



## A Family Medicine Cabinet

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### Core Concepts:

- Consumers can purchase over-the-counter drugs and dietary supplements without a doctor's prescription.
- Prescription drugs and over-the-counter drugs have been scientifically tested to provide significant evidence they are safe and effective.

### Class time required:

1 – 2 forty-minute class periods

### Teacher Provides:

For each student

- Copy of student handout entitled **A Family Medicine Cabinet**
- Copy of **Fact Sheet: Drugs and Dietary Supplements**. See page x. Laminate or put it sheet protectors if these will be used by multiple classes.

For each pair of students:

- **Product Labels** (4 pages with 9 labels) printed in color. Laminate if these will be used by multiple classes. See pages vi through ix. *Optional: Make the labels look more realistic by cutting along the dotted lines to remove the white space from around the labels.*

### Teacher Resources:

- **Understanding Over-the-Counter Medicine** from the US Food and Drug Administration (FDA) provides a variety of resources including print, video, and audio resources. <https://www.fda.gov/Drugs/ResourcesForYou/Consumers/BuyingUsingMedicineSafely/UnderstandingOver-the-CounterMedicines/default.htm>
- **Over-the-Counter Medicine Safety** by Scholastic provides four lessons, posters, role-playing activity, whiteboard images, a digital flipbook, medicine safety videos, additional resources, and a pre/post-quizz for over-the-counter medicine use. <http://www.scholastic.com/otcliteracy/>
- **FDA: Dietary Supplements** provides information on FDA regulation of dietary supplements for <https://www.fda.gov/food/dietarysupplements/>
- **FDA 101: Dietary Supplements** provides consumer information on dietary supplements <https://www.fda.gov/ForConsumers/ConsumerUpdates/ucm050803.htm>

## Suggested Class Procedure:

1. Prewrite: Ask students write brief answers to the questions “What is a medicine?” and “What is a drug?” Students should save what they have written for use at the end of this lesson.
2. Distribute to each student:
  - **Fact Sheet: Drugs and Dietary Supplements**
  - Student instructions for **A Family Medicine Cabinet**
3. Read the introduction (first two paragraphs on page 1) of **A Family Medicine Cabinet** aloud to the class. Explain that the purpose for this activity is to help them understand the similarities and differences between the different types of products that they probably call “medicines.”
4. Assign students to work with partners.
5. Distribute **Product Labels** (9 labels) to each pair of students. *Tell students that they are to use these labels, not the labels in the picture on page 1.*
6. Ask students to read, follow the instructions, and answer the questions in **Part 1: Classifying Medicines**
7. Check student work for Part 1 by calling on students to read their answers. Ask students to explain how they would tell if a product is a prescription medicine, an over-the-counter medicine, or a dietary supplement.
8. Optional: The teacher may wish to collect EMPTY bottles or boxes for dietary supplements and over-the-counter drugs. Students could then classify these samples. BEWARE: It is not wise to ask students to provide samples of medicine containers from home! Student provided samples could pose privacy issues.
9. Optional: Show the video **Medicines in My Home: The Over-the-Counter Drug Facts Label** (approximately 2 minutes) on how to interpret Drug Facts labels.  
[https://www.youtube.com/watch?v=hT6Th\\_QfQKE](https://www.youtube.com/watch?v=hT6Th_QfQKE)
10. Ask students to read, follow the instructions, and answer the questions in **Part 2: Comparing Medicines**.
11. Check student work for Part 2 by calling on students to read their answers.
12. Ask students if they have any questions about the differences between prescription drugs, over-the-counter drugs, and dietary supplements.

**Warning:** It is essential that you maintain families’ legal rights to privacy related to health and medicine use. Do not allow students to provide or discuss examples of medicines or dietary supplement used by their family.

**Note:** The everyday use of the words “drugs”, “medicines”, and “dietary supplements” is different from the definitions used by the FDA (Food and Drug Administration). The *Fact Sheet* uses the FDA language. However, to help students relate the activity to their lives, we have used the words “drug” and “medicine” interchangeably.

13. **Part 3: Should Prescription Drugs become Over-the-Counter Drugs?** may be done in class or for homework. If possible, allow class time for students to share their answer to the last question in Part 3.
14. Ask students write brief answers to the questions “What is a medicine?” and “What is a drug?” Discuss how their answers to these questions changed after completing this activity.
15. Optional: Expand on discussion of clinical trials to test a drug’s safety and effectiveness.
  - How should the experiment be designed to be a fair test of the drug?
  - Who should pay for the clinical trials—the FDA or drug companies?
16. Optional: Expand on discussion of dietary supplements:
  - Show the video **Dangerous Dietary Supplements** (approximately 2 minutes). Be aware that this video focuses on the hazards of dietary supplements without providing information on dietary supplements that are safe and effective. <http://www.consumerreports.org/video/view/healthy-living/drugs-medication/605132728001/dangerous-dietary-supplements/>
  - Ask students to compare and contrast dietary supplements and over-the-counter drugs.
  - Discuss the pros and cons of dietary supplements.
17. Optional: Discuss how students should define “abuse” of prescription drugs, over-the-counter drugs, and supplements. Why is abuse of legal drugs and supplements potentially dangerous?
18. Optional: The multiple choice questions on pages iv-v may be used for homework or as a quiz.

## Multiple Choice Questions: *A Family Medicine Cabinet*

1. The FDA (U.S. Food and Drug Administration)
  - A. Approves and regulates the sale of drugs.
  - B. Organizes police action to prevent the sale of illegal drugs.
  - C. Does science research to discover and develop new drugs.
1. The FDA (U.S. Food and Drug Administration) defines a drug as
  - A. An illegal substance which may become addictive.
  - B. A harmful substance which affects how the brain works.
  - C. A substance that is used to prevent, treat, or cure diseases.
2. Over-the-counter drugs
  - A. Require a prescription from a doctor.
  - B. Can only be purchased at pharmacies or drug stores.
  - C. Have been scientifically tested to determine that they are effective.
3. Prescription medicines
  - A. Do not have side effects or drug interactions.
  - B. Contain active ingredients that are natural and organic.
  - C. Should only be used by the person listed on the label.
4. A Drug Facts label is found on
  - A. Prescription drugs only
  - B. Over-the-counter drugs only
  - C. Both prescription and over-the-counter drugs
5. You can buy over-the-counter medicines without a prescription because they are
  - A. Safe for use by anyone.
  - B. Less expensive than prescription medicines.
  - C. Safe for most people if they follow the label directions and warnings.
6. Which type of product label provides the greatest amount of information about how to use the product safely?
  - A. Dietary supplement label
  - B. Over-the-counter medicine label
  - C. Prescription medicine label
7. All dietary supplements, over-the-counter medicines, and prescription medicines
  - A. Affect the way the body functions.
  - B. Are safe for all people over the age of 12.
  - C. Have been proven to be effective in treating or preventing disease.
8. Which product has a “Warnings” section on the label to help consumers choose and use the product safely?
  - A. Dietary supplements
  - B. Over-the-counter medicines
  - C. Prescription medicines

9. The product label shown on the right is
- A dietary supplement label.
  - An over-the-counter medicine label.
  - A prescription medicine label.

Supplement Facts		
Serving Size: 1 Capsule		
Servings Per Container 60		
Amount Per Serving	% Daily Value	
Vitamin C (as magnesium ascorbate, 500 mg potassium ascorbate, calcium ascorbate & ascorbyl palmitate)	833%	†
Amala fruit extract	50 mg	†
Lemon peel bioflavonoids	50 mg	†
Rutin (as Japanese sophora flowers)	25 mg	†
BioPerine® black pepper fruit extract standardized to 95% piperine	5 mg	†

\* Percent Daily Values are based on a 2,000 calorie diet  
† Daily Values not established

10. The product label shown on the right is
- A dietary supplement label.
  - An over-the-counter medicine label.
  - A prescription medicine label.

**USA Outpatient Pharmacy**  
www.usaoutpatientpharmacy.com  
1-800-555-123-XXXX

PATIENT, JIM 1234  
PROZAC 20MG (FLUOXETINE) TAB, SA  
Rx 365575 RHM #30 CAP

TAKE 1 TABLET BY MOUTH AT  
BEDTIME FOR ONE MONTH THEN  
INCREASE BY 1 TABLET EACH  
MONTH UNTIL TAKING 4 TABLETS.


KEEP OUT OF REACH OF CHILDREN

Caution: Federal law PROHIBITS the transfer of this drug to any person other than the patient for whom it was prescribed.

Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-1-0888

11. Both prescription and over-the-counter medicines
- Are only sold in pharmacies (drug stores).
  - Have been scientifically tested on a large number of people.
  - Are not intended for use in treatment or prevention of disease.
12. Both prescription medicines and dietary supplements
- Are classified as drugs by the FDA (Food and Drug Administration).
  - Have been approved by the FDA (Food and Drug Administration).
  - May result in harmful side effects or drug interactions.
13. Both dietary supplements and over-the-counter medicines
- Have been scientifically tested and approved by the FDA.
  - Can be purchased without a prescription from a doctor.
  - Have a supplement facts label that describes the nutrients in the product.
14. Examples of dietary supplements include:
- Antibiotics and antiviral medicines.
  - Vitamins, minerals, enzymes, and herbs.
  - Antihistamines, decongestants, and pain relievers.

# Product Labels (page 1 of 4)

<b>Home Town Pharmacy</b> 200 Main Street Small Town, NY XXXXX 03585 1226095		716-XXX-XXXX DATE FILLED 01/08/15
<b>PERSON, JOHN W</b> 220 Main Street Small Town, NY XXXXX		
<div style="border: 2px solid red; width: 60px; height: 60px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <span style="font-size: 2em; font-weight: bold;">1</span> </div>		
<b>AMOXIL</b> GENERIC FOR: AUGMENTIN		
<b>GIVE 10 MILLILITERS (2 teaspoons) BY MOUTH EVERY 8 HOURS</b>		
White liquid	QTY: 300 ml	
DISCARD AFTER 01/26/15	NO REFILLS LEFT	
Pr. VOLLER, FRANK G		
Caution: Federal law PROHIBITS the transfer of this drug to any person other than the patient for whom it was prescribed		

<b>Village Pharmacy</b> 1000 Green Street Ginkgo, NY XXXXX 03333 4444444	Phone: 515-XXX-XXXX DATE FILLED: 01/08/15
<b>PEOPLES, CATHERINE J</b> 220 Green Street Ginkgo, NY XXXXX	
<div style="border: 2px solid red; width: 60px; height: 60px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <span style="font-size: 2em; font-weight: bold;">5</span> </div>	
<b>TICARCILLIN</b> GENERIC FOR: TICAR	
<b>ONE TABLET BY MOUTH EVERY 8 HOURS</b>	
ROUND WHITE	QTY: 30
DISCARD AFTER 05/21/2016	NO REFILLS LEFT
Pr. TABBI, JENNIFER W	
Caution: Federal law PROHIBITS the transfer of this drug to any person other than the patient for whom it was prescribed	

<p><b>Overdose warning:</b> Taking more than the recommended dose (overdose) could cause serious health problems. In case of overdose, get medical help or contact a Poison Control Center right away. Quick medical attention is critical for adults as well as for children even if you do not notice any signs or symptoms.</p>
<p><b>Directions.</b></p> <ul style="list-style-type: none"> <li>do not take more than directed (see overdose warning)</li> <li>take 2 caplets every 4 to 6 hours as needed</li> <li>do not take more than 8 caplets in 24 hours</li> </ul>
<p><b>Children under 12 years:</b> do not use this adult Extra Strength product in children under 12 years of age; this will provide more than the recommended dose (overdose) of acetaminophen and could cause serious health problems.</p>
<p><b>Other Information</b></p> <ul style="list-style-type: none"> <li>do not use if neck wrap or foil inner seal is broken or missing</li> <li>store at room temperature</li> </ul>
<p><b>Questions or comments?</b> Call toll free 1-800-XXX-XXXX</p>
<div style="border: 2px solid red; width: 60px; height: 60px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <span style="font-size: 2em; font-weight: bold;">2</span> </div>

<p><i>Adult</i>  <b>Extra Strength</b></p>	<p><b>Pain Reliever and Fever Reducer</b></p>	<p><i>Contains</i>  <b>Acetaminophen</b></p>	 <b>Caplets</b>	<b>100 CAPLETS—500 mg each</b>				
<p><b>Drug Facts</b></p>	<p><b>Active Ingredients</b> (in each caplet) Acetaminophen 500 mg..... fever reducer</p>	<p><b>Purpose</b> Pain reliever/ fever reducer</p>	<p><b>Uses:</b> temporarily relieves minor aches and pains due to:</p> <ul style="list-style-type: none"> <li>headaches</li> <li>backache</li> <li>menstrual cramps</li> <li>muscle aches</li> <li>arthritis</li> <li>toothache</li> <li>the common cold</li> </ul>	<p><b>Warnings</b></p> <p><b>Alcohol warning:</b> If you consume 3 or more alcoholic beverages every day, ask your doctor whether you should take acetaminophen or other pain relievers/fever reducers. Acetaminophen may cause liver damage.</p>	<p><b>Do not use</b> with any other products containing acetaminophen</p>	<p><b>Stop use and ask your doctor if</b></p> <ul style="list-style-type: none"> <li>new symptoms occur</li> <li>redness or swelling is present</li> <li>pain gets worse or lasts for more than 10 days</li> <li>fever gets worse or lasts for more than three days</li> </ul>	<p><b>If pregnant or breast-feeding,</b> ask a health professional before use.</p>	<p><b>Keep out of reach of children.</b></p>

# Product Labels (page 2 of 4)

## Supplement Facts

Serving Size: 2 Capsules

Servings per Container	Amount per Serving	% Daily Value
60		
Vitamin C (Ascorbic Acid)	100 mg	167%
Vitamin B-6 (Pyridoxine)	94 mg	4700%
Pantothenic Acid (D-Calcium Pantothenate)	30 mg	9%

Proprietary Blend: 944.6 mg \*

Green Tea Extract, Citrus Aurantium Extract, Ginger Root, Yerba Mate (leaves), L-Tyrosine, ADVANOPHEN Z, Tyramine, Hordinine, Quercetin (flower)

\* Daily Value not established

OTHER INGREDIENTS: Gelatin, Calcium Carbonate, Cellulose

--Made from the highest grade pharmaceutical quality ingredients

The FDA has not evaluated this product claim. This product is not intended to diagnose, treat, cure or prevent any disease.

# NATURAL Organic Balance



IMMUNE SYSTEM SUPPORT



## Drug Facts

Active Ingredients	Purposes
Acetaminophen, 325 mg.....	fever reducer/pain reliever
Dextromethorphan HBr, 15 mg.....	cough suppressant
Doxylamine Succinate, 625 mg.....	antihistamine

**Uses:** temporarily relieves these symptoms occurring with a cold, flu, hay fever, or other upper respiratory allergies:

- headaches
- sore throat
- itchy, watery eyes
- itchy nose or throat
- minor aches and pains
- cough
- runny nose

**Warnings**  
**Liver warning:** This product contains acetaminophen. Severe liver damage may occur if you take:

- more than 8 capsules in any 24-hour period, which is the maximum daily amount
- with other drugs containing acetaminophen
- 3 or more alcoholic drinks every day while using this product.

**Do not use**

- if you are taking a prescription monoamine oxidase inhibitor (MAOI)(certain drugs for depression, psychiatric or emotional conditions, or Parkinson's disease), or for two weeks after stopping these drugs. If you do not know if your prescription drug contains an MAOI, ask a doctor or a pharmacist before taking this drug.
- with any prescription or nonprescription drug containing acetaminophen

**Ask a doctor before use if you have:**

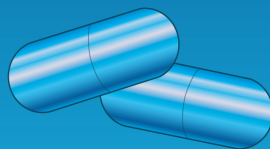
- liver disease
- glaucoma
- trouble urinating due to enlarged prostate gland
- coughing that occurs with too much phlegm (mucus)
- a breathing problem or chronic cough that lasts or occurs with smoking, asthma, chronic bronchitis, or emphysema

**Ask a doctor or pharmacist before use if you are taking**

- the blood thinning drug warfarin
- any other pain reliever/fever reducer
- sedatives or tranquilizers



# Adult Cold and Flu Formula



20 Liquid-Filled Capsules

## Relieves:

- Cough
- Sore Throat
- Fever
- Sneezing
- Body Aches
- Runny Nose

### When using this product:

- marked drowsiness may occur
- avoid alcoholic drinks
- alcohol and sedatives may increase drowsiness
- be careful when driving a motor vehicle or operating machinery
- excitability may occur, especially in children

### Stop use and ask a doctor if

- pain or cough gets worse or lasts for more than 7 days
- fever gets worse or lasts more than 3 days
- redness or swelling is present
- cough comes back or occurs with a rash or headache that lasts. These could be signs of a serious condition.
- new symptoms occur

**If pregnant or breast-feeding,** ask a health professional before use.

### Keep out of reach of children

In case of overdose, get medical help or contact a Poison Control Center right away. Quick medical attention is critical for adults as well as for children even if you do not notice any signs or symptoms.

### Directions.

- Do not take more than 8 capsules in any 24 hour period
- Do not exceed recommended dosage (Taking more than the recommended dose can cause serious liver damage.

age	dose
•adults and children 12 years and over	2 capsules every 6 hours
•children under 12 years	do not use

### Other Information

- do not use if neck wrap or foil inner seal is broken or missing
- store at room temperature

**Inactive ingredients** FD&C blue no. 1, gelatin, glycerin, pharmaceutical ink, polyethylene glycol, povidone, propylene glycol, purified water, sorbitol sorbitan solution

### Questions or comments?

Call toll free 1-800-XXX-XXXX



## Product Labels (page 3 of 4)



### Supplement Facts

Serving Size: 1 chewable tablet  
Servings per Container 120

Amount per Serving		% Daily Value
Vitamin A (as Beta-Carotene)	2,500 IU	50%
Vitamin C (Ascorbic Acid)	30 mg	40%
Vitamin E (as Tocopheryl Succinate)	15 IU	50%
Vitamin B1 (as Thiamine HCl)	5 mg	333%
Vitamin B2 (Riboflavin)	3 mg	176%
Vitamin B3 (as Niacinamide)	5 mg	25%
Vitamin B6 (as Pyridoxine HCl)	5 mg	250%
Vitamin B7 (D-Biotin)	750 mcg	250%
Vitamin B9 (Folic Acid)	100 mcg	25%
Iodine (from Kelp)	50 mcg	33%
Zinc (as Zinc Amino Acid Chelate)	5 mg	33%
Methyl Sulfonyl Methane (MMS)	250 mg	*
Horsetail Extract	100 mg	*
Inositol	25 mg	*

\* Daily Values not established

Other Ingredients: Vegetarian Capsule, Magnesium Stearate, Silicon Dioxide, Cellulose, Soy Derivative, Aspartame

Contains NO sugar, salt, starch, yeast, corn, wheat, gluten, milk, egg, shellfish or preservatives.

Suitable for vegans or vegetarians.

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### Drug Facts

**Active Ingredients (in each tablet)**    **Purpose**  
Ranitidine 150 mg .....acid reducer

#### Uses:

- relieves heartburn associated with acid indigestion and sour stomach
- prevents heartburn associated with acid indigestion and sour stomach brought on by eating certain foods and beverages

#### Warnings

**Allergy Alert:** Do not use if you are allergic to ranitidine or other acid reducers.

**Do not use** • with any other acid reducers •if you have kidney disease, except under the advice and supervision of a doctor •if you have trouble or pain swallowing food, vomiting with blood, or bloody or black stools. These may be signs of a serious condition. See your doctor.

#### Ask your doctor before use if you have:

- nausea or vomiting •stomach pain •unexplained weight loss
- frequent chest pain •frequent wheezing, particularly with heartburn
- had heartburn over 3 months. This may be a sign of a more serious condition.
- heartburn with lightheadedness, sweating or dizziness
- chest pain or shoulder pain with shortness of breath; sweating; pain spreading to arms, neck or shoulders; or lightheadedness •pain gets worse or lasts for more than 10 days •fever gets worse or lasts for more than three days

**Stop use and ask a doctor if** •your heartburn continues or worsens •you need to take this product for more than 14 days.

If pregnant or breast-feeding, ask a health professional before use. Keep out of reach of children.

#### Directions

- Adults and children 12 years and older:
- to relieve symptoms, swallow 1 tablet with a glass of water
  - to prevent symptoms, swallow 1 tablet with a glass of water 30 to 60 minutes before eating food or drinking beverages
  - can be used up to twice daily (up to 2 tablets in 24 hours)
  - do not chew tablet
  - children under 12: ask a doctor

#### Other Information

•do not use if individual unit is open •store at room temperature  
Inactive Ingredients carrageenan, FD&C blue #1, flavors, cellulose, polyethylene glycol, sucralose, and titanium dioxide

#### Questions or comments?

Call toll free 1-800-XXX-XXXX

# Bantec 150

24 TABLETS (24 doses)

FAST

LASTING

STRONG



7

COOL MINT TABLETS  
MAXIMUM STRENGTH


**PREVENTS & RELIEVES HEARTBURN**  
associated with acid indigestion and sour stomach



**Product Labels** (page 4 of 4)

*Promotes Growth and Development*

Zinc works as a trigger for over 200 different enzymes that are present in virtually every cell of the body and contribute to important functions as synthesizing proteins and genetic material, energy production, metabolism, immunity, and antioxidant activity.



**HIGH POTENCY ZINC AND MORE**


**ZINC COMPLEX**

**Dietary Supplement**  
High-Potency Zinc for Normal Growth

**DIRECTIONS:** Take 1 tablet daily

<b>Supplement Facts</b>		
Serving Size: 1 Tablet		
	Amount Per Serving	% Daily Value
Calcium	120 mg	12%
(as dicalcium phosphate)		
Zinc	15 mg	100%
(as zinc gluconate)		

OTHER INGREDIENTS: ROASTED BARLEY POWDER, MODIFIED CELLULOSE GUM, ALFALFA

*Family Pharmacy* [www.familypharmacy.com](http://www.familypharmacy.com)  
555-595-9084

1234 Smith Drive Anytown, MD 35987

**RX 123456789 DR Robin Prescriber**

PATIENT, JOHN D      10/01/2010

**TAKE ONE TABLET BY MOUTH EVERY DAY**

Levoxyl Levothyroxine 0.15 mg Tablet

**QTY 30    NRW    REF 3**

Caution: Federal law PROHIBITS the transfer of this drug to any person other than the patient for



- Take on an empty stomach 1 hour or 2-3 hours after meals.
- Nonprescription drugs may aggravate your condition. Check with your doctor or pharmacist if you have questions.
- Take exactly as directed. Do not skip doses or discontinue unless directed by your doctor



val w/ notches  
Blu dp 150/  
EVOXYL

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# Fact Sheet: Drugs and Dietary Supplements

## What is a drug?

According to the FDA (Food and Drug Administration), a drug is defined as a substance intended for use in the diagnosis, cure, symptom relief, treatment, or prevention of disease. Drugs must be approved by the FDA before they can legally be sold to consumers.

The FDA approval process for a drug requires that it be tested in scientific studies called clinical trials. Clinical trials are scientific experiments conducted under well-controlled conditions with thousands of human volunteers. To be approved by the FDA, the clinical trials must provide clear evidence that a medicine is both safe and effective for its intended use.

### **Inappropriate use of drugs may result in harm to the body.**

Inappropriate uses include:

- Use of illegal or experimental drugs.
- Use of prescription drugs by someone who does not have an appropriate prescription.
- Taking more of a legal drug than called for in the directions for use.

## What are prescription drugs?

Prescription drugs are prescribed by a doctor and can only be purchased at a pharmacy. They are prescribed for the specific person whose name is on the label and are not supposed to be taken by anyone else. Prescription drugs have been tested through clinical trials, which are scientific research studies. They must be proven to be safe and effective before they are approved by the FDA. The label on a prescription drug identifies the patient's name, the name of the drug, and directions for using the drug.

## What are over-the-counter drugs?

Over-the-counter drugs are drugs that have been proven to be safe and effective for use by most people without the supervision of a doctor. Over-the-counter drugs can be purchased without a doctor's prescription. They can be purchased at pharmacies or other types of stores such as grocery stores and convenience stores. Just like for prescription drugs, over-the-counter drugs must be tested through clinical trials and proven to be safe and effective before they are approved by the FDA. The FDA regulates over-the-counter drugs to be certain that they contain acceptable ingredients, have appropriate dose information, and have label information on how to use them safely and effectively.

## What are dietary supplements?

*Dietary supplements affect the way the body works but they are not drugs.* Dietary supplements have not been approved by the FDA. They can be sold without providing evidence that they are safe or effective in treating or preventing disease. Examples of dietary supplements include things such as vitamins, minerals, herbs, amino acids, and enzymes. Dietary supplements do not require a doctor's prescription. They can be purchased at pharmacies or other types of stores such as grocery stores, convenience stores, and health food stores. Because dietary supplement labels cannot make any claims about the product that are false or misleading, the label typically includes a statement that the product is not designed to treat or prevent disease.

## A word of warning!

For some people, drugs and dietary supplements may result in side effects or drug interactions. Always tell your doctor about all the drugs and dietary supplements that you are taking. It is important that you report any unusual reactions to drugs or dietary supplements to your doctor.

### **Side Effect**

Any effect of a drug or dietary supplement that is in addition to its intended effect, especially an effect that is harmful or unpleasant.

### **Drug Interaction**

A harmful effect that results when a substance (another drug, food, or a dietary supplement) affects the activity of a drug when both are administered together.

# A Family Medicine Cabinet

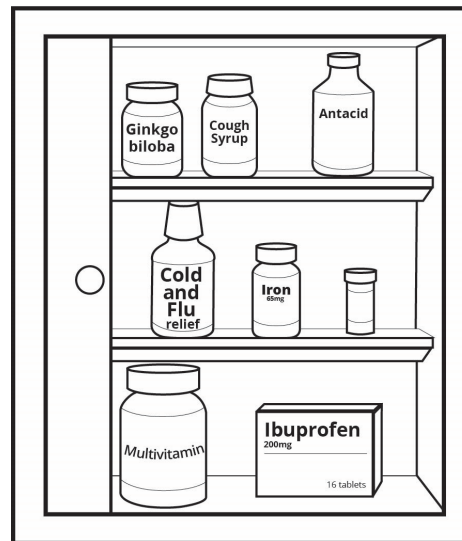
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What is a **medicine**? There is no generally accepted definition for the word “medicine.”

- Most people use the word “medicine” to refer to products that affect how the body functions.
- Some people only consider prescription drugs and over-the-counter drugs as medicines.
- Other people use the word medicine more broadly to include dietary supplements, some cosmetics, and any health care product that affect how the body functions.

Darla would like to organize her family’s medicine cabinet to separate the three different types of medicines:

- Prescription drugs
- Over-the-counter drugs
- Dietary supplements



## Part 1: Classifying Medicines

Use the 9 different **product labels** that your teacher has provided. Help Darla by sorting the labels into the three groups of products.

1. Label **1** is a label from a **prescription medicine**. Write the numbers of the two other labels that are also from prescription medicines. 5 9
2. Explain how you could tell that the labels are from prescription medicines. Be specific.

*The label has the name of the person for whom the doctor prescribed the drug or the name of the prescribing doctor. Students may also say date, pharmacy address, and quantity.*

3. Label **2** is a label from an **over-the-counter medicine**. Write the numbers of the two other labels that are also from over-the-counter medicines. 4 7

4. Explain how you could tell that the labels are from over-the-counter medicines. Be specific.

*It has a Drug Facts label that provides very detailed information on use. Students may also answer by describing the different parts of the Drug Facts label such as active ingredients, purpose, uses, warnings, and directions.*

5. Label **3** is a label from a **dietary supplement**. Write the numbers of the two other labels that are from dietary supplements.   6     8

6. Explain how you could tell that the labels are from dietary supplement. Be specific.

*It has a Supplement Facts label that looks like a nutrition (food label). Students may also answer by describing the different parts of the Supplement Facts label such as serving size and what is in the product.*

7. Which type of product label provides the most detailed information on how to choose and use the product safely?

**Over-the-Counter**

**Dietary Supplement**

**Prescription**

## Part 2: Comparing Medicines

Darla would like to know how over-the-counter drugs are different from prescription drugs and dietary supplements. Help her by completing the comparison chart below.

- Use the information in the **Fact Sheet: Drugs and Dietary Supplements** to complete the comparison chart below. Write “Yes” or “No” in each of the boxes in the “Over-the-Counter Drug” column.

	Prescription Drug	Over-the-Counter Drug	Dietary Supplement
1. Affects the way the body functions	Yes	Yes	Yes
2. Is a drug according to the FDA definition	Yes	Yes	No
3. Requires a prescription from a doctor	Yes	No	No
4. Should only be used by person whose name is on the label	Yes	No	No
5. Approved by the Food and Drug Administration (FDA)	Yes	Yes	No
6. May have potentially harmful side effects or interactions with some foods, drugs, or dietary supplements.	Yes	Yes	Yes
7. Includes a Drug Facts Label that provides detailed information on how to use the drug safely.	No	Yes	No
8. Scientific research has provided evidence that it is safe and effective for use by most people.	Yes	Yes	<b>Usually No</b> There are few that have been tested.
9. Examples include vitamins, minerals, enzymes, herbs, or amino acids	No	No	Yes
10. Be sure your doctor knows that you are taking these products	Yes	Yes	Yes



Use the Comparing Medicines chart on page 3 and information from the Fact Sheet to answer questions 2 through 5.

2. Which product is most likely to have been scientifically tested to provide evidence that it is safe and effective—an over-the-counter drug or a dietary supplement? Explain your answer.

***An over-the-counter drug because it has been tested and FDA approved.***

3. Explain why it is important that an over-the-counter medicine label include more information than a prescription medicine drug label.

***Because the medicine is not prescribed by a doctor, people need the information to help them select the appropriate medicine and use it safely.***

4. Why do dietary supplements not meet the FDA’s legal definition for a drug? Support your answer with evidence from the Fact Sheet.

***They have not been proven to be effective in diagnosing, curing, treating, or preventing disease.***

5. Several celebrities endorse a dietary supplement in an advertisement. They claim that the dietary supplement worked for them, is “doctor recommended” and has been “clinically tested.” Do you think these claims mean that the dietary supplement is safe and effective? Explain why or why not.

***Student answers will vary. You don’t know how many doctors recommended the product. The product may work for some people but not for others. Or the celebrities could have been paid to give a false testimonial. If the product was only tested on one or a few people, it may not work for most people.***

### Part 3: Should Prescription Drugs Become an Over-the-Counter Drug?

#### **Now Available Without Prescription**

*Blog by Health Policy Analyst*

Today's health consumers are taking a more active role in diagnosing and treating themselves. From pain relievers to cough medicines, drugs once available only by prescription are now available as over-the-counter (OTC) drugs on store shelves.

The US Food and Drug Administration (FDA) can approve a prescription drug for OTC sale once it has evidence that the drug's benefits outweigh the risks, the potential for misuse is low, consumers can self-diagnose the condition, labels can be easily understood, and oversight by doctors is not essential.

Offering OTC drugs without a prescription means that patients can purchase drugs with lower prices, a particularly important factor for people who do not have health insurance. It also eliminates the time and cost involved in visiting a doctor. This allows doctors more time to focus on high-risk patients or patients with more complex conditions.

There is concern that consumers will use OTC drugs instead of seeing their doctor for an appropriate diagnosis and important advice. However, for people who lack health insurance or live in an area where there is a shortage of doctors, OTC medications offer an option for treatment of temporary symptoms.

1. Explain the difference between an OTC (over-the-counter) drug and a prescription drug.

***An OTC drug can be purchased without a prescription from a doctor.***

2. According to the blog by the health policy analyst, what are two advantages to having a prescription medicine become available as an over-the-counter drug?
  - ***Less expensive***
  - ***Less time (more convenient)***
  - ***Allows doctors more time to focus on patients who need more care***
  - ***Allows access to drugs when people do not have health insurance***
  - ***Allows access to drugs in areas where there are shortages of doctors.***

## Prescription Not Required

*Blog by Pharmacist*

While it's natural to think that all over-the-counter (OTC) drugs are safe for everyone, that's a mistake. Every person is different and may react to medications in a different way. Just because a drug is safe for someone else, it may not be safe for you.

Every drug, used improperly, can cause harmful effects. A lot of OTC drugs have the potential to cause harm if users are not aware of the side effects. There is the danger particularly if patients take more than is safe or take them long term. People who choose to use OTC drugs must read and follow the directions and warnings on the label.

People can avoid potential problems by asking a pharmacist or their doctor whether the drug is okay for them to take. A doctor will help patients select the proper dosage and make sure that a patient's health conditions do not make taking the OTC drugs dangerous. Doctors can also check to be sure that the OTC drug does not interfere with other medications a patient is taking and monitor continuing symptoms to be certain that they are not caused by a more serious illness.

Over-the-counter products can be purchased in retail stores that do not have trained pharmacists. It is always better to purchase OTC drugs from a pharmacist who has the knowledge to provide advice on how to select and use OTC drugs safely.

3. According to the blog by the pharmacist, what are two potential problems that may occur from taking an over-the-counter drug?
  - ***Just because a drug is safe for some people, it does not mean it is safe for everyone.***
  - ***Every drug can have harmful effects. People make take more than is safe or take them for longer than appropriate.***
  
4. According to the blog by the pharmacist, what are two things that people could do to avoid potential problems if they use over-the-counter medicines?
  - ***Read the label directions and warnings carefully.***
  - ***Talk to their doctor or to a pharmacist.***
  
5. What do you think? A medicine has been sold as a prescription drug for five years. During that period it has been shown to be safe and effective for many people. Should the medicine be approved for sale as an over-the-counter medicine? Support your answer with pieces of evidence from the blogs or your personal background knowledge.

***Student answers will vary but should be supported with evidences. If possible, take time for students to share their answers with other students.***