NO PREP

Date Labels, Spoilage, and When to Throw It Out

Includes: Student reading, case study, differentiated questions, teacher key

Name: Period: Date:

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A Confusing System Nobody Designed

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Walk down any grocery aisle and you will find at least four different phrases stamped on packages: sell by, best if used by, use by, and freeze by. Most shoppers treat all four as expiration dates and throw food away the moment one passes. That instinct costs American households real money. The United States Department of Agriculture has estimated that between thirty and forty percent of the food supply in this country is wasted, and misreading date labels is one of the documented contributors. Here is the part that surprises almost everyone: with a single exception, date labels on food packaging in the United States are not federally regulated and are not safety deadlines at all. They are quality estimates set by the manufacturer, indicating when the product will be at its peak flavor, color, and texture. The one exception is infant formula, which carries a federally regulated use-by date because its nutrient content degrades measurably over time. Everything else, from a carton of milk to a bag of chips to a can of beans, is labeled at the manufacturer's discretion. States add their own patchwork rules, which is why the same brand can be labeled differently in different places. Understanding what each phrase actually means turns a guessing game into a decision you can defend. Industry groups have pushed to standardize the whole mess down to two phrases, best if used by for quality and use by for the small number of products where safety genuinely degrades. Adoption has been voluntary and uneven, so for now the burden of interpretation still sits with the shopper.

What Each Phrase Actually Means

Sell by is a stock rotation instruction written for the store, not for you. It tells the retailer the last day the item should be displayed, and it deliberately leaves a window of home storage life after that date. Milk with a sell-by date is typically

good for about a week beyond it if it has been continuously refrigerated. Best if used by, sometimes written best before, is the manufacturer's estimate of peak quality. Past that date the food is generally still safe but may lose flavor, crispness, or color. Crackers go stale, canned tomatoes darken, spices fade. Use by is the manufacturer's last recommended date for peak quality, and it is the phrase closest to what people imagine an expiration date to be, but outside of infant formula it is still a quality date rather than a safety one. Freeze by tells you when to move the product to the freezer to preserve quality, and it says nothing about the safety of the food on the shelf. Two related labels appear on packages as well. A packed-on date, often coded, tells when the item was packaged. A closed or coded date is a manufacturer's internal tracking code used for recalls, which is why keeping packaging until a product is consumed is genuinely useful. Eggs carry a third code worth knowing. USDA-graded cartons are stamped with a three-digit Julian date giving the day of the year the eggs were packed, so 032 means February 1. Properly refrigerated eggs stay good three to five weeks past that pack date, which is usually well beyond the printed sell-by.

Spoilage Organisms Are Not Pathogens

The most important idea in this entire reading is that the microorganisms that make food look and smell bad are usually not the microorganisms that make people sick. Spoilage organisms, which include most molds, yeasts, and certain bacteria, break down food and produce the visible and smellable signs everybody recognizes: sour milk, slimy chicken, fuzzy bread, off odors, and discoloration. They are doing you a favor. They announce themselves. Pathogens, the organisms that cause foodborne illness, generally do not change the appearance, smell, or taste of food at all. This produces a counterintuitive conclusion that runs both directions. Food can look and smell disgusting and be technically harmless, and food can look and smell perfectly fine and be capable of hospitalizing someone. It is why the sniff test is unreliable as a safety check, though it remains a perfectly good quality check. It is also why time and temperature records outrank sensory judgment every time. A container of chicken salad that sat on a counter for six hours is unsafe regardless of how it smells, and a jar of pickles with a slightly cloudy brine may be entirely fine. When food safety professionals say when in doubt, throw it out, they are not talking about smell. They are talking about not knowing the food's temperature history. Tasting is

worse than smelling as a safety test, and it is the one shortcut that carries real consequences. Some pathogens require only a handful of cells to cause illness, and botulinum toxin is dangerous in amounts far too small to taste. A sample is not a test.

Mold, Slime, and Reading the Signs

Some spoilage signs do carry real risk, and mold is the one with the most nuance. Molds are fungi that spread microscopic root threads called hyphae well beyond the visible fuzzy patch, and some molds produce mycotoxins, the best known being aflatoxin, which is a genuine health concern. The practical rules follow the density of the food. Hard cheeses, firm fruits and vegetables like carrots or cabbage, and hard salami can be salvaged by cutting away at least one inch around and below the moldy spot with a clean knife that does not touch the mold itself. Soft or porous foods must be discarded entirely: soft cheeses, yogurt, sour cream, jam, bread, lunch meat, cooked leftovers, soft fruits, and anything with a high moisture content, because hyphae travel freely through them. Certain molds are intentional and safe, including those in blue cheese, brie, and dry-cured salami. Other signs deserve their own responses. Slime on meat or deli products indicates heavy bacterial growth and means discard. A bulging can, a lid that does not pop when opened, spurting liquid, or an off odor from a canned good all suggest possible botulism and mean discard without tasting, since botulinum toxin is dangerous in microscopic amounts. Rancid oil smells like crayons or old paint and is a quality problem rather than a safety one. Two more signs get misread constantly. Frost inside a package is freezer burn beginning, not spoilage. And the grayish-brown color in the middle of a package of ground beef is oxygen deprivation rather than age, since the bright red exterior comes from exposure to air and the interior simply has not had any.

Making the Call Without Guessing

Put together, the decision process for whether to keep or discard food comes down to four questions asked in order, and none of them is what does it smell like. First, what is the temperature history? If the food spent more than four cumulative hours in the danger zone, or sat out overnight, it goes in the trash no matter what it looks like. Second, how long has it been stored? Cooked leftovers get three to four days in the refrigerator, ground meat one to two days raw, and deli meat three to five days after opening. Third, are there spoilage signs that indicate discard rather than trim,

meaning mold on a soft food, slime, or a compromised can? Fourth, and only fourth, what does the date label say, interpreted for what it actually means? A carton of milk two days past its sell-by date that has been continuously refrigerated and smells normal is fine. A carton of milk within its sell-by date that was left in a hot car for three hours is not. Food banks operate on exactly this logic, distributing shelf-stable products well past their best-by dates because those dates were never safety limits in the first place. Judgment built on temperature and time is the professional standard, and it wastes far less food than fear of a printed date. Worth saying plainly: this framework is for deciding about food whose history you know. It is not permission to gamble. When the history is unknown, when the food is for someone in a YOPI group, or when a can shows any sign of a compromised seal, the answer is always to discard it.

Key Information: Date Labels and Spoilage

Detail	Information
Federal Regulation	Only infant formula carries a regulated use-by date
Sell By	A stock rotation instruction for the store, not a safety date
Best If Used By	The manufacturer's estimate of peak quality
Spoilage Organisms	Molds and yeasts that produce visible or smellable signs
Pathogens	Usually change nothing about appearance, smell, or taste
Mold on Hard Foods	Cut one inch around and below the spot
Mold on Soft Foods	Discard the entire item
First Question	Temperature history, not smell

Case Study: The Rotisserie Chicken on the Counter

Nia got home from work at six, put away the groceries, and left the rotisserie chicken on the counter because she planned to shred it after dinner. She fell asleep on the couch instead and found the chicken at seven the next morning, still sitting out. She opened the container and leaned in. It smelled exactly like rotisserie chicken. "It smells completely fine," she told her roommate, who was already reaching for the trash can lid. Her roommate had taken a food safety class and explained that the chicken had spent roughly thirteen hours in the temperature danger zone, and that the bacteria capable of making them sick do not change how food smells. Nia argued that it had been fully cooked. Her roommate pointed out that cooking killed what was there at six, and that nothing had stopped new growth in the eleven hours since. The chicken went in the trash.

1. Nia trusted the smell test. Using the reading, explain why that test could not answer the question she was actually asking.

_____

_____

2. Nia argued the chicken had been fully cooked. Explain why the reading says that does not protect food left out overnight.

_____

_____

Multiple Choice

1. Which food product carries a federally regulated use-by date?

    a) Ground beef

    b) Infant formula

    c) Canned vegetables

    d) Fresh milk

2. What does a sell-by date actually tell you?

a) The last day the store should display the item

b) The last day the item can be safely moved into the freezer

c) The day the food becomes unsafe to eat

d) The day the manufacturer packaged the item

3. A block of cheddar has a small mold spot. What is the correct action?

a) Cut one inch around and below the spot

b) Discard the entire block immediately

c) Freeze it to stop the mold from spreading

d) Scrape the surface and rinse it under water

Matching

Write the letter of the correct definition on the line next to each term.

Term	Definition
1. ___ spoilage organism	A) A stock rotation instruction telling a store when to pull a display item
2. ___ sell by	B) A harmful compound some molds produce, such as aflatoxin
3. ___ hyphae	C) A microbe that produces visible or smellable signs as it breaks down food
4. ___ mycotoxin	D) The manufacturer's last recommended date for peak product quality
5. ___ use by	E) The microscopic root threads mold spreads beyond its visible patch

Fill-in-the-Blank

1. Only _____ formula carries a federally regulated use-by date.

2. Cut _____ inch around a mold spot on a hard cheese.

3. Pathogens usually do not change the _____ of contaminated food.

Short Answer

Answer each question in 2-4 complete sentences.

1. Explain why food can smell terrible and be harmless, while other food smells fine and is dangerous.

_____

_____

_____

2. Why does the reading say to ask about temperature history before looking at the date label?

_____

_____

_____

3. Explain why mold can be trimmed from hard cheese but not from bread or lunch meat.

_____

_____

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