

TEACHING FREE ENTERPRISE IN ARKANSAS

GUIDE FOR TEACHERS



SMU | COX

O'NEIL CENTER FOR
GLOBAL MARKETS & FREEDOM



**ARKANSAS CENTER FOR
RESEARCH IN ECONOMICS**

UNIVERSITY OF CENTRAL ARKANSAS

INTRODUCTION TO THE PROGRAM

The O'Neil Center for Global Markets and Freedom developed this Teaching Free Enterprise program to help Arkansas educators gain valuable content knowledge and expertise in order to meet the Arkansas Social Studies Curriculum Framework for Economics regarding Economics in classroom instruction. Top economics scholars from various higher education and research institutions are providing lessons, activities and exercises that can be readily implemented in the classroom.

This document presents one of the units that address some of the most important, yet often misunderstood, aspects of free-enterprise economies.

Q&A

01 *How should this curriculum be used?*

The modules can be taught individually or in sequence in whatever order the educator prefers. The educator can always use this guide and the materials that are available on:

 teachingfreeenterprise.com

02 *What time of year is best?*

In Arkansas, Economics is a One-Half Credit Course per semester class. Most schools offer it twice a year. You can use these materials anytime during the semester.

03 *What grade level?*

The modules are designed for 8-12 grade implementation.

04 *Do I need written permission to use the lessons?*

The use of these lessons and materials in a classroom setting for any educational purpose is allowed. In order to make copies to share with colleagues please contact us for written authorization, although we probably have extra copies of this manual for shipping. There are unique users that we need to set up for the online portal in order to let the system function properly and teachers to have ease of use, thus free individual registration is the best possible choice.

05*How do I get started?*

We strongly recommend giving a complete read through this manual first, then watch some of the online videos of the presentation you attended in case you missed something or didn't attend. Once these steps are taken, decide if you are making copies or using the slides provided in the website, then you are ready to go!

06*Technology Requirements*

The www.TeachingFreeEnterprise.com website is designed to function in all commercially available operating systems and browsers.

If you are planning to project the videos to students, we recommend a large screen set up with a projector or a large monitor for students to be able to see from any portion of the room.

07*How are the lessons organized?*

_____	Title
_____	Introduction
_____	Guiding Questions
_____	Objectives
_____	Suggested Lesson Length
_____	State Standards
_____	Background Reading for direct teaching or adaptations for student reading.
_____	Suggested Classroom Procedures
_____	Classroom Ready Materials
	Additional Resources and References from highly regarded institutions.

08

How much time per lesson?

Each unit is designed for 90 minutes of classroom interaction with students. It can be taught over 90 minutes with a small break (block schedule) or over two consecutive days with 45 minutes of instruction each (traditional schedule).

09

Alignment to Standards

These lesson plans, materials and activities align with:

Arkansas Social Studies Curriculum Framework for Economics (2014)

The modules can be taught individually or in groups in whatever order the Teacher prefers.

10

How do I assess student learning?

In the online portal, available for printing:



There is one quiz per unit with 10 multiple choice questions each.

There is one test per unit with 15 multiple choice questions each.

Student Activity Worksheets are also included with each unit.

CONTACT THE DEVELOPING TEAM



You can click on Contact Us on the <http://TeachingFreeEnterprise.com> website to show our most updated contact information, contact us directly at the O'Neil Center for Global Markets and Freedom at: www.oneilcenter.org or contact the Arkansas Center for Research in Economics at acre@uca.edu or by emailing the Program Coordinator Terra Aquia at tvotaw@uca.edu.

TIME WELL SPENT

TEACHING FREE ENTERPRISE



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**ARKANSAS CENTER FOR
RESEARCH IN ECONOMICS**

UNIVERSITY OF CENTRAL ARKANSAS

TIME WELL SPENT

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INTRODUCTION

This module delves into the way free enterprise raises living standards. For the most part, people work to earn money to buy goods and services. Time Well Spent shows the decline in the on-the-job time required for an average worker to buy a range of items—from food and appliances to cars and houses. Over time, our time becomes more valuable in terms of goods and services. Decade by decade, declining work-hour prices have led to dramatic increases in household consumption, particularly among the poorer segments of society. The module will feature activities that will teach students to calculate work-hour prices for goods and services today's Americans consume.

GUIDING QUESTIONS

01

What are work-hour prices, and how do they compare to the money prices people pay?

02

What is the concept of the “cost of living” and what relationship does it bear to work-hour prices?

03

How does the growth in Americans’ consumption over time relate to the decline in work-hour prices?

04

What is the economic mechanism that drives real prices down over time?

OBJECTIVES

Students will demonstrate an understanding of the concept of work-hour prices by calculating the hours and minutes required to buy selected consumer goods.

Students will demonstrate how work-hour prices tend to decline over time.

Students will demonstrate how declining work-hour prices leads to higher living standards by expanding the goods and services that households can afford to buy.

SUGGESTED LENGTH



It can be divided into two 45 minute segments.

ARKANSAS CURRICULUM FRAMEWORKS / SOCIAL STUDIES

	Economics	EDM.1.E.	1
		EM.2.E.	2
		EM.3.E.	1
	United States History Since 1890	Era10.7.USH	2
Reading Standards for Literacy in History/Social Studies		RH.9-10	1, 2, 3, 4, 5, 10
Writing Standards for Literacy in History/Social Studies		WHST.9-10.1	c, d, e
		WHST.9-10.2	a, b, c, d, e, f
		WHST.9-10.3	a
		WHST.9-10.4	
		WHST.9-10.5	
		WHST.9-10.8	
		WHST.9-10.9	
		WHST.9-10.10	
Reading Standards for Literacy in History/Social Studies		RH.11-12.2	
		RH.11-12.3	
		RH.11-12.4	
		RH.11-12.7	
		RH.11-12.10	
		WHST.11-12.1	c, d, e
		WHST.11-12.2	a, b, c, d, e
		WHST.11-12.3	a
		WHST.11-12.4	
		WHST.11-12.5	
		WHST.11-12.8	
		WHST.11-12.9	
		WHST.11-12.10	

ARKANSAS CURRICULUM FRAMEWORKS***EDM.1.E***

Students will make decisions after considering the marginal costs and marginal benefits of alternatives.

EDM.1.E.1

Evaluate the roles of scarcity, incentives, trade-offs, and opportunity cost in decision making (e.g., PACED decision making model, cost/benefit analysis).

EM.2.E

Students will evaluate different allocation methods.

EM.2.E.2

Demonstrate changes in supply and demand (e.g., shifts, shortages, surpluses, availability) that influence equilibrium price and quantity using a supply and demand model.

EM.3.E

Students will investigate the role of producers, consumers, and government in a market economy.

EM.3.E.1

Analyze the role of consumers in a market economy.

Era10.7.USH

Students will analyze domestic and foreign policies of the United States since 1968.

Era10.7.USH.2

Analyze effects of domestic policies on Americans in various social and economic groups (e.g., inflation, recession, taxes, unemployment, deficits, national debt, financial crisis, economic stimulus).

RH.9-10.1

Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.

RH.9-10.2

Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.

RH.9-10.3

Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.

RH.9-10.4

Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.

RH.9-10.5

Analyze how a text uses structure to emphasize key points or advance an explanation or analysis

RH.9-10.10

By the end of grade 10, read and comprehend history/social studies texts in the grades 9-10 text complexity band independently and proficiently.

WHST.9-10.1

Write arguments focused on discipline-specific content.

WHST.9-10.1.c

Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

WHST.9-10.1.d

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

WHST.9-10.1.e

Provide a concluding statement or section that follows from or supports the argument presented.

WHST.9-10.2

Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

WHST.9-10.2.a

Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

WHST.9-10.2.b

Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

WHST.9-10.2.c

Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.

WHST.9-10.2.d

Use precise language and domain-specific vocabulary to manage the complexity of the topic and convey a style appropriate to the discipline and context as well as to the expertise of likely readers.

WHST.9-10.2.e

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

WHST.9-10.2.f

Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

WHST.9-10.3

Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

WHST.9-10.3,a

Note: Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history/social studies, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import.

WHST.9-10.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WHST.9-10.5

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

WHST.9-10.8

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

Draw evidence from informational texts to support analysis, reflection, and research.

WHST.9-10.10

Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

RH.11-12.2

Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.

RH.11-12.3

Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.

RH.11-12.4

Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines faction in Federalist No. 10).

RH.11-12.7

Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.

RH.11-12.10

By the end of grade 12, read and comprehend history/social studies texts in the grades 11-12 text complexity band independently and proficiently.

WHST.11-12.1

Write arguments focused on discipline-specific content.

WHST.11-12.1,c

Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

WHST.11-12.1,d

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

WHST.11-12.1,e

Provide a concluding statement or section that follows from or supports the argument presented.

WHST.11-12.2

Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

WHST.9-10.2,a

Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

WHST.9-10.2,b

Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

WHST.9-10.2,c

Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

WHST.9-10.2,d

Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.

WHST.9-10.2,e

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

WHST.9-10.2.f

Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).

WHST.9-10.3

Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

WHST.9-10.3.a

Note: Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history/social studies, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import.

WHST.9-10.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WHST.9-10.5

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

WHST.9-10.8

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

WHST.9-10.9

Draw evidence from informational texts to support analysis, reflection, and research.

WHST.9-10.10

Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

RH.11-12.2

Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.

RH.11-12.3

Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.

RH.11-12.4

Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines faction in Federalist No. 10).

RH.11-12.7

Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.

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By the end of grade 12, read and comprehend history/social studies texts in the grades 11-12 text complexity band independently and proficiently.

WHST.11-12.1

Write arguments focused on discipline-specific content.

WHST.11-12.1,c

Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

WHST.11-12.1,d

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

WHST.11-12.1,e

Provide a concluding statement or section that follows from or supports the argument presented.

WHST.11-12.2

Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

WHST.11-12.2,a

Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

WHST.11-12.2,b

Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

WHST.11-12.2,c

Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

WHST.11-12.2,d

Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.

WHST.11-12.2.e

Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).

WHST.11-12.3

Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.

WHST.11-12.3.a

Note: Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In history/social studies, students must be able to incorporate narrative accounts into their analyses of individuals or events of historical import.

WHST.11-12.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WHST.11-12.5

Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

WHST.11-12.8

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

WHST.11-12.9

Draw evidence from informational texts to support analysis, reflection, and research.

WHST.11-12.10

Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

BACKGROUND INFORMATION

The main reason most people work is to buy the goods and services their families need and want. Workers usually get paid in money, but it's not the money they seek but the food, clothing, houses, cars, electricity, movie tickets, health care and so on that our time at work allows us to buy. In the United States, we're used to thinking about wages in dollars, and we know that \$100,000 a year can support a fairly good lifestyle.

But what about other times and places—say, Athens, Greece in 400 B.C., where workers were paid in drachma, not dollars? Stone masons earned 2 drachma a day, so working year round—300 days—would yield an annual income of 600 drachmas. What standard of living could the masons' families afford? Knowing just money wages, we're not able to tell. We also need to know money prices to see what 300 days of work really buys. Back then, it took 45 drachma to meet the minimum annual needs for a family of four, and the minimum annual needs of olive oil cost 12.5 drachma. Just to afford the subsistence level

of two food items took 57.5 drachma—about a tenth of annual income. Today, those two items would cost the typical middle-income family less than a tenth of 1 percent of annual income, not 10 percent. Time spent working buys much more today than it did in ancient Greece.

Converting money wages and prices into hours and minutes of work tells us how much of our lives we have to “spend” to buy the goods and services that enhance our living standards. Work-hour prices are money prices divided by hourly money wages. Suppose a loaf of bread costs \$1.43—its average price in 2015. In the same year, average hourly wages were \$22.17 (not including the employee benefits such as health care, paid time off, etc.). An hourly rate of \$22.17 translates into 37 cents a minute, so an average worker requires about 4 minutes (3 minutes and 52 seconds to be exact) to earn \$1.43 to buy the bread. In short, we can say a loaf of bread costs 4 minutes of work. A hundred years ago, bread was cheaper in money terms—just 7 cents a loaf. However, the average hourly wage was just 23 cents.

So bread's work-hour cost back then was 18 minutes—more than four times today's work-hour cost. (For this exercise, we use average wages to show what happens in the overall economy. The concept of work-hour prices can be used for individuals by dividing by their pay rates into the market prices of what they buys. These prices are lower for highly paid workers than for low-income ones).

Economics makes a distinction between real and nominal measures we have real GDP and real wages. Living standards can only be meaningfully measured in real terms—how much and how many actual goods and services we can afford. We call work-hour prices “real” because that is what's being paid is our time—and that's what really matters, not the pieces of paper printed with green and grey designs (dollars). Adam Smith, the father of modern economics, said it this way: “The real price of everything is the toil and trouble of acquiring it. What is bought with money is purchased by labor.” Henry David Thoreau said it similarly: “The cost of a thing is the amount of life which must be exchanged for it.” In real terms, the cost of a loaf of bread today is just 21 percent of what it was a century ago.

We can calculate work-hour prices for many of the goods and services Americans buy. The Department of Labor records prices for thousands of products and wages for many kinds of jobs. Using those prices and middle-income wages, we can calculate work-hour prices for the average American at various points in time. One complication: new and better products. Part of the price increases for many goods and services represents improvements in performance, better design or new bells and whistles (new features). Ideally, we want to compare goods and services that don't change over time—so we can focus almost exclusively on changes in work-hour prices.

Food fills the bill. Today's pounds and gallons are the same as the ones used generations ago. A dozen eggs is still a dozen eggs. The below table shows work-hour prices for 12 food staples in 1919, roughly a century ago, and compares them with work-hour prices for 2015. In 1919, a loaf of bread required 13 minutes of work; today, just 4 minutes. A pound

of ground beef took 30 minutes; today, just 11 minutes. To buy a gallon of milk today, a middle-income worker must toil just 5 minutes, a big decline from the 40 minutes it took in 1919.

	1919	2015
Bread, 1 lb.	00:13 ^m	00:04 ^m
Bacon, 1 lb.	1 ^h 10 ^m	00:14 ^m
Beans, 1 lb.	00:16 ^m	00:04 ^m
Onions, 1 lb.	00:09 ^m	00:02 ^m
Lettuce, 1 lb.	00:07 ^m	00:03 ^m
Ground beef, 1 lb.	00:30 ^m	00:11 ^m
Coffee, 1 lb.	00:55 ^m	00:13 ^m
Oranges, 1 lb.	1 ^h 08 ^m	00:13 ^m
Tomatoes, 3 lbs.	1 ^h 41 ^m	00:14 ^m
Sugar, 5 lbs.	1 ^h 12 ^m	00:09 ^m
Milk, half-gallon	00:40 ^m	00:05 ^m
Eggs, 1 dozen	1 ^h 20 ^m	00:06 ^m
TOTAL	9 ^h 30 ^m	1 ^h 38 ^m

Add it all up across the 12-item basket and we see a huge decline in food costs. What once took 9 hours and 30 minutes of work to buy now just takes 1 hour and 38 minutes. That's an 83 percent reduction in the food basket's real cost. The distinction between work-hour prices and money prices is important to keep in mind. The basket's money price is up from \$4.49 in 1919 to \$36.72 today. What happened? Money wages have risen faster than money prices, with average hourly wages rising from 47 cents in 1919 to \$22.80 today. Wages consistently rising faster than prices is why work-hour prices keep going down in a free-enterprise economy.

Work-hour prices have declined for a wide range of consumers goods. When measured in terms of time at work at the average wage, a Ford Taurus today costs just 26 percent of the revolutionary Ford Model T of 1908—and the Taurus has many more features (air-conditioning) and requires less maintenance. Gasoline to power our cars and trucks costs just 20 percent of what it did in 1920. A 32-inch flat panel TV costs just 2 percent of what the first 12-inch color TV cost in 1954—and the picture is light years' better. Electricity

to power our homes costs just 0.5 percent of what it did in 1902. Long-distance telephone calls are nearly free as compared to their 1915 costs, when human operators paid by the telephone companies had to complete all our connections using land-line technology.

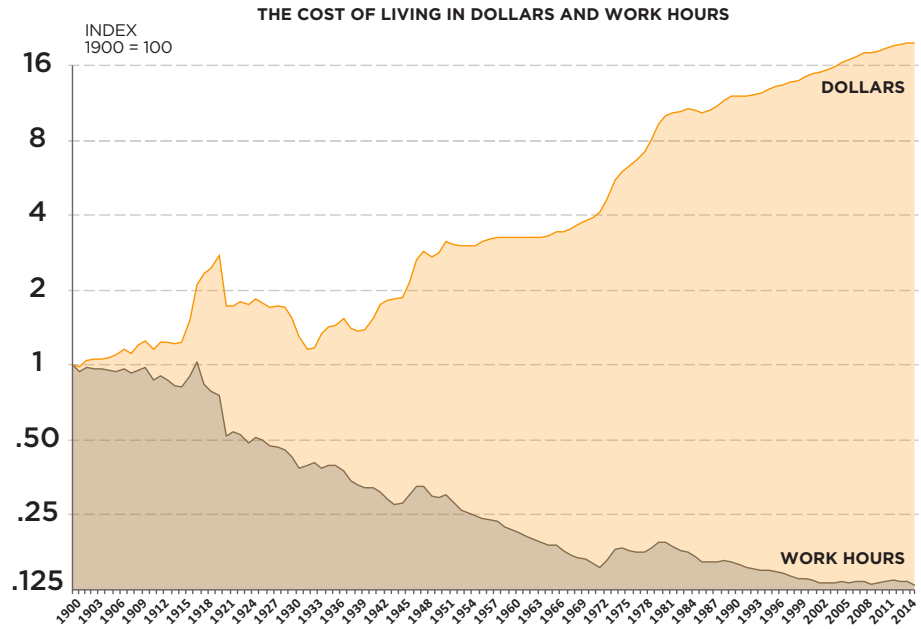
Who hasn't said when tempted to buy some new product, "I'm waiting for the price to come down before I buy one." Product prices tend to fall the fastest when new goods first come out, but they continue to fall year after year. (The below chart shows the work-hour cost of various products today as a percent of their price in earlier years). For example. The cost of a cruise in 2015 is 40.5% of the cost of a similar cruise in 1972.

PRODUCT	EARLY YEAR	2015 VS YESTERDAY
Cruise	1972	40.5%
Pizza	1970	59.2%
New Home	1920	69.4%
Movie	1917	74.6%
Auto rental	1970	28.7%
Suit	1927	38.6%
Drycleaning	1946	36.8%
Levi's	1897	16.9%
Automobile	1908	26.0%
Camcorder	1987	5.7%
Gasoline	1920	20.5%
Food basket	1919	16.9%
Room A/C	1952	10.8%
Mattress	1929	10.1%
Washer	1911	2.4%
Hersheys bar	1900	9.4%
Dryer	1940	5.5%
DVD Player	1997	3.9%
Chicken	1919	7.6%
Microwave	1967	1.8%
Coke	1900	5.0%
Range	1910	2.9%
Dishwasher	1913	2.6%
Air travel	1926	3.3%
Color TV	1954	2.1%
Calculator	1972	0.7%
Refrigerator	1916	1.2%
Cell phone	1984	0.5%
Computing	1984	0.009%
Electricity	1902	0.5%
Phone call	1915	0.0005%
iPad	2010	85.3%

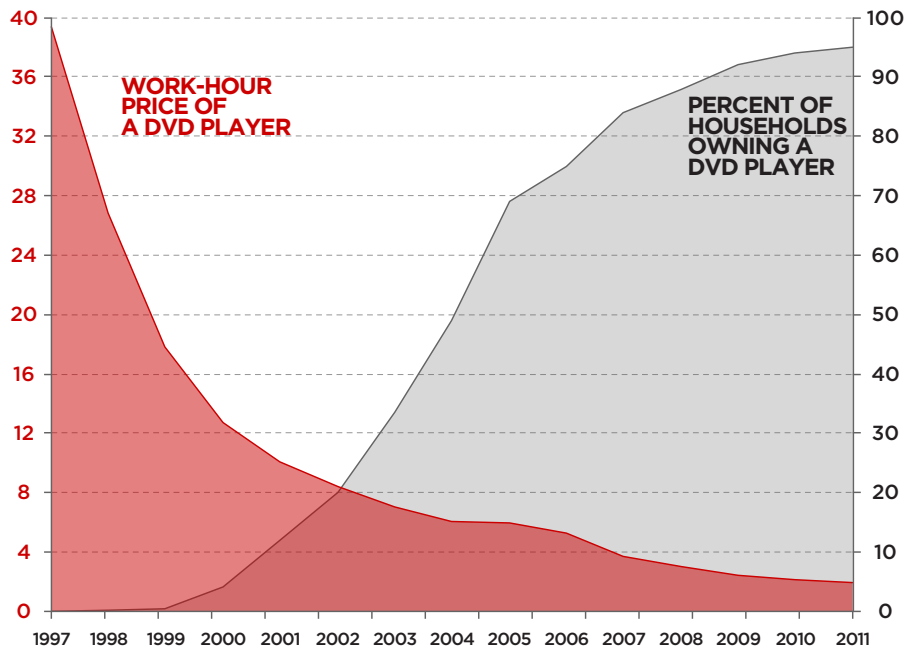
We regularly see headlines reporting the inflation rate—some version of this: "The Cost of Living Rose 3 Percent Last Year." Most of the time, these reports are about how much more money it takes to buy a specified basket of goods and services today than it did a year ago. But, as we've shown here, it's not how much things cost in money that really matters; it's how much they cost in terms of our time. The real cost of living is how long we have to work to afford a certain lifestyle and level of consumption.

These sharp, widespread declines in work-hour prices—i.e., wages generally rising faster than the cost of goods and services—play a key role in rising living standards. Consider the lifestyle of a typical American family in 1970, based on demographic averages. Most likely, this family lived in a 1,500-square-foot house that had just one bathroom, with a mid-model Ford Fairlane, for example, parked in the driveway (garages weren't standard). Closets were small because clothing was expensive, and most homes had no laundry room. Most families had a single rotary-dial telephone and called a switchboard operator for long-distance connections. Families had one black-and-white TV, listened to music on a record player, and took at most one vacation per year (they typically drove rather than flew). No one had a computer, cell phone, DVD player, or used the Internet. How much would it cost today to have that 1970 lifestyle today? About three-fourths of what it did in 1970. Money prices are roughly five times higher but wages are nearly seven times higher.

The fall in real living costs is even more astounding measured over a longer sweep of time. Since 1900, the cost of living in dollars has gone up by a multiple of nearly 20, but the cost of living in work in hours has fallen by 87 percent. The real cost of living, measured in work-hour prices, is just 13 percent of what it was back then (see chart).

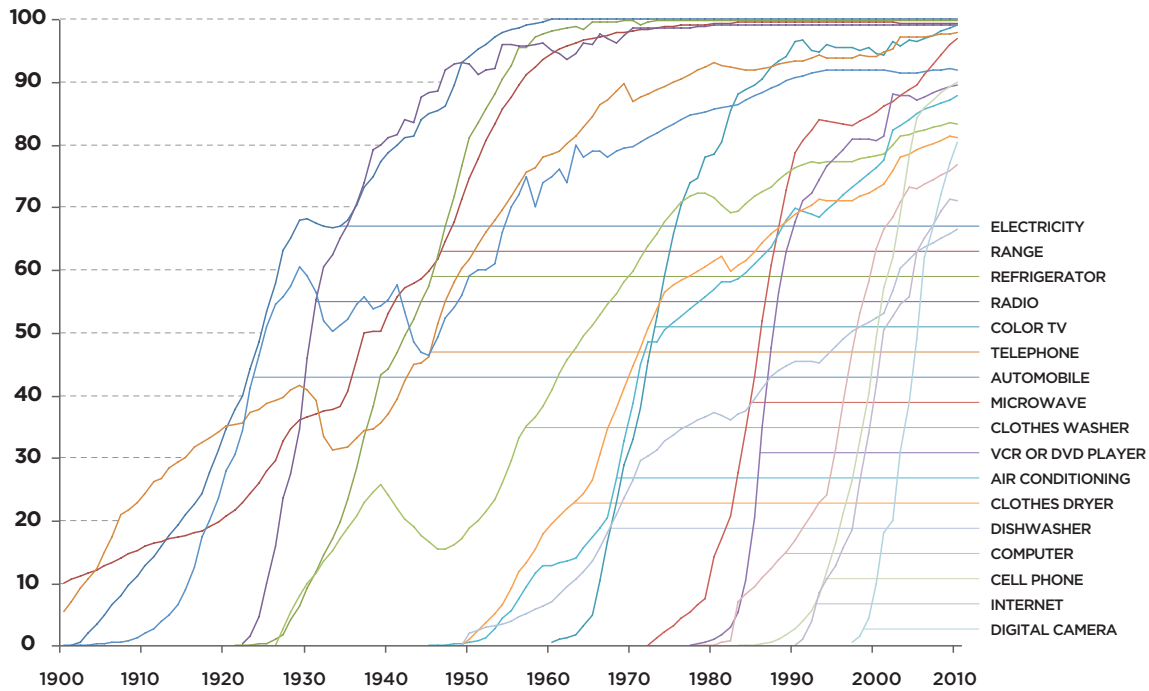


The decline in work-hour prices contributes to rising living standards. When the real price of a good is high in on-the-job hours and minutes, only a small share of households can afford to buy it. As work-hour prices fall, products become affordable to more people. Take, for example, DVD players. When introduced in 1997, they cost about \$550. Average hourly wages were \$13.95, so owning one required nearly a week (39.5 hours) of work. Today, models with more features sell for about \$35, the equivalent of less than 2 hours of work. The chart below shows the spread of DVD players throughout U.S. households as falling real prices increased their affordability. By 2011, 95 percent of households owned one, up from 0 percent less than two decades ago.



The same story holds for nearly every good or service Americans consume. What once was affordable to society's most-wealthy household is now the commonwealth of the masses. The chart below shows household ownership of various products from 1900 to 2013—telephones, electricity, automobiles, stoves, refrigerators and clothes washers early in the 20th Century, VCR/DVD players, computers, cellphones and digital cameras in more recent years. Note that products seem to be spreading into households more quickly in recent years—i.e., it took decades for half the households to own washers. However, it took just a few years for computers, cell phones and digital cameras.

SPREAD OF NEW PRODUCTS INTO U.S. HOUSEHOLDS



The spread of products points to the welfare transfers from rich to poor built into free enterprise. New products typically come onto the market at high prices—for example, the first cell phones in the early 1980s cost \$4,000 each. At high prices, only a few rich households can afford most new products. However, these sales help establish new industries—in particular, paying the high fixed cost of producing for a new and small market. As the markets expand, production becomes more efficient. Prices start their decline, and households with lower incomes find they can afford the new products. It wouldn't have happened without the willingness of the richest households to pay high prices early on.

SERVICES

Not all goods and services necessarily exhibit the same trends of declining costs when compared to wages, especially for services. Education and health care are two primary examples. These two important sectors of the economy may prove to be exceptions to the general rule of the falling real cost of living, but they are also much more difficult to calculate.

Take education as an example. In the 1975-76 academic year, annual tuition and fees at the University of Central Arkansas totaled \$414, or about 90 hours of work at the average wage (just over 2 weeks of work). In 2017-18, annual tuition and fees at UCA had climbed to \$8524.20, which would take about 382 hours of work at the average wage to pay

for (over 2 months of work). That's a huge increase!

However, education reveals a challenge when calculating the cost of major services over time. For most students, education is not primarily a consumption good, like a loaf of bread. Instead, students view education partially as an investment of time and money, with the expectation of a higher salary after graduation. In the late 1970s, the college wage premium – the additional annual earnings for having a 4-year college degree versus those with a college degree – was about 27 percent. Today, the college wage premium is around 48 percent. In other words, the additional college wage premium today compared to the late 1970s is now over \$300,000 more for college graduates over their working life.

Examining the changes in health care prices is even more problematic. It is tempting to look at the cost of, say, the average health insurance premium in the past compared to today. But this is an incorrect approach. Health care in 2018 buys you a much larger basket of health services than in 1970, as many medical procedures, technologies, and drugs were simply not available in 1970 (or even in 1990). While the cost of health insurance has surely increased, so have the benefits of having health insurance. More study in this area is warranted, but the calculation is not as simple as a loaf of bread or even the value of a home.

What economic forces drive real prices down over time? In a free-enterprise system, increases in labor productivity over time are what drive down our real living costs. Work-hour costs fall as we become more productive at work—i.e., turn out more goods and services for each hour on the job. Rising productivity leads to higher wages, and we've seen that declining work-hour prices reflect the long-run tendency of wages to rise faster than prices.

Productivity and work-hour prices are opposite sides of the same coin. The real cost of a product is the number of paid hours it takes for the average worker to buy it. Labor productivity is the number of products an average worker can make in an hour. If the average farmer can plant, grow and harvest 300 pounds of beans with 100 hours of work, then average productivity is three pounds per hour and the work-hour cost of a pound of beans is a third of an hour—20 minutes. If new technology allows farmers to reap 600 pounds per 100 hours, then the cost of making a pound of beans falls to a sixth of an hour—just 10 minutes. In this example, we see that work-hour prices are cut in half.

A full explanation of how labor productivity advances over time is a subject for another day. For now, it's enough to know that over the long term U.S. productivity has increased by an average of about 2 percent each year. Today, output per hour of work today is roughly 10 times higher than it was in 1900. We produce that much more at work, and thus can consume that much more as the fruits of our labor.

01

What are work-hour prices, and how do they compare to the money prices people pay?

Although we pay for what we consume in dollars and cents, the real cost of goods and services is the hours and minutes of work required to earn the money to buy them. Calculating work-hour prices involves dividing money prices by wage rates and converting the result into hours and minutes. Over the past century, U.S. money prices have risen inexorably; by contrast, work-hour prices for a broad range of goods and services have been declining, sometimes by 90 percent or more.

02

What is the concept of the “cost of living” and what relationship does it bear to work-hour prices?

The key is understanding the distinction is between real and nominal values. Work-hour prices measure the cost of living using a yardstick that doesn't change over time—hours and minutes. The changes in time required to buy things are a true gauge of living standards. Inflation makes it difficult to compare living standards and real costs over time because a today's dollar buys less than yesterday's.

03

How does the growth in Americans' consumption over time relate to the decline in work-hour prices?

Sharp, widespread declines in work-hour prices—i.e., wages generally rising faster than the cost of goods and services—play a key role in rising living standards. When fewer work hours are needed to buy a range of goods and services, households can afford to expand their consumption. The pattern is consistent pattern: Only a few households can afford to buy most new products; as work-hour prices fall, these goods and services spread to a larger and larger share of households.

04

What is the economic mechanism that drives real prices down over time?

Work-hour costs fall as workers become more productive at work—i.e., turn out more goods and services for each hour on the job. Rising productivity leads to higher wages, and declining work-hour prices reflect the long-run tendency of wages to rise faster than prices. In a free-enterprise system, increases in labor productivity over time are what drive down real living costs.

SUGGESTED CLASSROOM PROCEDURES

01

WARM UP: (7 MINUTES)



<http://www.learnliberty.org/videos/is-the-cost-of-living-really-rising>

Question Prompt: Why do you think this happens? Do you think this happens in all products?

02

READING ACTIVITY (14 MINUTES)

Assemble class in groups of 5, have students read background information themselves, share amongst their group of the “big ideas” from each guiding question, and then have each group delegate a reader to assemble with the help of readers from the other groups the “big ideas” of the whole classroom on the board.

03

CALCULATE WORK-HOUR PRICES: (20 MINUTES)

Students should demonstrate the ability to calculate work-hour prices. Individually or in groups, ask them to choose five things they'd like to own—a lap-top computer, for example, or something new to wear. Using the Internet or other sources, they will find out how much the items cost in dollars and cents. Then tell them that the average wage in the United States (2015) is \$22.17 an hour. They will then calculate work-hour prices for each item—determine pay in minutes (37 cents), then calculate the number of on-the-job minutes it would take to earn enough money to pay for the five selected items.

a

To show students how higher wages reduce work-hour prices, repeat the exercise by assuming an average wage rate of, say, \$25 an hour.

b

Using a list of prices for the same goods in 1970 and 2015, plus the relevant wage rates, students should calculate the work-hour prices for these products in both years.



WORKSHEET 1

04

EXIT TICKET: (4 MINUTES)

Watch Video: What is Subjective Value?



<http://www.learnliberty.org/videos/subjective-value>

05

WARM UP DAY 2: (2 MINUTES)

Think about the summer job you would like to have. How much do you think it pays? What can you buy with the money you make during summer?

06

SUMMER JOB PURCHASING POWER: (28 MINUTES)

Students should look at what a summer job will buy as a way to show how work-hour prices lead to higher living standards over time. This exercise holds work hours constant at 200—five weeks at 40 hours, or 10 weeks at 20 hours—for a summer job but allows wages and prices fluctuate based on their historical averages. The goal will be to see what the summer job will allow incoming college freshmen to buy for their dorm rooms.

a

The instructor will start by showing students an example of what teen-agers in 1950 could afford for 200 hours work, earning the average wage for their age group (\$1.41 an hour). Total earnings would be \$180 (ignoring taxes and benefits). At prices prevailing at the time, teen-agers could buy black-and-white TVs—but nothing else. Alternatively, they could forsake the TV and buy a portable radio, record player and Brownie cameras (see table below).

1950

Black and White TV	\$180
Portable Radio	\$37
Record Player	\$37
Brownie Camera	\$28
TOTAL	\$282

Five 40-Hour Weeks of work @ \$1.41 hr. = \$180

b

Next, the instructor will jump forward in time to 1970, when the same time on a summer job at the average wage for teen-agers (\$3.09) would produce an income of \$618. At 1970 prices, the teen-agers could get the TV, plus a clock radio, used typewriter, adding machine and a stereo system (see table below). Ask students to compare the two lists and draw conclusion. We might say that the teen-agers' living standard has increased between 1950 and 1970.

1970

Black and White TV	\$150
Clock Radio	\$20
Used Typewriter	\$59
Electronic Adding Machine	\$99
Stereo System	\$299
TOTAL	\$618

Five 40-Hour Weeks of work @ \$3.09 hr. = \$618

C

Now, ask the students to form small groups to repeat the exercise for today's teen-agers. The students should then calculate the income from 200 hours of work at the average teen-age wage in 2015 (\$11.25)—again ignoring taxes and benefits. The total should be \$2,250. Using the Internet, they will then go shopping to see how many highly useful items they can afford, with an eye toward setting up a dorm room in college (so no clothes, for example). The following table provides an example of what \$2,250 might buy in 2015—a computer, printer, iPhone, gaming system, some gadgets for cooking, and even some luxuries. Once the “shopping lists” are completed, instructors can share this one with students, and compare and contrast it with the work of the student groups.

2015	
Dell 15.6 Touchscreen Computer	\$342.26
HP Laser Jet Printer	\$199.99
Apple 6+ iPhone	\$31.24
Sony Play Station 4	\$300.00
Samsung 500W HTS with Blu-Ray	\$219.99
Avanti 7.4 cu. ft. Refrigerator	\$314.97
Samsung 24" LCD Color HDTV	\$119.99
LG 1.1 cu. ft. Microwave Oven	\$125.99
Kalorik Robot Vacuum Cleaner	\$119.00
George Foreman Electric Grill	\$49.96
Cuisinart 1.8 Qt. Blender	\$56.99
De'Longhi Espresso/Cappuccino Maker	\$139.99
Homedics Triple Shiatsu Massage Chair Pad	\$149.99
Oral-B Electric Toothbrush	\$22.95
Black and Decker Easy Steam Iron	\$14.45
Homz Ironing Board	\$19.99
LE Dimmable Desk Lamp	\$21.99
TOTAL	\$2249.74

Five 40-Hour Weeks of work @ \$11.25 hr. = \$2250

Students should see that a fixed amount of time—200 hours on the job—buys a lot more than it did in 1950 and 1970. In microcosm, this is higher living standards—more of the goods and services we want in exchange for the same amount of time. On a broader scale, declining work-hour prices have been raising American households' living standards for a long time—that is the central message of the Time Well Spent module.



WORKSHEET 2

07

CLASSROOM CLOSING WRITING ACTIVITY (15 MINUTES)

Students will prepare a paragraph explaining what they learned from the chart and what happened to labor-time-wage power of purchasing and speculate the effect this will have on their future income-earning potential based on the profession they plan to practice in their adult lives.

*

OPTIONAL EXTRA ACTIVITY: WASHING MACHINE WORK HOUR COST EXERCISE (10 MINUTES)

Students will prepare a paragraph explaining what they learned from the chart and what happened to labor-time-wage power of purchasing and speculate the effect this will have on their future income-earning potential based on the profession they plan to practice in their adult lives.



WORKSHEET 3

REFERENCES

W. Michael Cox and Richard Alm,

Time Well Spent: The Declining Real Cost of Living in America,

Federal Reserve Bank of Dallas Annual Report, 1997.

Web version available at:



<https://dallasfed.org/assets/documents/fed/annual/1999/ar97.pdf>



TIME WELL SPENT

WORKSHEET 1 / SUMMER JOB PURCHASING POWER

WORKSHEET 2 / WORK HOUR

WORKSHEET 3 / WASHING MACHINE WORLD / WORK HOUR COST

**TIME WELL SPENT****WORKSHEET 1 / SUMMER JOB PURCHASING POWER**

DATE: _____

NAME: _____ PERIOD/SECTION: _____

SUMMER JOB PURCHASING POWER

Students should look at what a summer job will buy as a way to show how work-hour prices lead to higher living standards over time. This exercise holds work hours constant at 200—five weeks at 40 hours, or 10 weeks at 20 hours—for a summer job but allows wages and prices to fluctuate based on their historical averages. The goal will be to see what the summer job will allow incoming college freshmen to buy for their dorm rooms.

This is an example of what teen-agers in 1950 could afford for 200 hours of work, earning the average wage for their age group (\$1.41 an hour). Total earnings would be \$180 (ignoring taxes and benefits). At prices prevailing at the time, teen-agers could buy black-and-white TVs—but nothing else. Alternatively, they could forsake the TV and buy a portable radio, record player and Brownie cameras (see table below).

1950

Black and White TV	\$180
Portable Radio	\$37
Record Player	\$37
Brownie Camera	\$28
TOTAL	\$282

Five 40-Hour Weeks of work @ \$1.41 hr. = \$180

We now jump forward in time to 1970, when the same time on a summer job at the average wage for teen-agers (\$3.09) would produce an income of \$618. At 1970 prices, the teenagers could get the TV, plus a clock radio, used typewriter, adding machine and a stereo system (see table below).

We might say that the teen-agers' living standard increased between 1950 and 1970.

1970

Black and White TV	\$150
Clock Radio	\$20
Used Typewriter	\$59
Electronic Adding Machine	\$99
Stereo System	\$299
TOTAL	\$618

Five 40-Hour Weeks of work @ \$3.09 hr. = \$618

 **TIME WELL SPENT**
 WORKSHEET 1 / SUMMER JOB PURCHASING POWER

Please compare the two lists above and draw a three sentence conclusion. Has the price of goods gone up/down? Can you buy more/less with the amount of money a summer job generates? (4 points)

Let's repeat the exercise for today's teens.

Calculate the income from 200 hours of work at the average teen-age wage in 2015 (\$11.25)—again ignoring taxes and benefits.

The total is \$_____. (1 point)

Now using the Internet, go shopping to see how many highly useful items you can afford, take in consideration that your shopping should be of appropriate items to setting up a dorm room in college or a small apartment for yourself (so no clothes, for example).

The more useful household items you get for your money, the higher your score. So try to find the cheaper version of something (don't go for a 100 inch TV when a 24-32 inch is sufficient, for example.)

	ITEM	PRICE IN DOLLARS	POINTS		ITEM	PRICE IN DOLLARS	POINTS
1			1	12			1
2			1	13			1
3			1	14			1
4			1	15			1
5			1	16			1
6			1	17			1
7			1	18			1
8			1	19			1
9			1	20			1
10			1				
11			1				

 **TIME WELL SPENT**
 WORKSHEET 2 / WORK HOUR

DATE: _____

NAME: _____ PERIOD/SECTION: _____

CALCULATING WORK-HOUR PRICES

Students should demonstrate the ability to calculate work-hour prices.

Step 1: Choose 10 things you'd like to own—a lap-top computer, a Playstation console system, for example, or something new to wear. Write them in Column 1

Step 2: Using the Internet or other sources, find out how much the items cost in dollars and cents. Fill in the second column.

The average wage in the United States (2015) is \$22.17 an hour.

If we divide \$22.17 by 60 minutes, we find out that each minute is paid at 37 cents.

Step 3: Calculate the number of on-the-job minutes it would take to earn enough money to pay for the 10 selected items.

Step 4: To show how higher wages reduce work-hour prices, repeat the exercise by assuming an average wage rate of, say, \$25 an hour.

Step 5: Using a list of prices for the same goods in 1970 and 2015, plus the relevant wage rates, students should calculate the work-hour prices for these products in both years.

Good source: <http://www.thepeoplehistory.com/1970s.html>

	ITEM (STEP 1)	PRICE IN DOLLARS (STEP 2)	MINUTES NEEDED (STEP 3)	MINUTES NEEDED @ \$25/HOUR (STEP 4)	PRICE IN DOLLARS 1970 (STEP 5)	MINUTES NEEDED 1970 (STEP 5)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

 **TIME WELL SPENT**
WORKSHEET 3 / WASHING MACHINE WORK / HOUR COST

DATE: _____

NAME: _____ PERIOD/SECTION: _____

WASHING MACHINE WORK / HOUR COST

The first electric clothes washer—The Thor, made by Hurley Machine Co.—came out in 1911 at a price of \$110. Average hourly wages of the day were 20 cents. Today, a basic white top-loading 4.3 cu. Ft. Whirlpool Cabrio washer (purchased at Sears) costs \$300. Super-advanced models with loads of features are available today, of course, but even basic models are far superior to early ones. The chrome Whirlpool Duet 4.5 cu. ft. high-efficiency stackable front-load washer with steam cycle is available at Home Depot for \$1199.

Average wages are \$22.80 today (2016), not including benefits.



THE THOR: 1911



WHIRLPOOL CABRIO: 2015



WHIRLPOOL DUET: 2015



TIME WELL SPENT

WORKSHEET 3 / WASHING MACHINE WORK / HOUR COST

1. What was the work-hour cost of the 1911 model Thor? _____ Hours
2. What is the work-hour cost of the basic Whirlpool Cabrio today? _____ Hours
3. What percent of the Thor's work-hour cost is the work-hour cost of the Whirlpool Cabrio today?

$$\frac{\text{_____}}{\text{_____}} = \text{_____}\%$$

4. In terms of work hours, is even the super-advanced Whirlpool Duet cheaper than the clunky Thor? (Calculate work hours), express if work hours for Whirlpool Duet are more/less than for Thor.
5. By how much? _____

A generation ago—in 1990, say—mid-line clothes washers cost an average of \$350. Today, mid-line models are roughly \$500. Average wages in 1990 were \$11.12 as compared to \$22.80 today. A young couple shopping for a mid-line model washer today pays what fraction of the work-hour cost that their parents did at a similar stage in life? _____%

6. How many work-hours did a mid-line model cost in 1990 and how many does it cost today?

_____ Hours

7. Does getting to “the good life” take more years of life or fewer as time goes on?
-

