VERMONT
TREASURY CUP CHALLENGE
2019

Prep Toolkit for Coaches and Students

For more information
visit http://www.vermonttreasurer.gov/content/financial-literacy/treasury-cup
call 802-828-3706 or email Tre.FinancialLiteracy@Vermont.Gov

Contents

Tournament Overview

What is the Treasury Cup Challenge?

The Vermont Treasury Cup Challenge is an annual competition, hosted by Vermont State Treasurer Beth Pearce, where high school teams test their knowledge of personal finance, economics, and consumer affairs topics. The 2019 Treasury Cup will be held on Friday, March 8th at the State House in Montpelier, Vermont (115 State Street). In the case of inclement weather, a snow date will be held the following Monday, March 11th. Team coaches will be notified via email by 3:00 pm on Thursday, March 7th if the tournament will be moved to the snow date.

How Does it Work?

High school teams are comprised of four students in grades 9-12. Teams also are permitted to have as many as two alternates. The tournament follows a bracketed, double-elimination format. At the start of the competition, the initial head-to-head matchup between schools are assigned through random drawing. Once a team loses, that team drops to the losers bracket. The very first time a team competes, students will participate in a round robin format where each student is challenged on their personal knowledge. After the first match, and first consolation match of the tournament, match questions switch to team questions. There is a lightning round in each match whereby any student may buzz in to give the correct answer. Additional details and examples follow in this toolkit.

What is on the line?

In addition to competing to win the coveted Treasury Cup trophy, a number of prizes are awarded throughout the day:

- **1ST PLACE:** Students on the winning team each receive a $500 college savings account
- **2ND PLACE:** Students on the second place team each receive a $250 college savings account
- **3RD PLACE:** Students on the third place team each receive a trophy
- **PLUS MANY OTHER PRIZES, LIKE AN IPAD AND GIFT CARDS!**

We estimate the competition will conclude between 3:30-4:30 PM. We will do the drawing for the iPad after the Championship match. Students already winning college savings accounts as members of the first or second place teams are not eligible for the iPad drawing. Students who have had their names drawn previously for a prize are eligible for the final drawing. Students must be present to win.

Tournament Gameplay

Gameplay Details

The tentative schedule for this year's Vermont Treasury Cup Challenge is explained in this document. The competition is based on the exact number of registered teams, which could change before March 8th. The competition will be held at the State House located at 115 State Street in Montpelier, Vermont. All of the matches will be head-to-head competitions and each team competes at least twice. The questions are multiple choice. The lightning round ends every match, this is a fast-paced round that puts all questions up for grabs. Each correct answer is worth 10 points and each incorrect answer deducts 10 points from a team's score. The lightning round results can significantly impact the outcome of the competitions.

Format for Matches

Matches 1-6 and the Championship are organized as follows:

- Round 1: Personal Finance - Each team gets four questions asked in a round robin format (each individual student will be directly asked a question) correct answers are worth 5 points each.
- Round 2: Economics - Each team gets four questions in a round robin format; correct answers are worth 5 points each.
- Round 3: Lightning Round - Seven questions on personal finance, economics and consumer affairs are up for grabs; teams compete directly against each other in a timed event. Correct answers are worth 10 points, incorrect answers deduct 10 points.

Matches 7-17 and a second Championship match if needed are organized as follows:

- Round 1: Personal Finance - Each team gets four questions to answer as a team; correct answers are worth 5 points each.
- Round 2: Economics - Each team gets four questions to answer as a team; correct answers are worth 5 points each.
- Round 3: Lightning Round - Seven questions on personal finance, economics and consumer affairs are up for grabs; teams compete directly against each other in a timed event. Correct answers are worth 10 points, incorrect answers deduct 10 points.

Throughout the Challenge, students have the opportunity to win prizes through random drawings. We encourage teams to pay attention and be engaged throughout the entire competition, even when they are not actively competing.

Important Tournament Notes

Brackets

The tournament follows a bracketed, double-elimination format. The very first time a team competes, students will go through the round robin format where each student is challenged on their personal knowledge. After the first match, questions switch to team questions followed by the lightning rounds.

The Championship match will revert back to the individual round-robin format as we have done in the past. However, since this is a double-elimination tournament, should a second Championship match be required to determine the winner, that match will switch to team questions followed by the lightning round. The team that loses the final round preceding the championship match(es) is the third-place winner.

Contest Rules

Lightning Round: In each lightning round, a student's answer is only determined to be correct if they supply BOTH the correct letter of the answer choice and the answer itself. This rule provides all students at lease some opportunity to compete in the lightning round. Otherwise, an individual student with mastery of the subject matter content can monopolize the competition. We choose a multiple-choice format for the questions because it fosters recall and allows for more teachable moments from the competition itself.

Student Substitutions: Teams are permitted to have up to two alternates. Alternates may enter a match either between the personal finance and economics rounds or before the lightning round begins.

Answers Shouted Out by Non-Competitors: Should a spectator shout out an answer, it will be up to the question-master/judge to decide whether to (1) throw out that question; (2) penalize the team of the spectator who shouted out the answer; or (3) remove the spectator from the competition room.

Tentative Tournament Schedule

9:00 AM	**Check-in at State House Cafeteria**
9:15 AM	**Introductory Remarks from Treasurer Pearce, Starting Game Brackets Drawn** *Teams compete in two separate rooms simultaneously*
9:30 AM	**Match 1 (Rm 11) & Match 2 (Rm 10)**
10:00 AM	**Match 3 (Rm 11) & Match 4 (Rm 10)**
10:30 AM	**Match 5 (Rm 11) & Match 6 (Rm 10)**
11:00 AM	**Lunch - State House Cafeteria**
12:00 PM	**Match 7 (Rm 11) & Match 8 (Rm 10)**
12:30 PM	**Match 9 (Rm 11) & Match 10 (Rm 10)**
1:00 PM	**Match 11 (Rm 11) & Match 12 (Rm 10)**
1:30 PM	**Match 13 (Rm 11) & Match 14 (Rm 10)**
2:00 PM	**Match 15 (Rm 11) & Match 16 (Rm 10)**
2:30 PM	**Match 17 (Rm 11)**
3:00 PM	**Match 18 (Rm 11) – CHAMPIONSHIP** (A second championship match will be held immediately if the team advancing from the consolation brackets beats the undefeated team from the winner's bracket.)
3:30 PM	**Awards Ceremony and iPad Drawing** *Do not plan on the tournament ending before 4:30 PM. If a second championship is required, the tournament may go beyond the 3:30PM end time.

Study Guide

Table of Contents

Note: This study guide serves to introduce foundational concepts of personal finance, banking, and economics, and does not cover all subject matter that may appear in the Treasury Cup. Resources for further study are provided at the end of this guide.

Money Management

Income is the money one receives, typically on a regular basis, and usually for work performed or through investments. **Earned income**, money received from employment, is typically paid in salary or wages. **Salary** is compensation expressed as an annual sum and paid in prorated portions on a schedule. A **wage** is compensation paid for unit of work performed, typically set at an hourly rate.

Gross income is one's wages or salary before deductions are made for tax **withholdings** or other purposes. **Net income** describes one's salary or wages after these deductions are removed from their paycheck. Net income may also be described as **disposable income** or **take-home pay**, the amount an individual has available to save, spend, or invest after taxes. **Discretionary income** describes the amount of income remaining that an individual may choose to save, spend, or invest with *after* necessities have been paid for.

Budgeting is the practice of organizing one's financial resources to meet their goals. Watch this video for an introduction to budgeting. Many expenses an individual incurs will depend on the area's **cost of living**. This is the amount of money needed to sustain a certain standard of living in a given location, including basic expenses such as housing, food, taxes and health care.

Saving is the practice of setting aside money, usually with a certain goal in mind, such as creating an **emergency fund**, or a down payment on a **mortgage**. There are several options for saving money:

- A **savings account** is a deposit account offered by financial institutions. Savings accounts pay small amounts of **interest** on the money kept in them and allow withdrawals quickly and easily.
- A **certificate of deposit** is an agreement between a bank and a saver to put a certain amount of money on deposit at the bank for a specified period of time (typically between 1 month and 5 years) at a set **interest rate**. The interest rates offered for CDs are higher than savings accounts, but the saver might incur a fee if they choose to withdraw their funds before the agreed upon date.
- A **money market account** is an interest-bearing account that typically offers a higher interest rate than a traditional savings account with limited checking ability. Money market accounts are more **liquid** than some other interest-bearing accounts, but often require higher minimum balances than checking accounts.

Net worth is a measure of an individual's financial condition at a given time, equal to their assets minus their debts (also referred to as **liabilities**). A person's net worth can be positive or negative.

Simple and Compound Interest

Interest is a payment for the use of someone else's money; usually expressed as an annual rate in terms of a percentage of the **principal** – the amount originally borrowed, loaned, or invested.

Simple interest is calculated periodically on the principal of a loan or investment only; not on any previously earned interest. **Coupon bonds** utilize simple interest by paying the bond holder a percentage of the bond principal in regular installments.

Compound interest is the more common form of interest. Compound interest is calculated on both the principal of the loan or investment and interest previously accrued. Watch this video for an introduction to simple and compound interest.

The **rule of 72** is a tool that can be used to estimate the number of years it will take for an investment to double at a given a compound interest rate. Watch this Khan Academy video for an introduction to the rule of 72.

Investing

Investing is the practice of purchasing **securities** such as stocks, bonds, and mutual funds with the goal of increasing **wealth** over time. Many people choose to invest money with the goal of saving for retirement. Watch this video for an introduction to investing.

Stocks are securities issued by corporations to investors in exchange for a portion of ownership (**equity**) in the company.

Bonds are certificates issued by governments and businesses as an agreement to repay money loaned by investors at a fixed interest rate on a specified schedule, or at the maturity date.

Most people do not purchase individual stocks or bonds on their own, and instead invest in funds. A **mutual fund** is an investment tool that pools together the money of many shareholders and invests it in a diversified **portfolio** of securities, such as stocks, bonds, and money market assets. Here is a brief introduction to mutual funds. **Diversification** is a strategy for reducing some types of **investment risk** by selecting a wide variety of investments.

There are several types of mutual funds:

- **Equity funds** are those invested in stocks and are aimed to grow money or earn **dividends**.
- **Fixed-income funds** invest in bonds and aim to have returns coming into the fund on a regular basis.
- **Balanced funds** invest equities and bonds to balance the higher risk and returns of stocks with the relative safety of bonds.
- **Index funds** track market indices such as the S&P 500.
- **Specialty funds** emphasize certain characteristics such as a focus on technology or socially responsible investing.

Hedge funds are similar to mutual funds in that they are managed funds composed of pooled money from investors. Hedge funds typically use high-risk methods with the intention of realizing large gains.

Capital gain is the income that results when the selling price of an asset is greater than the original purchase price, and **capital loss** occurs when the selling price of an asset is less than the original amount invested.

Retirement

Many people choose to invest as a means of saving for retirement. Many employers offer retirement savings plans, such as a **401(k),** as an employee benefit. A 401(k) is a tax-advantaged investment account that both employees and employers may contribute to. Watch this video for an introduction to 401(k)s.

Individual Retirement Accounts (IRAs) are a common method of saving and investing money for retirement outside of an employer sponsored plan. Watch this video for a brief introduction to IRAs.

- Traditional IRAs are tax-deferred, meaning an individual can contribute pre-tax dollars or roll over a 401(k) into the account. Traditional IRAs are then subject to income-tax upon withdrawal.
- Roth IRAs allow individuals to contribute after-tax dollars. Funds in Roth IRAs are not taxed upon withdrawal – so long as the saver does not withdraw the funds early. Early withdrawals from both traditional and Roth IRAs are penalized.

Social Security is a federal government program that provides retirement, survivor's, and disability benefits, funded by a tax on income, which appears on workers' pay stubs as a deduction labeled as FICA (Federal Insurance Contributions Act). An individual's Social Security retirement benefit is calculated based on their incomes from their 35 highest earning years. The earliest an individual can receive Social Security benefits is age 62 – at a reduced rate. An individual receives full benefits if they retire at age 67 and additional benefits if they defer retirement further: an additional 8% per year until age 70.

Insurance

Insurance is a risk management tool that protects an individual from specific financial losses under specific terms, as described in a written policy document. Watch this video for an introduction to insurance.

There are many types of insurance a consumer might purchase, including:

- Health, vision, and dental insurance
- Auto insurance
- Home, condo, and renters' insurance
- Life insurance
- Short- and long-term disability insurance

Other forms of insurance include:

- Workers compensation insurance
- Professional liability insurance

An insurance **premium** is the payment a person makes to an insurance company in exchange for protections specified in an insurance policy.

An insurance **deductible** is a set amount than an insured person must pay before the insurance company will pay a claim.

Credit

Credit is an agreement that allows one party to provide money or resources to another with the understanding, usually contractual, that the later party will repay those resources, usually with interest and according to a specific schedule. Watch this video for an introduction to credit.

There are three types of credit:

- **Closed-end** (or installment) **credit** usually refers to a loan for a set **principle** with fixed payments occurring on a set schedule known as **amortization**.
- **Revolving credit** is a line of credit from which an individual may borrow freely up to a set dollar limit. A borrower may be charged interest on a balance carried.
- **Open credit** allows individuals to borrow a set amount which must be paid in full each month.

The 'Five Cs of Credit' are a system that lenders may use to evaluate the **creditworthiness** of a potential borrower. The 'Five Cs' include:

- Capacity: Will the borrower's income support the loan's monthly payments?
- **Capital**: Is the borrower able to make a **down payment** and of what size?
- Conditions: What are the conditions of the loan, including the principle, interest rate, and repayment period?
- **Collateral**: Does the borrower have something that can be repossessed by the lender if the borrower defaults on the loan?
- Character: What is the borrower's track record for paying back debts?

A **credit report** is an official record of a borrower's credit history, including information such as the amount and types of credit used, outstanding balances, any delinquencies, bankruptcies, or tax liens.

A **credit score** is a measure of creditworthiness based on a consumer's credit history. The FICO (Fair Isaac Corporation) is the most common scoring used. The FICO credit score is determined by five components with varying degrees of importance.

- Payment history – 35%
- Amounts owed – 30%
- Length of credit history – 15%
- Credit mix – 10%
- New credit – 10%

The **Fair Credit Reporting Act** regulates the collection of credit information and access to your credit report.

Loans and Borrowing

Most people will find that they need to use credit or take out a **loan** at some point in their lives. Watch this video to learn more about using credit and taking out loans. Below are examples of common types of borrowing and their uses.

- Credit card – to build credit history.
- Student loans – to finance continuing education.
- Car loan – to purchase a vehicle necessary to commute to work.
- Mortgage – to purchase property or real estate.

Most lenders charge interest on their loans. An **interest rate** is the percent charged to the borrower on the credit used. Lenders are required to state their interest rates in terms of the **annual percentage rate (APR)**. The APR is the percentage cost of credit on an annual basis including interest and transaction fees. The term **finance charge** is also used to describe the total cost of credit.

Many loans have set interest rates for the life of the loan. Homebuyers, however, may choose between a **fixed-rate mortgage** – in which the interest rate and monthly payment remain constant throughout the life of the loan, and an **adjustable-rate mortgage (ARM)** - which are indexed to interest rates. ARMs generally start at a lower interest rate than fixed-rate mortgages and increase as inflation rises over the life of the loan.

There are some risks associated with loans if the borrower is unable to make the required payments in full and on time:

- **Default** occurs when a debtor is unable to meet the obligation of repaying a debt by failing to make the required payments.
- **Foreclosure** is the repossession of property by a legal process due to defaulting on the terms of a debt. The property is sold at auction and the proceeds are used to settle the debt.
- **Bankruptcy** is the state of being legally released from the obligation to repay some or all debt in exchange for the forced loss of certain assets. Here is a brief introduction to bankruptcy.

Late or missed payments can result in the loss of 60-110 points from a borrower's credit score, the need to pay finance charges such as late fees, and increased interest rates on the active and future lines of credit. Negative information may remain on a borrower's credit report for 7 years, with bankruptcy remaining on an individual's credit report for 10 years.

Student Loans

Many students who continue their education beyond high school will need assistance paying for college. In applying for federal financial aid**, financial need** is defined as the difference between the cost of attendance at a school and the student's **Expected Family Contribution (EFC)**. There are two types of **financial aid** a student may be offered: gift aid, which does not need to be paid back and includes **grants** and **scholarships**, and self-help aid, which requires payment through work or financial payments and includes work study programs and loans.

The first step to receiving federal, state, and institutional financial aid including grants, scholarships, work study, and federal student loans is completion of the **Free Application for Federal Student Aid (FAFSA)**. Interest rates for federal undergraduate student loans is currently 5.05%, whereas interest rates for private student loans are typically about 9-12%.

There are two primary types of federal student loans for undergraduate students:

> **Federal Stafford loan (subsidized)** - a need-based student loan for which interest is paid by the federal government during the in-school, grace and deferment periods.
>
> **Federal Stafford loan (unsubsidized)** - a student loan that is not based on need, and for which interest is not paid by the federal government. Borrowers are responsible for all interest accrued on unsubsidized loans.

Both federal subsidized and unsubsidized student loans enter repayment 6 months after the student graduates, discontinues school, or drops below half-time enrollment, and while most borrowers enter the standard, 10-year amortized repayment schedule, several other repayment options are available (graduated, extended, and income-driven).

Students with federal loans in repayment may also be eligible for **deferment** and **forbearance** – options that may not be available to graduates with private loans.

Banking

Most people store their money in commercial (also known as retail) **banks**. These are **financial institutions** licensed to receive deposits and make loans, and may provide other services such as the advice of a **financial advisor**, providing currency exchange, and offering safe deposit boxes. This video provides an introduction to what banks do with deposits and how banks generate money.

National banks are members of the **Federal Reserve System**, regulated by the Office of the Comptroller of the Currency and insured by the **Federal Deposit Insurance Corporation (FDIC)**. The Federal Reserve System, sometimes referred to as the "Fed," serves as the **Central Bank** of the United States. Watch this video for an introduction to the central bank and explore the Fed's website to learn more about the Federal Reserve System, its purposes and functions.

One of the Fed's functions is to set **monetary policy**. Watch this video to learn more about monetary policy and how the federal reserve conducts it.

Credit unions are also financial institutions that receive deposits, make loans, and offer other financial services. Watch this video for a summary of the similarities and differences between banks and credit unions. Federally chartered credit unions are not part of the Federal Reserve System, and instead are regulated by the **National Credit Union Association (NCUA)** and insured by the National Credit Union Insurance Fund.

Supply and Demand

Scarcity describes the economic condition where the wants of humans are unlimited, while the resources needed to satisfy those wants are limited. **Economics** is the study of how scarce resources are distributed in order to satisfy those wants and needs.

Supply and **demand** describe the quantities of a product that producers will want to generate and consumers will want to purchase at a given price point.

Quantity supplied describes the quantity of a product a producer will supply when the product sells for a given price. For example, a berry farm may choose to grow more raspberries than blackberries if raspberries sell for a higher price. **Quantity demanded** describes the quantity of a product consumers will purchase at a given price. Consumers may purchase a lot of raspberries for $1 per carton, and very few at $5 per carton.

When consumer demand is greater than quantity supplied at a given price point, there is what we call a **shortage** of that product. In response, the price of that product will increase until demand declines. When quantity supplied is greater than consumer demand at a given price point, there is a **surplus**. Prices will decrease in order to increase consumer demand. **Equilibrium** describes the point where suppliers and consumers sell and buy the same quantity of a commodity, with the equilibrium price existing where the hypothetical supply and demand curves intersect, avoiding a surplus or shortage of the product.

Consumer demand for some products is more responsive to changes in price than others. For some products, those that are more expensive and not necessities, quantity demanded is very responsive to change in price. For other products, such as those that are necessities or less expensive, quantity demanded changes less in response to change in price. This is called **price elasticity of demand**. Watch this video to learn more about the price elasticity of demand and this video to learn how to calculate it.

Price Ceilings and Floors

A **price ceiling** is a maximum price a seller may charge for a product or service, usually set by a government. A **price floor** is the lowest acceptable price a seller may charge for a product or service as restricted by a controlling party.

A price ceiling or price floor is considered **binding** if it restricts the price of a product or service to a dollar amount that is above or below what it might otherwise be bought or sold for if the regulations were not in play. Read this Khan Academy lesson for more information on price ceilings and floors.

A notable example of a price floor is the minimum wage. Many people might work for, and employers might pay, an hourly wage that is less than the minimum wage, if the price floor were not in place. The minimum wage is binding in some industries - such as retail or service work – but not in others where pay is high – such as the software industry or skilled trades.

Several states have laws that prohibit the sudden increase in prices of certain goods, especially petroleum and heating products, following an emergency which may drive demand for the product. This is an example of a price ceiling. Read this article about what happened to prices after Superstorm Sandy.

Production

How much does it cost to buy a single wool sweater? How much do you think it would cost to make one for yourself from start to finish? (Consider the price of buying and keeping a sheep for the wool, a wool shear, materials to process the wool into fabric or yarn, and the time to make the sweater.) You might find that it is cheaper to buy a sweater than to do all the steps yourself. This is because large sweater manufacturers benefit from the **marginal cost of production**.

The marginal cost of production is the change in total cost that comes from making or producing one additional item. It is cheaper to produce the second sweater than the first, and so on. Analyzing marginal cost can help an organization determine at what point it can achieve **economies of scale**.

The **production possibilities frontier (PPF)** describes the maximum output possibilities for two goods, given a set of inputs consisting of resources and other factors such as time, assuming that all inputs are used efficiently. This may be applied to a business, (i.e. how many loaves of bread must a baker forfeit in order to begin producing croissants?) or an entire economy. This video introduces the concept of the production possibilities frontier.

The production possibilities frontier can be used to describe pareto efficiency (or pareto optimality). **Pareto efficiency** describes an economic state in which resources are allocated in the most efficient manner, where one party's situation cannot be improved without making another party's situation worse off and can be illustrated by the points on the outermost edge of the PPF.

Marketplace Competition

Competition in the marketplace is vital to the success of a market or mixed-market economy.

Competitive advantage describes one business's ability to provide a good or a service at an advantage over other businesses in the same industry. Competitive advantage stimulates innovation and keeps prices down as multiple businesses compete in order to serve the same consumers. **Perfect competition** describes an industry where barriers to entry are low and there are many producers giving consumers many options of suppliers and keeping costs low.

Watch this video for an introduction to marketplace competition.

But what happens when too few businesses gain too much control in a marketplace? An economy is left with a monopoly. A **monopoly** is an economic condition in which there is just one seller in the market.

Marketplaces dominated by too few businesses competing for customers can suffer from higher prices and less innovation. **Antitrust policy** is designed to prevent this from happening by prohibiting collusive practices, restricting **mergers** and **acquisition**, and preventing the formation of monopolies and abuse of monopolistic power in order to promote competition for the benefit of consumers.

Comparative advantage is the ability of one group to carry out an economic activity (provide a good or service) more efficiently – or at a lower **opportunity cost** – than another group. Comparative advantage is the basis for trade, and is vital to international trade and the growth of economies. Watch this video for an introduction to international trade.

Nations and economies that do not trade with other countries or economies are called **autarkies**.

Externalities

An **externality** is a cost or benefit associated with an economic activity that is experienced by an unrelated third party who is neither the producer nor the consumer of the product or service being generated.

For example, communities may oppose the development or expansion of a landfill in their region due to the negative externalities they worry it may impose, including unpleasant odor and pollution.

Other economic activities produce positive externalities. The establishment of an institution of higher learning may provide a community with a greater supply of professionals trained to perform important services, such as educators and health professionals.

Types of Economies

There are four main classifications to describe a nation’s or community’s economic systems.

A **traditional economy** is an economic system in which traditions, customs, and beliefs shape the goods and services produced in a community, as well as how they are traded and distributed. Traditional economies are common in rural communities that are often self-sustaining.

A **market economy** is an economic system in which economic decisions and the pricing of goods and services are guided solely by the aggregate interactions of a country's individual citizens and businesses. This idea is commonly referred to as the **free market**. There is little government intervention or central planning.

A **command** (or **centrally planned**) **economy** is an economic system in which the state or government makes economic decisions rather than the interaction between consumers and businesses. This is a less common form of economic system and is a feature of communist societies.

A **mixed-market economy** protects private property and allows a level of economic freedom in the use of capital, but also allows for governments to interfere in economic activities in order to achieve social aims. Most develop nations, including the United States, have mixed-market economies.

VERMONT
TREASURY CUP CHALLENGE
2019

Tax Structures

Taxes are compulsory contributions to government revenue, commonly levied on incomes, business **profits**, ownership of property, and transactions. Tax structures can be described as progressive, proportional, or regressive.

A **progressive tax** levies a larger percentage of high-income individuals' earnings. The United States federal income tax structure is progressive, as higher incomes are taxed at a higher rate. See here for the 2018-2019 tax brackets.

A **proportional tax** system is one in which the same percentage of tax is levied from all taxpayers, regardless of their income. Latvia and Russia, as well as some U.S. states, use proportional income tax structures.

A **regressive tax** system levies a greater proportion of an individual's income from low-income earners than from high-income earners. Taxes that are otherwise proportional but have a cap at the dollar amount of income taxed are considered regressive. An example of this is the FICA tax, which levies 6.2% of an individual's salaries and wages up to $127,200 of earnings. Sales tax is also considered regressive, because while low- and high-income individuals are taxed at the same rate, it disproportionately impacts low-income individuals who must spend more of their total income on necessities.

Gross Domestic Product

Gross Domestic Product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific period of time. GDP is equal to all private consumption, gross investment, government investment, government spending, and net exports. Watch this video for an introduction to GDP.

Real GDP differs from **Nominal GDP** by accounting for inflation's affect on prices. Real GDP is used to assess a nation's economic growth over time.

GDP per capita divides a country's GDP by the country's population to estimate the wealth of the country's citizens, or that nation's standard of living. GDP per capita helps compare economic performance of countries with differing populations.

Gross National Product (GNP) is similar to Gross Domestic Product, however, GNP measures the market value of goods and services produced by a country's citizens, rather than within a country's borders. GNP is commonly calculated by taking the sum of personal consumption expenditures, private domestic investment, government expenditure, net exports, and any income earned by citizens from overseas investments, minus income earned within the domestic economy by foreign residents.

Inflation

Inflation is the overall rise in the prices of goods and services. This video offers a brief introduction to the concept of inflation. Note: the video references governments "printing money" which is an oversimplification of the monetary policy implemented by central banks. Refer back to page 16 for more information on how central banks influence the economy through monetary policy.

The best-known measure of inflation is the **consumer price index (CPI)**. The CPI is weighted average of the prices of goods and services purchased by a typical consumer, such as food, clothing, housing, transportation, and medical care. This video provides an introduction to the CPI. While descriptions of CPI often reference a "basket of goods," the CPI actually tracks the prices of thousands of goods and services sold by many businesses. This article describes how the U.S. Bureau of Labor Statistics calculates CPI.

Unemployment

The **unemployment rate** is defined as the portion of the labor force that is jobless and actively looking for work. Watch this video for an introduction to the unemployment rate.

There are several types of unemployment:

- **Frictional unemployment** occurs due to people transitioning from one job to another or into the work force.
- **Structural unemployment** occurs when there is a mis-match between a work force's skills and the needs of employers. An example of this is the automation of the manufacturing industry.
- **Cyclical unemployment** is caused by the expansion and contraction of the business cycle, resulting in the laying off and hiring of workers.

Economic Downturns

How do we define the health of an economy? While a recession is a significant decline in activity across the economy, lasting longer than a few months, another condition, stagflation, is also problematic. Stagflation describes a period of slow economic growth (often defined by GDP), rising inflation (reducing purchasing power), and rising unemployment.

VERMONT
TREASURY CUP CHALLENGE
2019

Training and Preparation Resources

Note: These resources were adapted from the National Council for Economic Education's "Teacher and Coach Toolkit"

VISIT THE FEDERAL RESERVE BANK EDUCATION WEBSITES, SUCH AS THE ST. LOUIS FED'S

'EconLowDown' for Economic and Personal Education Resources: Educators and students will find a variety of interactives from Podcasts, glossary flash cards, to instructional videos. Teachers can also provide students with online questions following these videos. Register your class through the Instructor Management Panel. http://bit.ly/1asCNwz

Page One Economics Newsletter, Classroom Edition: Each newsletter provides a simple, short overview of a current economic event, and the classroom edition includes student questions and a teacher answer key—plus additional resources and lesson ideas for classroom. Go to the Page One Economics web site: https://www.stlouisfed.org/education/page-one-economics-classroom-edition

SELECT A TEXTBOOK TO USE FOR BASIC INFORMATION. COACHES RECOMMEND:

- Council for Economic Education's *Advanced Placement Economics : Microeconomics* (3rd edition by John Morton and 4th edition by Gary Stone)
- Council for Economic Education's *Advanced Placement Economics : Macroeconomics* (3rd edition by John Morton and 4th edition by Margaret Ray)
- *Foundations of Macroeconomics* by Bade and Parkin (Pearson)
- *Principles of Economics* by Roy Ruffin (Addision Wesley series)
- *Economics*, by McConnell, Brue, and Flynn (McGraw-Hill)
- *Principles of Economics* from OpenStax CNX (available for free at http://bit.ly/2E4wzWB)

INTERPRET ECONOMIC DATA

Help students understand inflation, Real GDP, etc: http://bit.ly/1aDRBnE

TAKE SAMPLE TESTS AND REVIEW THE ANSWERS AS A GROUP

- Tests from previous NEC: http://bit.ly/18m26zk
- Tests for Economic Literacy: http://bit.ly/1hAUuOz

OPEN A MYECONEDLINK ACCOUNT AT WWW.ECONEDLINK.ORG

- To save lesson plans and read selected articles on current events.
- To use the Custom Quiz Builder
- To find lessons focused on economic indicators (teacher and student version)
- To use interactive tools such as PBS's Making Sen$e with Paul Solman

PLAY GAMES

- Gen i Revolution: www.genirevolution.org
- The Stock Market Game: www.smgww.org

DISCUSS ARTICLES

Discuss articles from The New York Times, The Wall Street Journal and The Economist. Students can "specialize" in different areas for current events. One student might read articles on the banking industry while another might look for information about taxes.

FRED (FEDERAL RESERVE ECONOMIC DATA)

FRED is an online database consisting of more than 154,000 economic data time series from 59 national, international, public, and private sources. http://bit.ly/1dgvPLn

Training and Preparation Resources *(cont'd.)*

** These resources were adapted from the National Council for Economic Education's "Teacher and Coach Toolkit"*

MYECONEDLINK

Consider creating a myEconEdLink account at http://www.econedlink.org/

This is a free account to EconEdLink's customized user experience. Within myEconEdLink you will find a Customized Quiz Builder. You will be able to select the concept and number of questions you will want on your quiz. You will then be able to identify the questions that you will want your students to answer. You then create a quiz with a unique ID that will connect the students response to your myEconEdLink. A GREAT way to check the understanding of your students.*

MAKING SEN$E WITH PAUL SOLMAN

On EconEdLink you will find over 150 videos from PBS: Making Sen$e with Paul Solman. Every video presented on EconEdLink has question you can ask your students OR have your students answer online. The link to the list of videos is https://www.pbs.org/newshour/economy/making-sense.

Paul Solman has been a business, economics and occasional art correspondent for The NewsHour with Jim Lehrer since 1985: http://www.pbs.org/newshour/.

As a part of The NewsHour, Paul does a 7–10 minute video segment called, Making Sen$e: http://to.pbs.org/1aapsv6.

These Making Sen$e video segments cover current topics in economics and personal finance and are a great way to bring real-world examples in to your classroom.*

NEXT GEN PERSONAL FINANCE

Next Gen Personal Finance has lessons on a variety of topics, as well as robust curriculum guides for teachers or students.

Video Library:

https://www.ngpf.org/video-library/

Lesson Plans:

https://www.ngpf.org/curriculum/

QUIZLET FINANCIAL LITERACY TERMS

Learn the vocabulary of personal finance by creating flashcards and testing your knowledge.

Flash Cards:

https://quizlet.com/5305835/flashcards

Test:

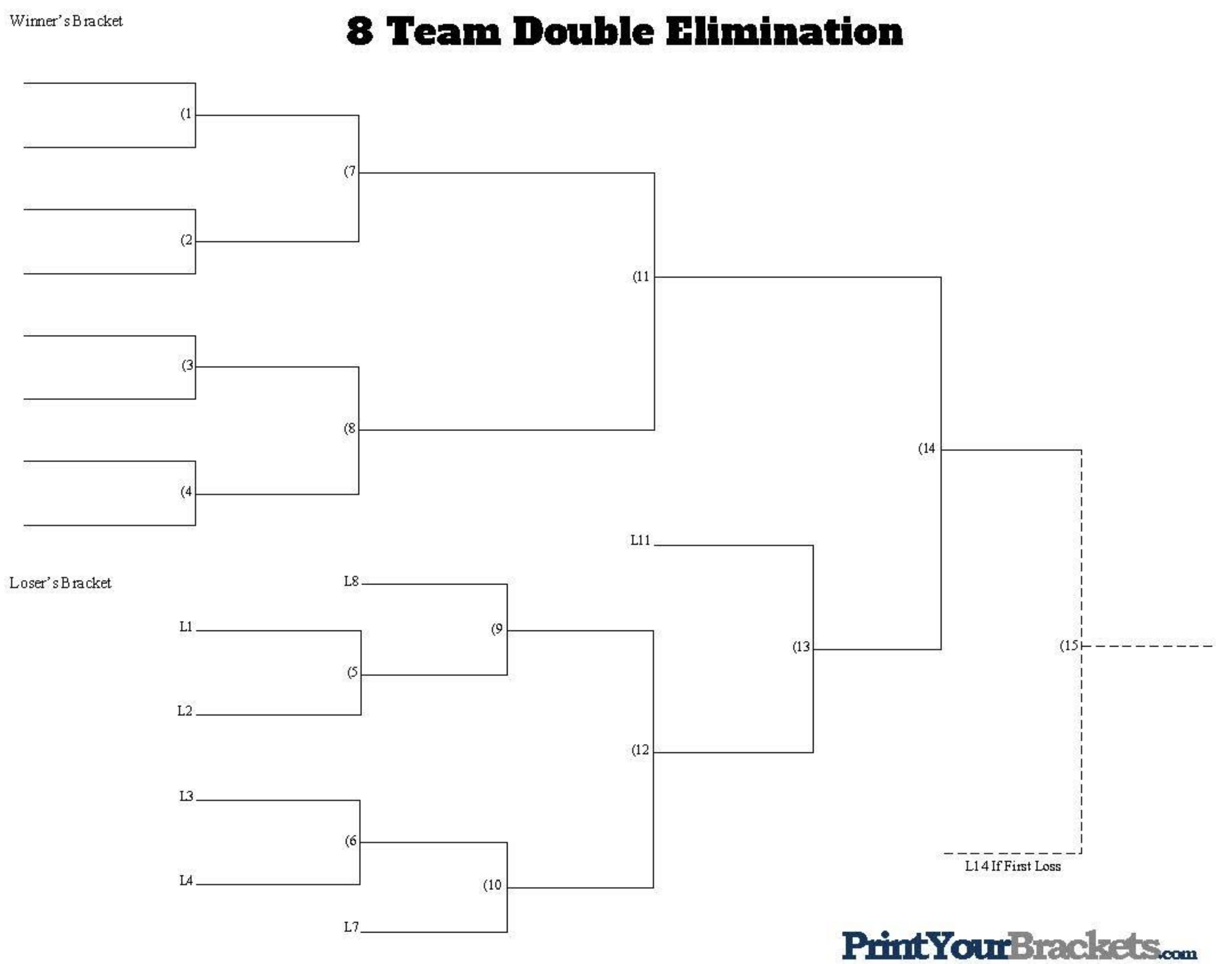
https://quizlet.com/5305835/test–

TREASURY CUP PRACTICE TEST

Access a practice round of the Vermont Treasury Cup Challenge by visiting the test at the Office of the Vermont State Treasurer's website. Make sure to also review the material contained in this guide.

http://www.vermonttreasurer.gov/content/financial-literacy/treasury-cup

Sample Brackets



VERMONT TREASURY CUP CHALLENGE 2019

Sample Brackets (cont'd)