Natural Carrot Extractives (color), Natural Flavors, Natural Turmeric Extractives (color), Potassium Citrate, Salt, Soy Lecithin, Sugar, Tapioca Syrup, Tetrasodium Pyrophosphate, Transglutaminase, Nisin (preservative). (Contains soy.)

Serving size 3 Tbsp (44mL)	Amount	% Daily Value*
Calories	70	
Calories from Fat	45	
Total Fat	5g	8%
Saturated Fat	0g	0%
Trans Fat	0g	
Polyunsaturated Fat	1.5g	
Monounsaturated Fat	3g	
Cholesterol	0mg	0%
Sodium	170mg	7%
Total Carbohydrate	1g	0%
Dietary Fiber	0g	0%
Sugars	0g	
Protein	5g	
Vitamin A		0%
Vitamin C		0%
Calcium		0%
Iron		4%

Trans fatty acids



a. The orientation of hydrogen atoms around the double bond distinguishes *cis* fatty acids from ***trans* fatty acids**. Most unsaturated fatty acids found in nature have double bonds in the *cis* configuration.

Trans Fats



► Sources:

► Baked products

► Crackers, cookies, pastries, doughnuts, cupcakes, pie crusts, cake frosting, baking mixes, biscuits and dough

► Hard margarines, shortening

► Fried foods

► French fries, Fried chicken,

► Check ingredient lists for hydrogenated or partially hydrogenated oil - put it back!

Triglycerides and fatty acids

- **Monounsaturated fatty acids:** one double bond
 - Found in avocado, olives, nuts (and their oils)
 - Reduce risk of heart disease
 - Lower LDL cholesterol
- **Polyunsaturated fatty acids:** more than one double bond
 - Found mainly in plant sources (and fatty fish)
 - Vegetable oils
 - Soy
 - Nuts/seeds
 - Improve heart health



Unsaturated Fat

- Polyunsaturated

- Safflower oil

- Sunflower oil

- Corn oil

- Soybean oil

- Nuts

- Seeds

- Monounsaturated

- Olive oil

- Peanut oil

- Canola oil

- Nuts

- Seeds

- Avocados

Unsaturated Fat

Nuts and Seeds

- Very healthy
- Eat 1 serving daily
- 1 serving = 2-4 Tablespoons
- Good source of plant stanols and sterols
- Caution: high in calories!





Omega-3 Fatty Acids


- May help prevent heart disease
- Reduce triglyceride levels
- Help brain health
- Rec: 250 mg/day yeast or algae-derived EPA/DHA

- Fish sources

- Salmon
- Lake trout
- Mackerel
- Tuna
- Sardines

- Plant sources

- Walnuts
- Canola oil
- Ground Flaxseed
- Flaxseed oil
- Chia & hemp seeds



Omega-3 seeds

➤ Flax:

- Reduce inflammation, high blood pressure, blood sugars, improve survival of breast and prostate cancer

➤ Chia:

- Good source of protein, fiber, magnesium, iron
- Powerful antioxidant

➤ Hemp:

- Protein, fiber, nutrients
- Anti-inflammatory

What to do with Flax/Hemp/Chia?

- Put on oatmeal
- Shake onto salads
- Add to smoothies
- Use as a binder in recipes
- Make crackers
- Add to breakfast bites
- Sprinkle on soups or grain dishes
- Use as thickener



Comparison of Dietary Fats

DIETARY FAT

Canola oil	7	21	11	61
Safflower oil	8	14	1	77
Flaxseed oil	9	16	57	18
Sunflower oil	12	71	1	16
Corn oil	13	57	1	29
Olive oil	15	9	1	75
Soybean oil	15	54	8	23
Peanut oil	19	33	*	48
Cottonseed oil	27	54	*	19
Lard	43	9	1	47
Palm oil	51	10	*	39
Butter	68	3	1	28
Coconut oil	91	2	7	

SATURATED FAT



POLYUNSATURATED FAT



linoleic acid
(an omega-6 fatty acid)



alpha-linolenic acid
(an omega-3 fatty acid)

MONOUNSATURATED FAT



oleic acid
(an omega-9 fatty acid)

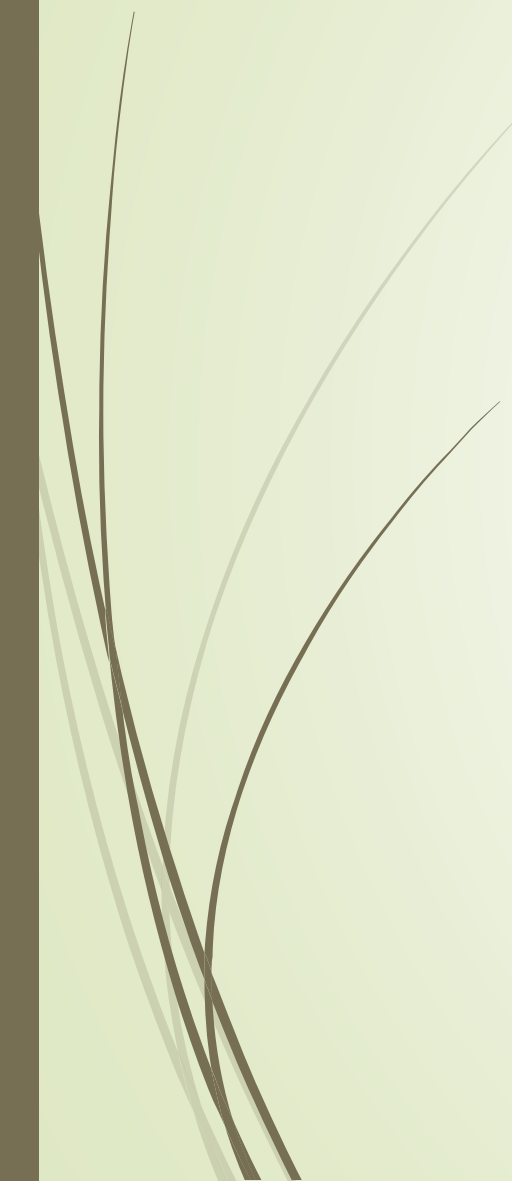
*Trace

Fatty acid content normalized to 100%

SOURCE: PDS PILOT PLANT CORPORATION



How to reduce fat in your diet

- Less or no meat
 - No or non-fat dairy
 - Limit high fat condiments - ie. secret sauce, mayo
 - Bake, broil, grill instead of fry
 - Cut added fats in recipes
 - Swap high fat toppings for low fat or plant sources(sour cream, cream cheese, butter/margarine)
 - Other ideas?
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Bottom line


- ▶ Choose healthy fats
 - ▶ Nuts & seeds
 - ▶ Avocado
 - ▶ Olives
 - ▶ Plant oils
- ▶ Limit saturated and trans fats
 - ▶ Animal foods
 - ▶ Processed foods
 - ▶ Fast foods





What will you do?

- What fats do you eat right now that you could eat less of or substitute with a healthier fat?
- How will you use healthy fats?
 - Sprinkle nuts and seeds on cereal, salads, bowls?
 - Cashew cream instead of cream to thicken soup?
 - Switch to plant-based milks?
 - Use flax for egg replacer?
- Make a goal today of one change to your fat intake
😊



Our dish today: Black Bean Brownies and Lasagna Soup

➤ Brownies:

- Sub black beans for oil
- Sub flax egg for eggs
- Used peanut butter for healthy fat

➤ Lasagna Soup:

- Lots of veggies
- Red lentils for fiber
- Cashew cream instead of cheese



Thank you!