

Vitamin D: The Sunshine Vitamin

Leader Directions

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Description: Are you concerned about keeping your bones strong? This lesson will discuss the role of Vitamin D in protecting our bones and preventing chronic diseases. In addition to sunlight, you will also learn food and supplement sources of Vitamin D and how much Vitamin D you need each day.

Lesson Objectives:

1. Understand the role of vitamin D in bone health and other chronic diseases.
2. Learn the recommended dietary allowance for vitamin D.
3. Identify sources of vitamin D.
4. Identify methods of increasing vitamin D consumption.

Optional Activities:

1. Ask participants to write down everything they had to eat yesterday. When you discuss foods that contain Vitamin D, ask them to see if they are consuming any food sources of vitamin D.
2. Make "Breakfast Parfait" recipe to demonstrate how to incorporate vitamin D fortified foods into a recipe.

Handouts:

1. *Vitamin D: What You Need to Know*, Purdue Extension Health and Human Sciences
2. *Vitamin D Quickfacts*, National Institutes of Health Office of Dietary Supplements
3. *Breakfast Parfait*, Purdue Extension Family Nutrition Program

Resources/References:

1. <http://www.enjoyfoodbeactive.org/vitamind.aspx>
2. <http://ods.od.nih.gov/>
3. <http://www.iom.edu/Reports/2010/Dietary-Reference-Intakes-for-Calcium-and-Vitamin-D.aspx>

Materials

1. Handouts
2. Ingredients and food demonstration supplies

Vitamin D is a HOT nutrient!

Vitamin D is a hot nutrient right now! You may have heard vitamin D in the news, or your doctor may have encouraged you to take a vitamin D supplement. Just as diets become popular for different reasons, so do nutrients. Unlike fad diets that come and go, the buzz around vitamin D is here to stay. New research suggests that vitamin D is not only healthy for our bones, but also in preventing certain chronic diseases. On November 30, 2010, the Institute of Medicine (IOM) released new/updated calcium and vitamin D recommendations for all ages in order for all people to get the maximum health benefits.

Leader: Ask participants if anyone has heard vitamin D in the news recently or discussed it with their medical provider. Also ask participants to write down everything they ate yesterday, including both meals and snacks. After the lesson, you will evaluate the foods list to see if participants are consuming any food sources of vitamin D.

What is Vitamin D?

When your doctor recommended the vitamin D supplement, you may have been wondering what exactly vitamin D is. Vitamin D is a nutrient specifically required for bone health, but also important for overall physical health. Vitamin D helps our body absorb calcium and phosphorus which are nutrients that make our bones strong. Without vitamin D, our bones would become soft and brittle. Rickets is the disease in children characterized by softened and weakened bones. Rickets occurs very rarely in the United States, but was once treated with cod liver oil. In adults, this disease is called osteomalacia and can lead to an increased number of bone fractures. A vitamin D deficiency can increase a person's risk for developing osteoporosis.

In addition to promoting bone health, vitamin D has been found to strengthen the immune system. Higher vitamin D levels have also been found to protect against certain types of cancer, type 1 and type 2 diabetes, hypertension, and cardiovascular disease.

Vitamin D is found in two forms. Vitamin D₃ is the form made following sunlight exposure while vitamin D₂ is the form found in dietary supplements and fortified in many food items. Vitamin D is measured in International Units (IU). 1 IU is equal to 0.025 micrograms of vitamin D. Your vitamin D status can be assessed with a blood test measuring 25-hydroxyvitamin D. Your doctor may recommend this test, or you can request it.

The amount of vitamin D that a person will make in response to sunlight exposure depends on the season, time of day, length of exposure, geographical location, use of sunscreen and/or other types of UV protection, and skin type. For example, people in Indiana will make more vitamin D in the summer than in the winter, but the total amount made depends on your individual skin type. Other factors that may affect the skin's ability to make vitamin D are

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obesity and aging. Therefore, there is no single recommendation for the amount of sunlight exposure for an individual to get each day.

Note to leader: In the "Vitamin D: What You Need to Know" handout, there is a table of vitamin D3 production made from sunlight exposure in Indianapolis.

Food Sources of Vitamin D

The less vitamin D your skin makes, the more vitamin D you need to receive through your diet or from a dietary supplement. The average daily recommended amount of vitamin D for adults is 600-800 IU, depending on your age.

Note to leader: Refer participants to the "Vitamin D: What You Need to Know" handout where there is a table of recommended daily requirements.

There are very few foods naturally high in vitamin D. These foods include:

- Salmon
- Sardines
- Eggs
- Fortified milk
- Fortified orange juice
- Fortified cereal

It is very important to read the nutrition facts labels on vitamin D fortified foods such as milk, orange juice, and cereals. The amount of vitamin D can vary greatly from brand to brand. Also be aware that just because a food item advertises that it is fortified with vitamin D does not mean that it is a healthy choice. For example, many high-calorie cereals with lots of added sugars are fortified with vitamin D. In addition to the foods already mentioned, some yogurts, breads, and margarine are fortified with vitamin D. Simply switching some of your daily staples to a vitamin D fortified option can greatly increase your vitamin D consumption.

Note to leader: Have participants look at their food list created earlier to see if they consume any food sources of vitamin D.

Activity: Breakfast Parfait Vitamin D Makeover

The Breakfast Parfait, a recipe from the Family Nutrition Program, is an easy way to incorporate several food groups into your breakfast meal. However, there are two ways that you can increase the vitamin D in this recipe. First, choose a vitamin D fortified yogurt, and second, choose a vitamin D fortified cereal. Read the nutrition facts label closely to select a cereal that is healthy and fortified with vitamin D. The following table shows how much you can increase the amount of vitamin D in the breakfast parfait recipe.

Ingredients (1 serving)	IU Vitamin D: Original Recipe	IU Vitamin D: Recipe Makeover
Fruit of your choice	0	0
1 cup low-fat, calcium and vitamin D fortified vanilla yogurt	0	80
¾ cup crunch, vitamin D fortified cereal	0	40
Total	0	120

Vitamin D Supplements

While you may eat vitamin D fortified foods on a regular basis and make a concerted effort to increase your consumption of vitamin D, your intake might still fall short of the recommended daily requirement. In this case, a dietary supplement can provide you with the vitamin D you need. There are many options of vitamin D supplements, so it is often important to consult your medical provider before starting a new supplement.

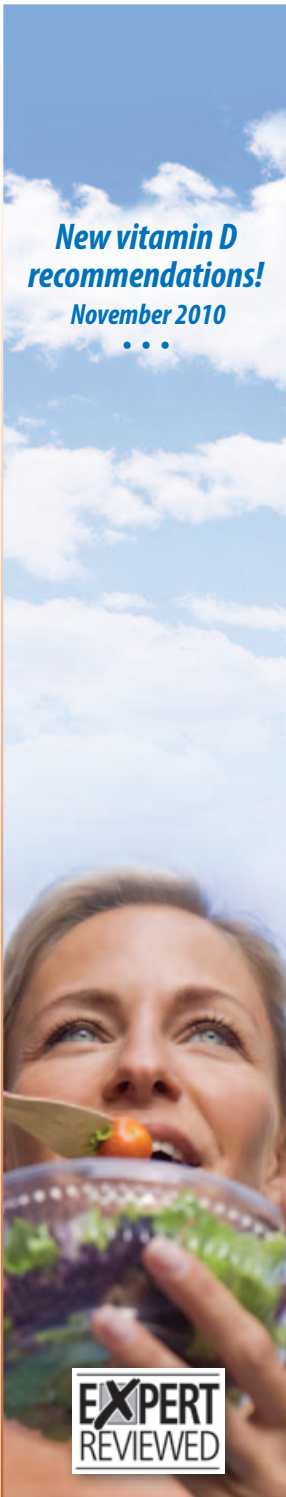
Take Home Messages

- Vitamin D is vital in maintaining bone strength and improving overall health.
- The recommended dietary allowance for vitamin D is 600-800 IU/day for adults depending on age.
- Read the nutrition facts labels to determine how much vitamin D you are consuming.
- If you discover you are not consuming enough vitamin D, consider taking a supplement.

HEALTH AND HUMAN SCIENCES

Vitamin D: What You Need to Know

James C. Fleet, Ph.D., Professor,
Department of Nutrition Science



What is vitamin D?

Vitamin D is a nutrient required for optimal bone health and essential for overall health. The vitamin can be found in two forms: vitamin D3, the form of vitamin D your skin makes in response to sun exposure, found in a few foods naturally, added to other foods, and as a dietary supplement, and vitamin D2, the form available in dietary supplements and added to certain foods. It is measured in international units (IU) where 1 IU is 0.025 micrograms of vitamin D.

No single recommendation for adequate sunlight exposure can be made for people, because the amount of vitamin D3 produced from sun exposure varies based on skin type, use of skin protection, length of sun exposure, season of the year, and time of day (Table 1).

Advanced readers can try to calculate their own vitamin D production at:
http://nadir.nilu.no/~olaeng/fastrt/VitD_quartMEDandMED.html

In a place like Indiana, your skin makes very little vitamin D during the winter, even if your skin is fair.

Why is vitamin D important to your health?

Vitamin D is a crucial part of the way your body handles the essential nutrients calcium and phosphorus in your diet. As a result, it is critical to the development and maintenance of bone strength.

Children who don't get enough vitamin D can develop weak, rubbery bones, a condition known as rickets. Lack of vitamin D is also one of many things that can contribute to osteoporosis, the brittle bone disease that leads to an increased risk of fracture in older people.

New research is showing vitamin D may also help prevent other chronic diseases. Higher vitamin D levels in a person's blood may protect against certain types of cancers, strengthen the immune system, and reduce risk of type 1 and 2 diabetes.

Table 1. Amount of vitamin D3 produced from sun exposure under clear skies in Indianapolis, Ind., (39° N latitude; 86° W longitude).

Skin type	% body exposed	Length of exposure*	Time to sunburn	Season	Time of day	International Units (IU) of vitamin D ₃
Fair	25	9 min	20 min	Summer	noon	2000
Medium	25	16 min	44 min	Summer	noon	2000
Very Dark	25	38 min	85 min	Summer	noon	2000

*Limit sun exposure to the skin to lower the risk of skin cancer.

Are you getting enough vitamin D?

Your vitamin D status (the amount of vitamin D in your blood) is determined by measuring 25-hydroxyvitamin D levels in the blood. This is reported to your doctor in either nanomoles per liter (nmol/L) or nanograms per milliliter (ng/mL, which is nmol/L divided by 2.5). The requirements for how much vitamin D you need to stay healthy are set by the Institute of Medicine's Food and Nutrition Board based on the strength and quality of current scientific evidence.

There is some controversy regarding what value is considered deficient. Everyone agrees that blood levels less than 25 nmol/L (10 ng/ml) are very low and that people with blood levels below this need more vitamin D (Table 2). If your blood level is less than 37.5 nmol/L (15 ng/mL), you are at risk for having a problem. The average blood level seen in the United States is around 60 nmol/L (24 ng/mL). Some researchers believe you need serum levels greater than 80 nmol/L (32 ng/mL) to get optimal health benefits from vitamin D. However, a recent report from the federal government says there isn't enough evidence for this, yet.

Table 2. Landmarks for assessing vitamin D status base on 25-hydroxyvitamin D levels in the blood.

Vitamin D (nmol/L)*	Vitamin D (ng/mL)*	Status
Less than 25	Less than 10	Deficient
Less than 37.5	Less than 15	Inadequate
Greater than 50	Greater than 20	Adequate
Greater than 80	Greater than 32	Proposed "optimal"
Greater than 250	Greater than 100	Potential toxicity

*Blood levels are expressed in nanomoles per liter (nmol/L) and nanograms per milliliter (ng/mL)

What factors affect the amount of vitamin D you need?

Because vitamin D can be made in your skin, the amount you need from your diet can change based on your exposure to the sun. A number of things can block vitamin D production in skin: having dark skin tones, covering exposed skin, or using sunscreen. Even the glass in your windows filters out UV rays from the sun and prevents your skin from making vitamin D. Also, as you age, your skin changes in ways that makes it harder

for your body to make vitamin D. Finally, the further north you live, the more your body's ability to make vitamin D is affected by the season. For example, in Indiana, you can't make much vitamin D in your skin from October through March due to the filtering of the atmosphere and the angle of the sun. In the winter, the right UV rays from the sun just don't reach you.

Regardless of the reasons, the less your skin makes vitamin D, the more vitamin D you need to get from your diet or from other sources. In particular, people who are institutionalized (especially the elderly), those with dark skin tones, and people who cover their skin for religious reasons should get their vitamin D status tested. Exclusively breastfed infants should receive a vitamin D supplement.

How much vitamin D do you need?

The Dietary Reference Intake (DRI) for vitamin D was set based on bone health outcomes (Table 3). An expert panel reviewed the research on how vitamin D affects bone health and set the vitamin D requirement for the various age groups and populations.

Table 3. Recommended vitamin D intakes for individuals.

Life stage	Average daily recommended amounts in International Units (IU)
Birth to 12 months	400
Children 1–13 years	400
Teens 14–18 years	600
Adults 19–50 years	600
Adults 51–70 years	600
Adults 71 years and older	800
Pregnant and breastfeeding women	600

Aside from sunlight, what are other sources for vitamin D?

Other sources of vitamin D include food and supplements. However, very few foods are naturally rich in vitamin D. Foods that are sources of vitamin D include: salmon, sardines, eggs, fortified milk, fortified orange juice, and fortified cereal (Table 4).





While these foods provide vitamin D, people do not typically consume most of these foods every day. While in a given day you might eat a combination of these foods to meet the requirement, day in and day out most people won't consume what they need. Because of this, many people may need to take a vitamin D supplement.

Table 4. Food sources of vitamin D.

Food	Vitamin D (IU)
Egg, whole, cooked, hard-boiled, 1 large	44
Cereal, ready-to-eat, ¾–1 cup	40 or more
Orange juice, fortified with vitamin D, ½ cup	68
Milk, fluid, with vitamin D added, 1 cup	108–128
Sardines, canned in oil, 3 ounces	164
Salmon (sockeye), cooked, 3 ounces	447

Source: USDA National Nutrient Database for Standard Reference, Release 24, www.nal.usda.gov/fnic/foodcomp/search

In the last couple of years, many multivitamin-mineral supplements have increased the amount of vitamin D in the supplement to 800 IU/day, which will meet the vitamin D requirement for every age group. If after talking with your doctor you decide you need more vitamin D, don't just take another multivitamin pill; there are other substances in the multivitamin supplements that could affect you adversely if you take too much. There are many options on the market for a separate vitamin D supplement. You will find the vitamin D in two forms, vitamin D2 and vitamin D3.

Both work well if taken every day. Some recommend vitamin D3, because it is the form that your skin makes in response to sunlight.

Are there any safety concerns with taking a vitamin D supplement?

For healthy people, supplementing with vitamin D is safer than people used to think. The recommended upper limit for safe intake of vitamin D is 4000 IU per day for an adult (Table 5). Some research suggests even higher levels may be safe. Too much vitamin D causes high blood calcium levels. Most of the symptoms of vitamin D toxicity are general, for example, loss of appetite, weight loss, nausea, and weakness. These symptoms start to occur when 25-hydroxyvitamin D levels in the blood rise to greater than 250 nmol/L.



Table 5. Recommended upper levels of intake for vitamin D.

Life stage	Recommended upper intake level in International Units (IU)
Birth to 6 months	1000
6 months to 12 months	1500
Children 1-3 years	2500
Children 4-8 years	3000
All other groups	4000

As with other dietary supplements, vitamin D might interact with other medicines or supplements you may be taking. Talk to your healthcare provider before you start taking any new supplement.

Where can I get more information about vitamin D?

- Office of Dietary Supplements
<http://ods.od.nih.gov/factsheets/VitaminD-QuickFacts/>
- The Linus Pauling Institute Micronutrient Information Center
<http://lpi.oregonstate.edu/infocenter/vitamins/vitaminD/>
- The Institute of Medicine
www.iom.edu/vitaminD

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Vitamin D: Purdue Research Impacts You

Faculty in the Department of Nutrition Science at Purdue are national leaders in discoveries related to vitamin D. Some of the research efforts include:

- exploring the relationship between diet, vitamin D status, and prostate and breast cancer prevention.
- investigating vitamin D regulation and muscle mass function.
- helping set vitamin D requirements for adolescents.
- determining the genetic profile of vitamin D receptors.
- studying vitamin D regulation of colon cancer.

For more about the research, visit www.purdue.edu/hhs/nutr



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Revised 11/11

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VITAMIN D QUICKFACTS



Very few foods naturally have vitamin D. Fatty fish such as salmon, tuna, and mackerel are among the best sources. Fortified foods like milk provide most of the vitamin D in American diets.

Vitamin D is a nutrient found in some foods that is needed for health and to maintain strong bones. It does so by helping the body absorb calcium (one of bone's main building blocks) from food and supplements. People who get too little vitamin D may develop soft, thin, and brittle bones, a condition known as rickets in children and osteomalacia in adults.

Vitamin D is important to the body in many other ways as well. Muscles need it to move, for example, nerves need it to carry messages between the brain and every body part, and the immune system needs vitamin D to fight off invading bacteria and viruses. Together with calcium, vitamin D also helps protect older adults from osteoporosis. Vitamin D is found in cells throughout the body.

How much vitamin D do I need?

The amount of vitamin D you need each day depends on your age. Average daily recommended amounts from the Food and Nutrition Board (a national group of experts) for different ages are listed below in International Units (IU):

Birth to 12 months	400 IU
Children 1–13 years	600 IU
Teens 14–18 years	600 IU
Adults 19–70 years	600 IU
Adults 71 years and older	800 IU
Pregnant and breastfeeding women and teens	600 IU

What foods provide vitamin D?

Very few foods naturally have vitamin D. Fortified foods provide most of the vitamin D in American diets.

- Fatty fish such as salmon, tuna, and mackerel are among the best sources.
- Beef liver, cheese, and egg yolks provide small amounts.
- Mushrooms provide some vitamin D. In some mushrooms that are newly available in stores, the vitamin D content is being boosted by exposing these mushrooms to ultraviolet light.
- Almost all of the U.S. milk supply is fortified with 400 IU of vitamin D per quart. But foods made from milk, like cheese and ice cream, are usually not fortified.
- Vitamin D is added to many breakfast cereals and to some brands of orange juice, yogurt, margarine, and soy beverages; check the labels.

Can I get vitamin D from the sun?

The body makes vitamin D when skin is directly exposed to the sun, and most people meet at least some of their vitamin D needs this way. Skin exposed to sunshine indoors through a window will not produce vitamin D. Cloudy days, shade,

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and having dark-colored skin also cut down on the amount of vitamin D the skin makes.

However, despite the importance of the sun to vitamin D synthesis, it is prudent to limit exposure of skin to sunlight in order to lower the risk for skin cancer. When out in the sun for more than a few minutes, wear protective clothing and apply sunscreen with an SPF (sun protection factor) of 8 or more. Tanning beds also cause the skin to make vitamin D, but pose similar risks for skin cancer.

People who avoid the sun or who cover their bodies with sunscreen or clothing should include good sources of vitamin D in their diets or take a supplement. Recommended intakes of vitamin D are set on the assumption of little sun exposure.

What kinds of vitamin D dietary supplements are available?

Vitamin D is found in supplements (and fortified foods) in two different forms: D₂ (ergocalciferol) and D₃ (cholecalciferol). Both increase vitamin D in the blood.

Am I getting enough vitamin D?

Because vitamin D can come from sun, food, and supplements, the best measure of one's vitamin D status is blood levels of a form known as 25-hydroxyvitamin D. Levels are described in either nanomoles per liter (nmol/L) or nanograms per milliliter (ng/mL), where 1 nmol/L = 0.4 ng/mL.

In general, levels below 30 nmol/L (12 ng/mL) are too low for bone or overall health, and levels above 125 nmol/L (50 ng/mL) are probably too high. Levels of 50 nmol/L or above (20 ng/mL or above) are sufficient for most people.

By these measures, some Americans are vitamin D deficient and almost no one has levels that are too high. In general, young people have higher blood levels of 25-hydroxyvitamin D than older people and males have higher levels than females. By race, non-Hispanic blacks tend to have the lowest levels and non-Hispanic whites the highest. The majority of Americans have blood levels lower than 75 nmol/L (30 ng/mL).

Certain other groups may not get enough vitamin D:

- Breastfed infants, since human milk is a poor source of the nutrient. Breastfed infants should be given a supplement of 400 IU of vitamin D each day.
- Older adults, since their skin doesn't make vitamin D when exposed to sunlight as efficiently as when they were young, and their kidneys are less able to convert vitamin D to its active form.
- People with dark skin, because their skin has less ability to produce vitamin D from the sun.

- People with disorders such as Crohn's disease or celiac disease who don't handle fat properly, because vitamin D needs fat to be absorbed.
- Obese people, because their body fat binds to some vitamin D and prevents it from getting into the blood.

What happens if I don't get enough vitamin D?

People can become deficient in vitamin D because they don't consume enough or absorb enough from food, their exposure to sunlight is limited, or their kidneys cannot convert vitamin D to its active form in the body. In children, vitamin D deficiency causes rickets, where the bones become soft and bend. It's a rare disease but still occurs, especially among African American infants and children. In adults, vitamin D deficiency leads to osteomalacia, causing bone pain and muscle weakness.

What are some effects of vitamin D on health?

Vitamin D is being studied for its possible connections to several diseases and medical problems, including diabetes, hypertension, and autoimmune conditions such as multiple sclerosis. Two of them discussed below are bone disorders and some types of cancer.

Bone disorders

As they get older, millions of people (mostly women, but men too) develop, or are at risk of, osteoporosis, where bones become fragile and may fracture if one falls. It is one consequence of not getting enough calcium and vitamin D over the long term. Supplements of both vitamin D₃ (at 700-800 IU/day) and calcium (500-1,200 mg/day) have been shown to reduce the risk of bone loss and fractures in elderly people aged 62-85 years. Men and women should talk with their health care providers about their needs for vitamin D (and calcium) as part of an overall plan to prevent or treat osteoporosis.

Cancer

Some studies suggest that vitamin D may protect against colon cancer and perhaps even cancers of the prostate and breast. But higher levels of vitamin D in the blood have also been linked to higher rates of pancreatic cancer. At this time, it's too early to say whether low vitamin D status increases cancer risk and whether higher levels protect or even increase risk in some people.

Can vitamin D be harmful?

Yes, when amounts in the blood become too high. Signs of toxicity include nausea, vomiting, poor appetite, constipation, weakness, and weight loss. And by raising blood levels of calcium,

VITAMIN D QUICKFACTS

too much vitamin D can cause confusion, disorientation, and problems with heart rhythm. Excess vitamin D can also damage the kidneys.

The safe upper limit for vitamin D is 1,000 to 1,500 IU/day for infants, 2,500 to 3,000 IU/day for children 1-8 years, and 4,000 IU/day for children 9 years and older, adults, and pregnant and breastfeeding teens and women. Vitamin D toxicity almost always occurs from overuse of supplements. Excessive sun exposure doesn't cause vitamin D poisoning because the body limits the amount of this vitamin it produces.

Are there any interactions with vitamin D that I should know about?

Like most dietary supplements, vitamin D may interact or interfere with other medicines or supplements you might be taking. Here are several examples:

- Prednisone and other corticosteroid medicines to reduce inflammation impair how the body handles vitamin D, which leads to lower calcium absorption and loss of bone over time.
- Both the weight-loss drug orlistat (brand names Xenical® and Alli®) and the cholesterol-lowering drug cholestyramine (brand names Questran®, LoCholest®, and Prevalite®) can reduce the absorption of vitamin D and other fat-soluble vitamins (A, E, and K).
- Both phenobarbital and phenytoin (brand name Dilantin®), used to prevent and control epileptic seizures, increase the breakdown of vitamin D and reduce calcium absorption.

Tell your doctor, pharmacist, and other health care providers about any dietary supplements and medicines you take. They can tell you if those dietary supplements might interact or interfere with your prescription or over-the-counter medicines, or if the medicines might interfere with how your body absorbs, uses, or breaks down nutrients.

Where can I find out more about vitamin D?

For general information on vitamin D:

- Office of Dietary Supplements Health Professional Fact Sheet on Vitamin D
- Vitamins, MedLinePlus®

For more information on food sources of vitamin D:

- U.S. Department of Agriculture (USDA) National Nutrient Database
- Vitamin D Content of Selected Foods, USDA

For more advice on buying dietary supplements:

- Office of Dietary Supplements Frequently Asked Questions: Which brand(s) of dietary supplements should I purchase?

For information on the government's food guidance system:

- MyPlate
- Dietary Guidelines for Americans

Disclaimer

This fact sheet by the Office of Dietary Supplements provides information that should not take the place of medical advice. We encourage you to talk to your health care providers (doctor, registered dietitian, pharmacist, etc.) about your interest in, questions about, or use of dietary supplements and what may be best for your overall health. Any mention in this publication of a specific brand name is not an endorsement of the product.

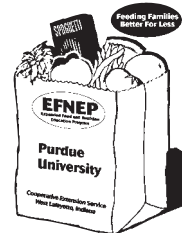


For more information on this and other supplements, please visit our Web site at: <http://ods.od.nih.gov> or e-mail us at: ods@nih.gov

Reviewed: June 24, 2011

Breakfast Parfait

Serving Size: 1/4 of recipe Yield: 4 servings



Ingredients

- 2 cups chopped pineapple *
- 1 cup thawed berries or grapes *
- 1 cup low-fat vanilla yogurt
- 1 peeled and sliced banana *
- 1/3 cup raisins *
- 1/2 cup crunchy whole grain cereal

* Find other fruits that are less expensive? Great! Try any combination of fruit — you can use fresh, frozen, canned, or dried. Use those food dollars wisely!

Instructions

In glasses or bowls, layer pineapple, berries, yogurt, banana, raisins, and cereal.

Cost

Per Recipe: \$3.44
Per Serving: \$0.86

Adapted from *Recipes to Grow On*,
University of Illinois Extension Service

Nutrition Facts

Serving Size: 1/4 of recipe (235g)
Servings Per Recipe: 4

Amount Per Serving

Calories 190 **Calories from Fat** 10

% Daily Value*

Total Fat 1g 2%

Saturated fat 0.5g 3%

Trans Fat 0g

Cholesterol 5mg 2%

Sodium 40mg 2%

Total Carbohydrate 44g 15%

Dietary Fiber 3g 12%

Sugars 35g

Protein 4g

Vitamin A 2% * Vitamin C 45%

Calcium 15% * Iron 6%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories per gram:
Fat 9 * Carbohydrate 4 * Protein 4