

Penn•syl•va•nia ˌpensəlˈvānyə a state in the northeastern US with a short coastline along Lake Erie in the far northwest; capital, Harrisburg; statehood, Dec. 12, 1787 (2). Founded in 1682 by William Penn, it became one of the original thirteen states.

Understanding Pennsylvania

Our Geography, History, Economy, and Government

SECOND
EDITION

RANDALL A. PELLOW

PENNS VALLEY PUBLISHERS

Answer Key

Understanding Pennsylvania:
Our Geography, History, Economy, and Government

2nd Edition

by

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Teacher's Answer Key

Understanding Pennsylvania: Our Geography, History, Economy, and Government

Chapter 1: Understanding Our Geography

Lesson 1: Location and Climate of Pennsylvania

1. Pennsylvania's location can be described three different ways. A) It is the southernmost state in the **Northeast Region**. B) It is part of the **Mid-Atlantic Region**. C) It ranges from 39° N latitude to 42° N latitude. And, 74° W longitude to 80° W longitude.
2. Delaware
3. Bordering states to the east are New York and New Jersey; to the west are West Virginia and Ohio; to the north is New York; to the south are West Virginia, Maryland, and Delaware.
4. The original purpose for the Mason-Dixon Line was to end a border dispute between the proprietors (owners) of the Pennsylvania, Maryland, and Virginia colonies.
5. Three features of our climate are: A) a humid continental climate which means warm summers and cold winters, or four seasons; B) our climate is more directly affected by weather fronts coming from the western or interior part of our country; C) our precipitation ranges from 34 to 52 inches per year and is evenly distributed throughout the year; D) average summer temperatures range from 76° F to 68° F and average winter temperatures range from 31° F to 24° F. (any combination is acceptable)
6. A nor'easter is an Atlantic Ocean storm that blows eastward across Pennsylvania.
7. Lake effect is a snow event whereby land areas closer to large lakes (and on the eastern end) receive greater amounts of snow than other places in the state.

Lesson 2: Landforms and Regions of Pennsylvania

1. Lake Erie Plain, Allegheny Plateau, Ridge and Valley, Piedmont, Atlantic Coastal Plain Make sure students can draw the regions on a blank map of PA.
2. Any combination of three sentences would be acceptable as long as the facts are correct. You do not need to emphasize sentences; factual details are the more important aspect. Our state has two narrow coastal plains in the northwest and southeast parts of the state. The Allegheny Plateau covers more than one-half of our state. The Allegheny Plateau (AP) has the higher elevations in our state. The AP consists of rugged land features, such as gorges, mountains, hills, valleys, and ridges. The AP contains most of our state's valuable forests. The Ridge and Valley Region contains a series of mountain ridges and valleys. The Piedmont Region contains low, rolling hills and includes some of the richest soil in the United States.
3. Lake Erie Plain, Ridge and Valley, and the Piedmont
4. Ridge and Valley
5. Allegheny Plateau
6. Erie located in the Lake Erie Plain, and Philadelphia located in the Atlantic Coastal Plain. Although not mentioned, Pittsburgh is a deep-water port (via rivers) and would be an acceptable answer.

Lesson 3: Water Forms of Pennsylvania

1. Provide a blank map of PA's river systems so that students can label the 10 major rivers. They are: Delaware, Schuylkill, Lehigh, Susquehanna, West Branch of Susquehanna, Juniata, Allegheny, Youghiogheny, Monongahela, and Ohio.
2. Long ago, glaciers covered the landscape of PA. As they melted and receded, they dug out the soil which then became filled with water, leaving us our lakes (including the Great Lakes) and wetlands.
3. A) A wetland is low-lying land that holds moisture. B) They are important because they prevent flooding, clean our water supply, and provide food and shelter for wildlife.
4. Major reservoirs are Pymatuning Reservoir, Raystown Lake, Tioga/Hammond Lakes, Lake Wallenpaupack, Shamokin Dam, Allegheny Reservoir, and Youghiogheny Dam.
5. Reservoirs prevent flooding, keep our water supply flowing at a regular rate, provide many recreational opportunities, and produce electricity.
6. Our state's waterways are important to us for reasons listed in answer # 5. In addition, some of our rivers provide a means of transportation for goods and services (although not listed).

Lesson 4: Natural Resources of Pennsylvania

1. A natural resource is a raw material that exists in a natural state and is used to produce products or finished goods.
2. Five major natural resources found in Pennsylvania are humans, sand and gravel, clay, limestone, slate, iron ore, coal, oil, natural gas, forests (hardwoods and softwoods), rich soil, wildlife, water, and wind.
3. Nonrenewable resources would be: sand, gravel, clay, limestone, slate, iron ore, coal, oil, and natural gas. Renewable resources would be humans, wildlife, soil, forests, water, and wind.
4. Three major uses of our soil are A) natural resources are obtained from it, such as limestone, clay, and slate; B) growing crops, or a variety of agricultural activities (grazing fields for animals, orchards); C) and growing trees (forests).
5. Our forests are used for A) recreational purposes; B) producing a variety of wood products for homes, for cooking and heating; C) maple syrup production; and D) habitat for wildlife. Listing a variety of wood products, including fruit from orchards, would be acceptable.
6. Pennsylvania's fossil fuels are coal (hard and soft), oil, and natural gas.
7. A and B) Anthracite and bituminous coal which allow for the production of steel and electricity; C) natural gas which is used to heat homes and businesses; and D) petroleum or oil which is used to produce oil for machines and engines.
8. Natural gas A) is efficient, B) is easy to use, and C) creates less pollution. Some people say it is a cheaper fuel but that was not in the text.
9. A mineral resource is any useful substance found in the earth that has not been formed by plant and animal remains.
10. Five mineral resources are iron ore, sand, gravel, stone, limestone, and slate. (any five)
11. The Department of Conservation and Natural Resources (DCNR) maintains and protects our state parks and state forests. The Department of Environmental Protection (DEP) monitors and improves the quality of our state's air, water, and land. It is concerned with waste management as well as our energy sources. The Pennsylvania Fish Commission (PFC) promotes cultivating a healthy fish population. The Pennsylvania Game Commission (PGC) protects our wildlife populations and habitats.

Chapter 2: Understanding Our History – Early Inhabitants

Lesson 5: Native American Inhabitants of Pennsylvania

1. At least 12,000 years ago **Note:** Meadowcroft Rockshelter, an archeological site in western PA, has artifacts dating to 16,000 years ago, as per radiocarbon dating techniques.
2. Asia
3. There was no written record.
4. By the language they spoke
5. Algonquians (spelled different ways) and the Iroquois
6. Check the map on p. 23, or use blank map so students can label
7. Both Algonquians and Iroquois lived in small villages or clans. Each clan was named after an animal. For the Algonquians, each tribe consisted of several clans. Each tribe had a chief and council members. The Iroquois had several tribes form a league of tribes known as the Iroquois Confederacy. Each tribe had a chief who formed a tribal council. A head chief was selected among the chiefs on the tribal council.
8. Answers will vary, and most likely you will get a response like, “because they were smarter and wiser!” And that could possibly be the answer. They also were less inclined to have political agendas. Perhaps they were a better judge of leadership qualities than men.
9. Native Americans had rounded and cone-shaped wigwams (Algonquian) and rectangular long houses (Iroquois).
10. The Iroquois built wooden fences with spikes around their villages for protection against wild animals and enemies whereas the Algonquian did not. Their homes had different shapes and functions – see #9. Algonquian homes were built for individual families whereas Iroquois homes were built for several families.
11. The husband had to move back to his mother’s clan when he became too old to care for himself.
12. Men’s roles = hunters, warriors, and tool makers of the tribe
Women’s roles = planted the gardens, gathered berries and nuts, skinned the animals, made clothing, cooked meals, tended the crops
Children’s roles = girls learned what their mothers did, and boys learned what their fathers did.
13. Buckskin clothing was converted to shirts, leggings, skirts, moccasins, and loincloths.
14. Women prized long hair and took care of it. Men mixed bear fat in their hair and added soot to make their hair blacker.
15. The Native American’s (NAs) economic system was known as bartering or trading.
16. birch bark
17. NAs had trails for hunting, visiting, trading, and fighting.
18. If lost, check the moss. Moss was located on the northern side of a tree.
19. Any combination of answers would be acceptable. The NAs believed in the “Great Spirit” and worshipped nature, but there were differences. A) Religion was more of an individual matter for the Algonquian. B) They respected the spirits of animals and treated their remains with great honor. C) Skulls of land animals were hung in special lodges and made the object of prayer. D) The Iroquois recognized powerful spirits with whom they could have contact through dreams. E) The believed in the forces of good and evil. F) They spoke of a Master of Life and a destroyer of life.

Lesson 6: Early European Settlements in Pennsylvania

1. Sweden, Holland, and England (The French began settlements in the interior of our country.)
2. The NAs had no concept of buying land. They thought the land was for everyone's use. This benefited European settlers who did not have to pay for the land, although attempts were made at purchasing land.
3. Johan Printz was the governor of the New Sweden settlement.
4. The Swedish got greedy and captured a Dutch fort. The greatly annoyed Dutch sent a fleet of ships forcing the Swedes to surrender and leave, or live under Dutch rule.
5. Because the Dutch and English claimed the same land, and the Dutch colony was sandwiched between English settlements, the English king sent a fleet of ships to take over the Dutch colony. The Dutch surrendered without firing a shot.
6. The Duke of York was the governor of the New York colony.
7. The Swedes showed colonists how to build log cabins and introduced the cow to the PA colony. The Dutch brought sleighs and ice skates to the region and introduced St. Nicholas. They incorporated the Dutch door in homes (a door that opened in two parts) and impacted the region with their language (kill means creek or stream).
8. The Europeans thought they could just claim new land that they "discovered." The conflict arose when these European countries claimed the same land as theirs, even though the NAs were settled on this land.

Lesson 7: The Founding of Pennsylvania

1. William Penn
2. Society of Friends or Quaker
3. Absolute monarchs (monarchy)
4. Penn's Charter was a formal written document by the English king authorizing William Penn to start a colony.
5. William named his new colony "Sylvania," and the English king added "Penn" to honor William's father.
6. Penn's five ideas – 1) two law-making bodies; 2) granted freedom of religion; 3) allowed freedom of the press; 4) established trial by jury; 5) created a penal code for criminals; 6) implemented a way to change or amend laws; 7) required that children 12 and over be trained in a useful trade or skill.
7. The Holy Experiment was Penn's vision of a place where people were treated as equals, people could worship as they chose, and people had a say in how they were governed.
8. William developed friendly relations with the Native Americans. He socialized with them and demanded all land that white settlers acquired from the Delaware be paid for.
9. The Treaty of Friendship was an agreement signed between Chief Tamanend and William Penn in which they agreed to live peacefully together.
10. Redirect your students to answers for question 6. 1) freedom of religion; 2) freedom of the press; 3) guaranteed a trial by jury; 4) gave criminals certain rights; 5) allowed laws to be amended; 6) began training children in a trade at age 12.

11. Penn's wife, Hannah
12. Penn's Charter – 1681; Frame of Government - 1681; The Great Law – 1682; Treaty of Friendship – 1683; Charter of Privileges – 1701

Lesson 8 – Pennsylvania Becomes a Religious and Cultural Haven

1. An emigrant is a person who leaves his/her country of origin to settle in another place. An immigrant is an emigrant who has settled in another country. So, an emigrant from Germany to the U.S. becomes an immigrant once he/she has settled in the U.S.
2. The Protestant Reformation was the splintering away of various religious groups from what they thought were abuses of the Catholic Church. These groups were protesting against the beliefs of the Catholic Church.
3. The Protestant Reformation contributed to the development of early Pennsylvania by allowing these persecuted religious groups in their home European countries to emigrate (move) to the Pennsylvania colony where they had religious freedom.
4. In 1780, Pennsylvania became the first state to abolish slavery and guaranteed freedom to children born from slave mothers after March 1, 1780.
5. The Scots-Irish brought the Presbyterian religion with them and settled in Pennsylvania's frontier regions.
6. An indentured servant was a person who could not afford to pay for an ocean voyage to the American colonies. He/she agreed to work for seven years for a person who paid the ship's captain for his/her trip.
7. The Pennsylvania colony was a haven for religious groups because the colony offered freedom of religious worship.
8. Quakers – William Penn was a Quaker and established a colony for Quakers and others seeking religious freedom.
African-Americans – Quakers believed in the equality of people, a sought-after idea for this group of Americans.
Catholics – Thousands of Catholics emigrated to Pennsylvania from southern Ireland for religious freedom.
Jews – Jews were persecuted in many nations. They emigrated to and settled in the cities of the Pennsylvania colony.
9. Four features of culture are language, food, clothing, customs, religion, and ethnicity. (any four)
10. Five (5) states in the U.S. have more population than Pennsylvania.
11. 12.80 million = Thirteenth (13) million
12. 287 people per square mile
13. The majority of our state's population lives in urban areas. However, 48 of 67 counties are considered to be rural.
14. ancestors
15. ethnocentrism

Chapter 3: Understanding Our History – A New Nation Emerges

Lesson 9: A Clash of Two Empires in Pennsylvania

1. Two factors that contributed to Pennsylvania's growth and prosperity were its religious freedom and cheap land (and one could say, its favorable location).
2. Philadelphia was located in an ideal place along the Delaware River. The port city was protected from the ocean and had water deep enough to handle ocean ships.
3. The Walking Purchase was a “shady” deal the settlers devised to acquire more land from the Delaware. The latter agreed to sell land to the settlers – the amount of land was based on how much land a settler could walk in one and one-half days' time. The problem – the settlers cleared a path through the forest which allowed a person to cover more area than the Delaware wanted to sell. The main effect was that the settlers and Delaware fought many battles because of the “crooked” deal.
4. fur trading
5. France and England
6. the Ohio River Valley, or the forks of the Ohio River, or the Pittsburgh region
7. The French wanted to control this region because of the profitable fur trade and because the river system in the area contributed to its transportation network to expand its empire into the interior North American continent.
8. The Quakers were peace-loving and did not believe in fighting or war. So, they asked the Virginia Governor to interfere on their behalf. (It was in the English's interest.)
9. The main reason for Washington's trip to Fort LeBoeuf was to order the French to leave the area (near Erie). The main result was that the French refused to leave the region.
10. The French and Indian War was a war fought between England and France in Europe and in the North American colonies. It was fought to gain control of the Ohio River Valley (Pittsburgh region) and on a larger scale, to gain control of the eastern part of the North American continent.
11. The final result was that the British beat the French for control of this entire region.
12. The Battle of Bushy Run centered around the Native Americans' rebellion to drive the white settlers out of the Pennsylvania frontier region after the French and Indian War.

Lesson 10: Anger among the Colonists with England's Rule

1. William Penn was the founder of our state and a Quaker. Keystone is a wedge-shaped stone in an arch that strengthens the structure. Pennsylvania was a geographically “wedge-shaped” colony among the American colonies.
2. The **cause** was the French and Indian War. The **effect** was the taxes England placed upon the colonies to pay for the war.
3. Continental refers to all of the American colonies and congress means a gathering or coming together of people.
4. Philadelphia was a “keystone” city and the center of cultural, political, medical, and economic activities among the American colonies.

5. One result of the First Continental Congress was that the leaders agreed to stop buying English goods brought (imported) into the colonies (especially those with taxes on them). The leaders also agreed to try to stop England's government from passing unfair taxes and laws.
6. Members of the Second Continental Congress voted for independence from England. Washington was appointed commander of the American army. Another result was the writing of the Declaration of Independence.
7. It was a radical idea for a place to declare its independence from the mother country. It was also a radical idea to think that the people of a colony(ies) could govern themselves.
8. The Declaration of Independence probably would not have been approved if the issue of slavery had not been removed from it. The American Revolution would not have occurred at this time. Answers will vary.
9. Liberty Bell

Lesson 11: The American Colonies' Revolutionary War

1. The American colonies had no army, no navy, no uniforms, no flag, no money, no supplies, no government, and no transportation system!
2. Washington's army had won no battles and morale was very low among the troops in his army. They desperately needed to win a battle.
3. The conditions at the Valley Forge encampment were extremely bad. The winter was a harsh one. The men were poorly fed and clothed. They live in crude wooden huts. Sanitation was poor as well. Over 3,000 men died of sickness, disease, and infection (although not from starvation).
4. Friedrich von Steuben trained and drilled Washington's army for many hours during the Valley Forge encampment.
5. Ben Franklin's main contribution to the American Revolution was that he negotiated with the French king to send supplies to the American colonies.
6. The French provided 1) money, 2) ships, 3) food, and 4) soldiers to the colonies.
7. The actual fighting for the American Revolution took place between 1775 to 1781.
8. The Quakers cared for the sick and wounded during the American Revolution.
9. Mary Hays – brought pitchers of water to American soldiers and manned her husband's position at a cannon when he was injured.
 General "Mad Anthony" Wayne led men in many battles
 Robert Morris helped to raise money for the American army.
 Ben Franklin – see #s 5 and 6 above
 Haym Salomon helped to get a loan of money from the Dutch.
 Samuel Wetherill made uniforms for the American soldiers.
 Sarah Bache organized women to sew clothing for the American troops.
 Betsy Ross is believed to have made our country's first flag.

Lesson 12 – A New Nation Emerges

1. The Articles of Confederation was the first plan of government, or constitution, for our country.
2. Three weaknesses of the Articles of Confederation were A) There was no way to levy and collect taxes; B) There was no way to raise a navy or army; 3) There was no process for solving arguments among the states; 4) There was no way to regulate trade among the states; 5) The central or Federal government was weak.
3. The original purpose for holding the Constitutional Convention was to repair the weaknesses of the Articles of Confederation (or to strengthen the Articles).
4. Philadelphia was the location for the Constitutional Convention. Eight of the 55 delegates were from Pennsylvania, more than any other state.
5. The Great Compromise drafted by Roger Sherman and Oliver Ellsworth over equal representation of the states called for representation by population (House of Representatives) and equal representation for each state (Senate).
6. The framers of the U.S. Constitution provided a mechanism or process for changing, or amending, the Constitution.
7. The main argument against ratifying the U.S. Constitution was that it did not provide for the rights and freedoms of American citizens.
8. The Bill of Rights was added to the Constitution in 1791.
9. This document guaranteed American rights and freedoms that are part of our life today.
10. Three-fourths of the states must approve an amendment before it becomes a law (part of the U.S. Constitution). $\frac{3}{4}$ of 50 = 37.5 states, or 38 states

Chapter 4: Understanding Our History – Early Growth and Development

Lesson 13: Mountains of Pennsylvania Hinder Industrial Growth

1. Industry is the making, moving, and selling of a good or service for profit.
2. Answers will vary for a modern-day example of an industrial good – cell phones would be a good example.
3. Answers will vary for a modern-day example of an industrial service – physical therapy would be a good example.
4. The rugged Allegheny (or Appalachian) Mountains and Plateau were geographical features that prevented early industrial growth in Pennsylvania.
5. The Conestoga wagon was the only vehicle strong enough to carry supplies and trade goods to and from the frontier regions of Pennsylvania.
6. The Conestoga wagon was responsible for the improvement of roads.
7. The prairie schooner was a much lighter, stripped down version of the Conestoga wagon. It was not heavy or sturdy enough to haul heavy freight.
8. Ferryboats carried Conestoga wagons over rivers.
9. toll
10. A pike was a gate. When travelers paid a toll (money), the **tollgate**, or pike would turn allowing travelers to continue. The term **turnpike** developed from this practice.

Lesson 14: Pennsylvania Catches Canal Fever

1. canals
2. The state of Pennsylvania nearly went bankrupt building canals. Our state had more miles of canals than any other state.
3. Penn Main Line Canal
4. The Allegheny Portage was a system of rail lines built over the Allegheny Mountains. Canal boats were haul up and down the mountains on rail cars, first, by horse, and later, by steam engine.
5. Canals were a more efficient, cheaper, and faster means of moving people and trade goods. Canals opened the western part of the state to settlement, promoted rapid growth of towns along their routes, provided jobs, and encouraged economic growth. Any of these answers are acceptable.
6. A canal boat was divided into three sections -- a kitchen and separate housing for men and women. Mules and horses pulled the canal boat by a long rope. Sometimes, passengers walked along the tow path with the animals. A man at the back of the boat guided it with stick-like rudder. At 6:00 pm, a long table was formed, and dinner was served. At 9:00 pm cots were hung in rows from the wall. In the morning, people scooped water out of the canal for washing. Other sentences would be acceptable, as long as they contain accurate material.
7. Aqueducts were special water bridges used to allow canal water to flow over rivers and creeks.
8. Locks with gates were used to raise and lower the water level for canal boats.
9. Travel between Philadelphia and Pittsburgh by wagon took 6 weeks; travel between these two places by canal boat took four days.
10. the steam engine and its application to the railroad industry (locomotive)

Lesson 15: Steam Engine Fever, Railroads, and Coal

1. steamboats and steam locomotives
2. Robert Fulton developed the first profitable steamboat to haul trade good items (freight).
3. Matthias Baldwin is credited with building the first steam engine train in the U.S. His company built more steam locomotives than any other company in the world.
4. The hearth stove made it safer to burn coal and wood on a steam locomotive.
5. iron ore and anthracite coal
6. The capital (money) for building canals was obtained from the state of Pennsylvania. The money for building railroads was obtained from business investors.

Lesson 16: The Iron Industry Expands, The Oil Industry Emerges

1. The iron smelting industry expanded to meet the growing demand for iron products for the railroad industry. It provided iron for the steam engines, trains (locomotives), and iron rails.
2. Samuel Kier began selling "rock oil" that oozed from the ground in one of his salt mines. Along with a chemist, he discovered that this rock oil could be refined into kerosene. He built our country's first oil refinery in 1853 in Pittsburgh. Answers will vary.
3. Answers will vary. Edwin Drake was the first person to drill a successful oil well in 1859. Drake's first well was filled with water. He came up with the idea of driving an iron pipe into the ground and putting a drill inside the iron pipe. This method produced oil, and by doing this, Drake launched the modern petroleum industry.

4. Drake's discovery produced more barrels of oil a day than had been produced before. There was a population surge in Pennsylvania. Several boomtowns emerged in Pennsylvania with derricks dotting the landscape.
5. Thirty-one (31) years
6. boomtown – towns that experienced very rapid population growth
 derricks – towers built over oil wells
 iron smelting – a heating process that allows workers to remove impurities from iron ore
 refined – to purify from a crude state, such as petroleum

Lesson 17: The American Civil War Comes to Pennsylvania

1. A civil war is a war fought between citizens in the same country.
2. The American Civil War was fought to keep the United States together.
3. People who opposed slavery were called abolitionists.
4. Pennsylvania contributed to the Northern cause A) by supplying thousands of soldiers; B) by providing natural resources, such as coal, oil, and iron ore; C) by making locomotives, steam engines, and cannons; D) by building ships; E) by growing and supplying farm products (food); and F) by providing a transportation system of rail lines.
5. The Gettysburg Address was a speech given by President Lincoln to commemorate and honor the soldiers who had died during the Battle of Gettysburg and dedicate the cemetery where the soldiers were buried.
6. Lucretia Mott – an active abolitionist Quaker minister who founded the PA Anti-Slavery Society
 Harriet Tubman – led more than 300 slaves to freedom through Pennsylvania
 Thaddeus Stevens – was elected to the House of Representatives and was strongly opposed to slavery
 James Buchanan – the only elected President from Pennsylvania who did not find slavery was against the law as written in the U.S. Constitution
 Abraham Lincoln - the President of the United States during all of the Civil War
 George McClellan – a Northern general who organized the Union army
 George Meade – a Northern general who became commander of the Union Army during the Battle of Gettysburg
 Winfield Hancock – a Northern general who drove back the Southern troops during General Pickett's charge at the Battle of Gettysburg
 Galusha Pennypacker – the youngest Northern Civil War general (age 20) who was awarded the Medal of Honor for his heroic actions

Chapter 5: Understanding Our History – An Industrial Giant

Lesson 18: The Economics of the Industrial Revolution

1. There are many acceptable answers as long as students are correct in identifying the good or service. For example, cell phones or tablets are goods. People who sell cell phones or the service that allows the use of cell phones (or the Internet) provide a service.
2. Again, many acceptable answers. The cell phone market and service are excellent examples of competitive markets. You have companies such as CenturyLink, Verizon, Boost, Cricket, Consumer Cellular, and so on, selling the phone service. Some of those same companies are providing TV cable service which is competing with satellite TV via Dish and Direct TV.
3. Answering the monopolistic question may be more difficult. Refer students to p. 83 for the monopoly that the AT&T telephone created. Also, refer students to page 92 or page 89 (Rockefeller and Frick had near monopolies on oil refining and the production of coke, respectively.) If there is only one TV cable company in an area providing that service, that could be viewed as a monopoly.
4. Answers will vary on the principles of supply and demand. Consumers have needs which create a demand for goods and services. Producers of goods and services create a supply to meet this demand. Generally speaking, a greater demand and a lower supply for something will create higher prices; a greater supply and lower demand for something will create lower prices.
5. Four conditions needed for an Industrial Revolution to occur are A) adequate labor force and natural resources (these are actually two conditions); B) an efficient transportation system; C) sufficient money (capital); D) a sufficient market in which to sell the good or service.
6. There was a shift from an agricultural society in which a person provided his/her own goods and services to an industrial society in which factories provided a person's goods and services.
7. James Watt greatly improved the steam engine and patented it. His steam engine was applied to many machines and started the Industrial Revolution.

Lesson 19: Age of Big Business

1. The time between 1860 to 1890 was known as the Age of Big Business because it was a time when the industries of our state grew very rapidly.
2. Iron was not strong enough for some uses and broke too easily under the strain.
3. Henry Bessemer invented and patented a process for creating steel out of iron. Steel was a much stronger and cheaper metal to produce. There was a huge demand for steel in making locomotives, rails, bridges, steamboats, and tools.
4. Andrew Carnegie brought the Bessemer process to Pittsburgh where he built steel manufacturing plants. He built a steel empire.
5. coke
6. Henry Clay Frick was known for his development of the coke industry. Coke was produced from soft coal and made a hotter fire for the production of steel.
7. Frick and Carnegie were similar in that they started new industries (steel and coke), built up business empires, and were business partners. They both gave away part of their fortunes to charities.

Lesson 20: Railroads Grow as New Industries Emerge

1. Three inventions for which George Westinghouse is known are A) air brakes for railroads; B) safety signals for railroads; and, C) alternating current of electricity, a system of electric transmission we use today.
2. John Rockefeller started the oil refining business.
3. Charles Hall began the aluminum industry in Pittsburgh.
4. During the Industrial Revolution, Pennsylvania was the leading producer of cement and glass products.
5. John Ford and John Pitcairn are known for establishing the Pittsburgh Plate Glass Company (now PPG Industries) in the Pittsburgh region.

Lesson 21: Industrial Growth Creates Major Problems

1. A monopolistic market is created when stores are owned by the factory owner.
2. Coal mining was a very dangerous job because of deadly poisonous gases, floods, cave-ins, and explosions.
3. Unions were organized to provide workers with a greater ability to negotiate with factory, railroad, or mine owners for better wages and working conditions.
4. The major results of the Great Railroad Strike of 1877 were A) people were killed; B) locomotives were destroyed; C) railroad cars were wrecked, and, D) buildings were burned.
5. People flowed into Pennsylvania communities from A) our state's rural areas; B) our country's rural regions; and C) other parts of the world, mainly Europe; and, D) from the South after the Civil War.
6. Three effects of rapid growth of industrial cities were A) dirty and wretched living conditions erupted; B) filthy smoke belched from factories leaving the air of poor quality; C) factories flushed their waste products into streams and cities; D) Human sewage was flushed into the waterways leaving the water supply contaminated resulting in poor hygiene and the spread of diseases.
7. Failure to upkeep the earthen dam at the South Fork Dam and heavy rains caused the dam to give way in 1889.
8. Henry Heinz, John Wanamaker, and Frank Woolworth all started businesses to meet the needs of an industrial society. Heinz created a food preserving factory, Wanamaker opened the first department store, and Woolworth launched the "five and dime" store.
9. The two main purposes for the Centennial Exhibition were to celebrate our nation's 100 years of independence and to show off new inventions.

Lesson 22: Modern Pennsylvania

1. Communities with shopping malls
2. The PA Turnpike was the first four lane highway that had no stop signs for roads crisscrossing its route.
3. Another revolution in roadbuilding was the development of our interstate highway system.
4. suburbs

5. Street cars were hauled by horses over rail lines. Cable cars were propelled by a steam engine over rail lines. Trolley cars were propelled over rail lines by electric lines overhead.
6. Three large port cities of Pennsylvania are Philadelphia, Pittsburgh, and Erie.
7. steel, crude oil, refined oil, machinery, grain, chemicals, soft coal, iron ore, finished steel products, wood and its by-products, and plastics (and many more)
8. automobiles, electricity, and farm tractors with gasoline engines
9. The first for profit radio station was started in Pittsburgh in 1920.
10. television, video gaming systems, DVD players, cable and satellite TV, mobile telephones (cell phones), computers, digital video cameras, etc.

Lesson 23: Changes for Pennsylvanians in the 21st Century

- 1a. Answers will vary for **cause and effect**. Inventions are causes and the effects are the changes brought about as a result of the inventions, such as in the telecommunications field. Cause – Terrorists hijacked a plane. Effect – Hero passengers tried to retake control of the plane. Effect – The plane crashed. Cause – Recession of 2008; many effects, such as businesses declined or failed, workers lost jobs, banks failed, etc. Cause – Global Warming; Effect – more powerful storms; Cause – fracking; Effect – pollution of water supply
- 1b. Answers will vary for **comparison** – Comparing depressions versus recessions; comparing super storms; comparing life before the technological revolution in telecommunications and the present
- 1c. Answers will vary for **problem and solution** – Problem – Recession of 2008; solution – stimulus packages
- 2a. The Flight 93 National Memorial was built for the heroes who prevented the terrorists from crashing their hijacked plane into the White House or U.S. Capitol Building
- 2b. Answers will vary. Opinions should relate specifically to the issue associated with the Flight 93 National Memorial.
3. The difference between an economic depression and recession is that a depression lasts longer than a recession.
4. The main idea of the third paragraph is that severe storms have battered our state and region. Answers will vary on supporting details. 1) Hurricane Allison dropped 10 inches of rain on our state. 2) Hurricane Katrina caused tornadoes in our state. 3) In 2011, large storms increased our state's rain total more than 30 inches above its average.
5. Answers will vary. Opinions should relate specifically to the issue associated with the Marcellus Shale rock formation and fracking.

Chapter 6: Understanding Our Government

Lesson 24: Why is Good Government so Important?

1. Government is one or more people who have the power to make and enforce laws and rules for a country or region. Government provides us with written rules that allow us to live together in an orderly society.
2. Anarchy is the absence of government. There is no ruling body in power.

3. A constitutional republic or multi-party democracy is the most common form of government on Earth.
4. theocracy
5. monarchy
6. Four responsibilities of citizens in a democracy are: A) paying taxes, B) serving on a jury, C) serving in the military, if needed, D) respecting the legal rights of others, E) working toward the betterment of the community, and F) volunteering to work in the national, state, or local communities.
7. Six rights that are guaranteed to citizens in a democracy are A) freedom of religion, B) freedom of speech, C) freedom to carry arms, D) freedom of the press, E) freedom to gather peaceably, F) protection, if accused of a crime, G) protection of the laws, H) right to vote, I) right to own property, and J) right to choose a political party.
8. executive, legislative, and judicial
9. The Executive branch of government is designed to operate our Federal government. It is responsible for enforcing our federal laws and for carrying out the policies set up by members of this branch of government, such as Homeland Security.
10. The Legislative branch of government's primary function is to write, debate, and pass bills. Members of this branch can override a presidential veto.
11. The Judicial branch of government consists of judges who run our court system. Judges are also responsible for interpreting the laws at a local, state, and national level. They rule as to whether any law violates our states' and national Constitutions.
12. The House of Representatives is set up on the basis of a state's population. So, states with larger populations will have more representation than smaller states.
13. Congress can declare war on other countries, approve the printing of money, make laws about taxes, and make laws controlling trade among states and countries. (Other answers could be acceptable.)

Lesson 25: Our State Government

1. Pennsylvania's state Constitution outlines the rights of citizens before the structure of government. Our country's Constitution outlines the structure of government first, then addresses the rights of citizens.
2. Two ways the Pennsylvania Constitution served as a model for our Federal Constitution was William Penn's ideas for A) the rights of citizens, and B) procedures for how the government should be set up.
3. Our state Legislative branch's main duty is to create laws for the well-being of its citizens.
4. A) House of Representatives and the Senate B) General Assembly
5. How a bill becomes a law is outlined on p. 113. A bill gets a number and is discussed by groups; then, it enters the Senate for debate and a vote; then, it enters the House of Representatives for debate and a vote; then, it is sent to the Governor for signing or vetoing. Note: Bills dealing with revenue begin in the House of Representatives.
6. Occupations would be a representative, senator, Speaker of the House, President Protempore, and Lieutenant Governor

7. Our state Executive branch's main function is to enforce or carry out the laws. Another function is to prepare a budget. Yet another function is to select government officials to operate different departments, such as the Department of Transportation.
8. Governor, Lieutenant Governor, Attorney General, State Treasurer, Auditor General, leaders of any of the Departments, state park officials, police officers, etc.
9. The main roles of our state Judicial branch are for judges to run our state's court system, and to interpret, explain, and apply the meaning of laws. They also deal with disagreements among people, agencies, and businesses at the state level. They decide on whether someone has broken a law (with the help of a jury at the county level) and sentence people who are found guilty.
10. **District Justices** – judges who interpret the law at the local level of government.
Common Pleas Court – judges who handle court cases at the county level which deal with criminal and civil matters, contracts, divorces and property disputes.
Commonwealth Court – judges who review all cases against the state government on issues related to banking, taxes, and insurance.
Superior Court – judges who hear appeals on criminal and civil cases.
State Supreme Court – judges who select cases they will hear an appeal on, usually more important cases, and judges who listen to all cases involving interpretation of our state's Constitution.

Lesson 26: Our Local and County Governments

1. The municipalities in Pennsylvania are cities, boroughs, and townships.
2. The class of a county is determined by its population.
3. county commissioners
4. county seat
5. There are 6 tasks listed in the chart on p. 119 that county commissioners perform and more tasks are listed in a chart on p. 117. They can make laws and policies that affect the county, and make sure the laws and policies are carried out.
6. Seven counties in Pennsylvania operate under the "home rule" charter form of government. These counties can determine their own form of local government. Most choose to have an elected county executive (versus county commissioners) and an elected county council to run their county governments.
7. cities, boroughs, and townships
8. Voters need to approve a change in a city's class status, and the population of the city must increase.
9. Most cities and boroughs of Pennsylvania elect 7 members to a town council and elect a mayor to lead the town council, (although mayors can be selected by the town council). The second form of local government is similar to the first. However, the elected town council can hire a city manager to run the local government. These communities can have a mayor as well as a city manager.
10. police officers, tax collection, maintain water and sewer service, trash collection, recyclable pick-up
11. township
12. Citizens of a first-class township elect five commissioners for four years to run the local government. Citizens from second class townships elect three supervisors for six years to run local government.