

Includes fun, hands-on projects in History - Geography - Science - The Arts



Roman Republic - Asia - Trees - Roman Art

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LAYERS OF LEARNING YEAR ONE • UNIT EIGHTEEN

ROMAN REPUBLIC ASIA TREES ROMAN ART

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LAYERS OF LEARNING INTRODUCTION

This is part of a series of units in the Layers of Learning homeschool curriculum, including the subjects of history, geography, science, and the arts. Children from 1st through 12th can participate in the same curriculum at the same time — family school style.

The units are intended to be used in order as the basis of a complete curriculum (once you add in a systematic math, reading, and writing program). You begin with Year 1 Unit 1 no matter what ages your children are. Spend about 2 weeks on each unit. You pick and choose the activities within the unit that appeal to you and read the books from the book list that are available to you or find others on the same topic from your library. We highly recommend that you use the timeline in every history section as the backbone. Then flesh out your learning with reading and activities that highlight the topics you think are the most important.

Alternatively, you can use the units as activity ideas to supplement another curriculum in any order you wish. You can still use them with all ages of children at the same time.

When you've finished with Year One, move on to Year Two, Year Three, and Year Four. Then begin again with Year One and work your way through the years again. Now your children will be older, reading more involved books, and writing more in depth. When you have completed the sequence for the second time, you start again on it for the third and final time. If your student began with Layers of Learning in 1st grade and stayed with it all the way through she would go through the four year rotation three times, firmly cementing the information in her mind in ever increasing depth. At each level you should expect increasing amounts of outside reading and writing. High schoolers in particular should be reading extensively, and if possible, participating in discussion groups.

• • • These icons will guide you in spotting activities and books that are appropriate for the age of child you are working with. But if you think an activity is too juvenile or too difficult for your kids, adjust accordingly. The icons are not there as rules, just guides.

GRADES 1-4

• Grades 5-8

• Grades 9-12

Within each unit we share:

- EXPLORATIONS, activities relating to the topic;
- EXPERIMENTS, usually associated with science topics;
- EXPEDITIONS, field trips;
- EXPLANATIONS, teacher helps or educational philosophies.

In the sidebars we also include Additional Layers, Famous Folks, Fabulous Facts, On the Web, and other extra related topics that can take you off on tangents, exploring the world and your interests with a bit more freedom. The curriculum will always be there to pull you back on track when you're ready.

You can learn more about how to use this curriculum at www.layers-of-learning.com/layers-of-learning-program/

HISTORY

Roman Republic – Asia – Trees – Roman Art

Unit Eighteen

ROMAN REPUBLIC – ASIA – TREES – ROMAN ART

Freedom is a possession of inestimable value.

-Cicero, Roman statesman

LIBRARY LIST:

Search for: Roman Republic, ancient Rome, Romulus & Remus, Virgil, Roman myths

- Brave Cloelia by Jane Curry. True story of the young girl who saved the brand new Republic of Rome from an invading army.
- Growing Up in Ancient Rome by Mike Corbishley.
- **Output** Living in Roman Times by Jane Chisholm.
- One of the second secon
- In Search of a Homeland: the Story of the Aeneid by Penelope Lively. A children's version of the Aeneid in the style of *Black Ships Before Troy*.
- The Story of the Romans by H.A. Guerber. An old classic in itself, this tells the story from front to back. Read aloud to all your kids.
- **9** <u>Augustus Caesar's World</u> by Genevieve Foster. Cross cut of world history across cultures up to 14 AD. Highly recommended.
- The Roman Conspiracy by Jack Mitchell. Historical novel weaving Roman life and real Romans into an exciting story of conspiracies.
- Famous Men of Rome by John Haaren.
- **•** On the Shores of the Great Sea by M.B. Synge. An old classic, it covers all ancient civilizations around the Mediterranean from earliest history to the birth of Christ. Part of the *Story of the World* Series.
- **3** Rubicon: Last Years of the Roman Republic by Tom Holland. Very readable and fast paced, but covers from the First King to Julius Caesar in one fast sweep.
- <u>De Republica</u> by Cicero: Republics explained by the greatest Roman statesman.
- **On the Nature of Things** (60 BC) by Lucretius.
- **9** <u>Aeneid</u> by Virgil. An epic poem commissioned by Roman rulers to glorify Rome. The Robert Fagles translation is the most accessible and readable for modern readers, but less poetic and authentic than the Fitzgerald translation.
- **a** A Day in Old Rome by William Davis.
- **<u>© Lives</u>** by Plutarch. Historical biographies of some of Greece's and Rome's greatest, written by a Roman.
- **9** The First Man in Rome by Colleen McCullough. A historical series of novels set at the close of the Roman Republic.
- **©** <u>Chronicle of the Roman Republic</u> by Philip Matyszak. Biographies of the most famous of Rome's ancient men told in chronological order.

Search for: Asia, Asian cookbooks, Asian folktales, religions of Asia

- O A is for Asia by Cynthia Chin Lee.
- <u>Asia</u> by Gary Drevitch.
- <u>Asia</u> by Allen Fowler.
- Asia by Madeline Donaldson.
- 👴 😉 Explore Asia by Bobbie Kalman.
- Seven Natural Wonders of Asia and the Middle East by Michael and Mary Woods.
- Sacred Mountain: Everest by Christine Taylor-Butler.
- **a** A Brief Political and Geographic History of Asia by Doug Dillon.
- 3 Asia: The Beautiful Cookbook by Jacki Pasmore. Authentic Asian recipes.
- The Great Railway Bazaar: by Train through Asia by Paul Theroux.
- The River's Tale: A Year on the Mekong by Edward A. Gargan.
- **9** <u>In the Footsteps of Marco Polo</u> by Denis Belliveau. Modern explorers retrace Marco Polo's journey through Asia.

Search for: trees

- **Output** Trees Leaves and Bark by Diane Burns. A field guide for the very young.
- 9 Be A Friend To Trees by Patricia Lauber.
- Tell Me, Tree by Gail Gibbons.
- On A Tree is a Plant by Clyde Robert Bulla.

🖁 👵 😉 <u>Trees</u> by Linda Gamiln.

- Tree by David Burnie.
- Trees of North America by C. Frank Brockman and Rebecca Marrilees. A field guide.
- **9** <u>Remarkable Trees of the World</u> by Thomas Packenham. Visit amazing trees from around the world with the author.
- **<u>Trees</u>** by Tony Rodd and Jennifer Stackhouse. Biology, life cycles, facts, and human uses of trees.

Search for: Roman art, Pompeii, fresco, Roman architecture, Colosseum, Pantheon

- Pompeii . . . Buried Alive! By Edith Kunhardt. A story book all about the eruption of Mt. Vesuvius and what it would have been like to be there.
- The Roman Colosseum by Elizabeth Mann.
- **3** Roman Amphitheaters by Don Nardo.
- Ancient Roman Art by Susie Hodge.
- <u>Classical Myth</u> by Jane Bingham. Contains a chapter on Roman and Greek art.
- **9** Roman Art by Nancy H. and Andrew Ramage. Text used in college for this subject, but readable and thorough.

SCIEN

HISTORY: ROMAN REPUBLIC

Teaching Tip

Courtesy of our ancient friend Cicero:

"When you wish to instruct, be brief; that men's minds take in quickly what you say, learn its lesson, and retain it faithfully. Every word that is unnecessary only pours over the side of a brimming mind."

By the account of the Romans they were an eastern Mediterranean family of refugees from the fall of Troy. They went first to Carthage, but the gods drove them on until they reached the Italian Peninsula. They created a home and built their first city at Rome, named after the city's founder, Romulus. This story is told in the great epic poem by Virgil, the Aeneid. How much is true and how much is fancy is impossible to tell.

They admired the Greeks almost to worship. In fact, they did adopt the Greek's gods, art, music, and scholarship even though they had conquered the Greeks. After the early Romans overthrew their tyrannical king they copied Greek forms of government, improving on them and inserting both freedom and stability.

Fabulous Fact

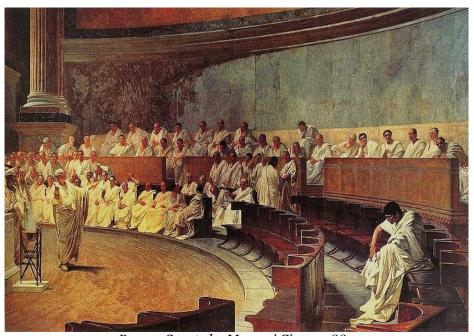
The early people of Rome were from a tribe called Latins. They were from the Plains of Latium. The Latins were skillful farmers and traders and they became rich and successful.

Fabulous Fact

The forum was the cultural, governmental, and commercial center of the city. Here is where all government offices were located.



Photograph by Radomil and shared under CC license on Wikimedia.



Roman Senate by Maccari Cicero, 1889

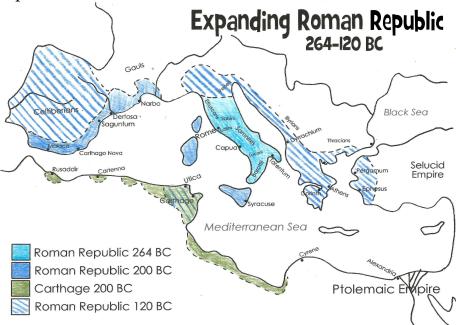
At first content to hold the Italian Peninsula, they soon became wealthier and more powerful and began to attack their neighbors because they could. The continual wars weakened the Republic as the debt rose, taxes rose, people lost their long neglected farms, and the government became increasingly controlled and corrupted by the military.

Eventually the corruption and economic woes became so bad that a young general named Julius seized power for himself in order to bring new stability and reign in corruption in the

senate. He had been one of those brilliant generals, much loved by the people, when the Roman senate decided to curtail his privileges, fearing his growing popularity. Julius marched into Italy from Gaul with his army, more loyal to him than Rome, and beat Rome's army. Julius set himself up as a king, or Caesar, reducing the role of the senate. The republic was ended and central power was consolidated by Julius' adopted son, Caesar Augustus.

S SEXPLORATION: Map of Early Rome

Use the "Expanding Roman Republic" Map from the end of this unit. Rome began as a small city state confined to a small area just around the city of Rome. They had neighboring city-states all around and eventually got greedy and began to war on their neighbors, finally taking over the Latin League, of which they were a member, and holding the upper and central peninsula in the name of Rome. Then they set their sights on the far southern colony of the Greeks on the peninsula. After a fierce struggle and two major setbacks, Rome beat the Greeks and took over their Italian colonies. Next, Rome pushed Carthage off Sicily and Sardinia, and attacked them on the Iberian Peninsula. Finally, Carthage itself was sacked and Rome moved on to the Greek mainland. The map below shows this progression of territorial expansion.



9 9 EXPLORATION: Roman Timeline

Make a timeline using the printable squares from the end of this unit. This is a short timeline of Roman conquests, mentioning only a few of the peoples Rome defeated. The people around the Mediterranean did not live in large nations like we have today.

Additional Layer

Publius Syrus was a Syrian brought to Rome as a slave, and then freed by his master because he was so clever. He wrote maxims, many of which you are probably familiar with today.

You can read some of his maxims here: http://www.quotationsp

age.com/quotes/Publiliu s_Syrus

Try writing your own maxim.

Additional Layer

How do we know so much about the Romans (we barely touched on them here in this unit) when we know so little about other peoples of this era? The Romans wrote down their history and preserved it. They were a very literate society. Then the Catholic monks preserved and recopied the ancient Roman texts, most of which were ignored for centuries until they were rediscovered by some wealthy Italian noblemen, setting off the Renaissance.

Do you think future generations will know a lot about our world today? Why or why not?

Definition

Inaugurated: given the mystical powers of the soothsayers, or augers. Early Roman kings were inaugurated.

Additional Layer

Dionysius of
Halicarnasus was a
historian who lived
during the reign of
Caesar Augustus. He
wrote down the history
of Rome from the
mythical beginnings until
the first Punic War in a
series of books called
Roman Antiquities. You
can find English
translations of these
works online.

His purpose in writing was to convince the conquered Greeks within the Empire that Rome had the moral right to rule. He used the mythological foundations and ancestral links to early Greeks to prove his point. Many writings in the early days of the Empire were used to justify the break with the Republican past and the new wave of military aggression. Does that sort of thing happen in modern history? Can you think of examples of governments using artists and writers to prop up their political positions?

They lived in small city-states, or confederations of city-states. Rome had to defeat them one by one and take their territory. When we learn history we focus only on the great empires like Rome. We hardly ever talk about small city-states like Numantia (Iberian Peninsula) or Illyria (Between Greece and Italy). The idea that the world must be divided into large distinct nations is a modern idea. The Roman Empire was made up of hundreds of different peoples with different languages, beliefs, and cultures.

- •753 BC Founding of Rome by Romulus
- •700 BC Etruscans expand south
- •509 BC Roman Republic formed
- •496 BC Romans defeat Lartins at Lake Regillus
- •458 BC Aequi and Sabines unite to attack Rome, they are defeated by Cincinnatus
- •396 BC Romans capture Veii (Etruscan capital city)
- •390 BC Gauls take Rome and demand ransom
- •340-338 Rome takes control of Latin League, dissolving it
- •312 BC Via Apia built (start of the Roman road system)
- •290 Romans defeat Samnites on the Italian peninsula
- •280-275 BC Battles with the Greeks, Romans lose twice then achieve final victory, taking control of the whole Italian Peninsula.
- •168 BC Romans defeat Macedonian Greeks
- •146 BC Romans defeat Carthage and Corinth
- •133 BC Romans finish takeover of Iberian Peninsula, defeating the last of the nations there.
- •133 BC Province of Asia given to Rome by King of Pergamum (in modern Turkey)
- •27 BC Roman Republic ends when Caesar Augustus expands on his adopted father's power grab and declares himself the first Emperor of Rome

Output EXPLORATION: Remus and Romulus

Legend has it that Romulus founded ancient Rome in 753 BC. Roman children were taught the story in school, and it has been passed down ever since. The story goes like this:

Romulus and Remus were twin brothers. Their mother had been forbidden by her uncle, the king, to ever marry or have children because he didn't want anyone to challenge his throne. The gods intervened and she became pregnant with the two boys. When they were only tiny babes their uncle had them abandoned, put into a basket, and placed adrift on the Tiber River. Downstream they were found by a mama wolf who nursed the babies until they were discovered by a shepherd. He raised the twin boys.



Romulus and Remus by Peter Paul Rubens, 1616.

Romulus and Remus soon grew up, and to honor the wolf who had found them, decided to found a city right there where they had been found. The brothers quarreled over exactly where the city should be, and finally, Romulus killed his brother, Remus, in the fight. Romulus became the sole founder of the city and gave it his own name: Rome.

This story is, of course, only a legend. The actual growth of Rome is much less interesting. It grew out of a number of settlements that were around seven hills near the Tiber River. The river provided water and was also narrow enough at this point to be bridged. The river also made things difficult though, because the land all around the cities was marshy. For strength against invaders, the people decided to drain the marshlands and join together. It took years and years.

Make a booklet telling the myth of how Rome was formed, and then the real story of how it came to be. Write it in your own words and add illustrations.

● ● EXPLORATION: Roman Religion

The Romans always considered their piety toward the gods as the reason for their success. The nobility served as priests and

Writer's Workshop

Imagine that you were raised by a wolf like Remus and Romulus were in the myth. Write a story about what one day in your life is like.

Additional Layer

Would a real wolf ever raise human babies as its own? In *The Jungle Book* by Rudyard Kipling little Mowgli is raised by wolves as well. Learn more about wolves to see if these tales could possibly be true to life.

Additional Layer

One of the most important skills for a Roman was the power of speech. How to give a good persuasive speech, to play upon the emotions of your audience, to put forth a well-reasoned argument with clarity and boldness — these were highly valued skills in Roman society.

They are less obviously revered but still extremely important today. Learn to write and give good speeches by writing good persuasive papers, studying logic, and actually giving public speeches, even if most of those speeches are just in front of your family.

Famous Folks

The Vestal Virgins were the female priestesses of Rome. It was their job to keep alive the fire that all of Rome believed must be kept lit to keep the city safe.

Some Important Roman Vocabulary Words

aqueduct= a channel used for transporting water from a remote source

communal= belonging or relating to the people of a community

courtyard= an open space surrounded by buildings or walls, adjoining or within a large building

opulent= extravagant; lavish

sauna= a steam bath in which the steam is usually produced by pouring water over heated rocks

tablet= a thin sheet, such as of clay or ivory, used as a writing surface

toga= a loose, one-piece outer garment worn in public by Roman citizens

vendor= one who sells goods

consul= literally "walk together," the name for Roman magistrates.



Sibyls were ancient women prophets who were much consulted and relied upon, not only by also by Jews and Christians.

auguries at the same time they served as military commanders or politicians. There was no such concept as a separation between church and state.

In fact, the religious life of the people was completely intertwined with their daily life and their institutions. At the same time though, the Romans did not usually discriminate against the various religions of the people over whom they ruled. Everyone was welcome to worship whichever gods they liked as long as they also gave due deference to the gods of Rome. The Romans even built temples to the local deities as they felt this sort of thing promoted social stability and kept revolts to a minimum.

Every Roman home had a shrine. Shrines, Romans and Greeks, but sacred groves, springs, and temples dotted every city, village and countryside. The Romans had always admired the Greeks,

and they adopted or adapted their own gods to the Greek gods in many cases. Jupiter, Mars, Juno, Minerva, Apollo, Diana, Vesta, Vulcan, Mercury, and Ceres are some of the well-known Roman deities.

Romans practiced sacrifice in the form of food and animals. They condemned human sacrifice as being offensive to the gods, but on a few occasions human sacrifice did occur. Some condemned the later gladiatorial conflicts as human sacrifice, though the Romans themselves did not view it in that light.

Read more about the Roman gods. Memorize their Grecian counterparts. Do a painting of one of them, including a legend about them.



Diana the Huntress, painting by Guillaume Seignac

• • EXPLORATION: When in Rome . . .

Make a Roman god costume. The gods are always depicted as wearing a chiton, a rectangular piece of white fabric tied on both shoulders for women and only on the left shoulder for men and belted at the waist for both sexes. You can make a chiton from a white sheet. Sew up a piece of fabric in a rectangle large enough to cover the wearer from shoulders to ankles. Then add a tie (or two) to the shoulders. Put sandals on your feet and then customize it to a particular god by adding that god's symbol, made from cardboard or similar materials. Learn a story about your god or goddess.

Male:

Jupiter: thunderbolt Apollo: sun and music

Vulcan: fire

Mercury: winged sandals

Neptune: trident

Mars: sword and helmet

Female:

Juno: crown and veil Venus: golden girdle Diana: bow & arrow

Minerva: helmet and shield Ceres: crown of wheat

Vesta: kettle

SEXPLORATION: The Republic

In about 508 BC the monarchy of Rome was overthrown and a republic was established. The last king of Rome was a tyrannical ruler who was expelled from the city after his son raped a noblewoman. The two men who had led the revolt were elected as the first Roman consuls. The government was led by two elected consuls, so that no one man had too much power. The old king had been elected as well, but for life. The consuls were advised by a senate who were appointed by the consuls themselves. The consuls had power over the military. Only patricians ("fathers," meaning the nobles) could be senators or consuls. The consuls were elected for one year. Senators had the power over the treasury, creating a check on the consuls.

The lower class, called plebeians, made up the assembly, and it was the assembly who elected the consuls. Though they had no other power, they did gain more power over time as the patricians were forced to rely on them for defense of the city. In 494 BC conscripted plebeian soldiers refused to fight until they were allowed to elect their own leaders. With the city threatened, the patricians were forced to give in. The new plebeian officials were called tribunes. By the 450's the tribunes were demanding equal powers and the right to run for consul positions. A government committee of ten men was given power to draft a new set of laws and rules by which the government would be run. The committee sent representatives to Greece to study the laws of Solon in Athens and the law in other Greek cities. The ideas gleaned were

On The Web

Mr. Donn has an excellent activity for kids to understand and help solve some of the problems of ancient Rome, which are uncannily like our problems today.

http://ancienthistory.mr donn.org/RomanReform s.html

Famous Folks

Terence was a Roman slave of North African descent who was educated and then freed by his master. He wrote six plays which have all survived to the present day. He died young (at only 25 years of age) when he was lost at sea.

Additional Layer

Volcanoes are named after the Roman god of fire. The Romans, not able to explain fire erupting randomly from the earth, blamed this natural phenomenon on Vulcan.



Photograph courtesy of the National Park Service (USA)

Keep On Reading

The *Aeneid* is an epic poem that was written by the Roman poet Virgil. It tells of how the first Roman ancestors were descended from the Trojans who fled their city when Agamemnon left a gift horse. You remember the story from the Iliad by Homer, right? The Aeneid became the national epic poem, like the Iliad had been to the Greeks. The Aeneid was written at the time when the Republic was falling and the Empire was rising in Rome. The story served to tie the Romans to the Greeks and their mythology which Rome adored so wholeheartedly.

debated and discussed in every home in Rome and (with probably much more input than they would have liked) the committee came up with a document known as the Twelve Tables. This was the beginning of Roman Law and the Roman constitution.

The tables were actually ivory tablets erected in the town square where all might read them and know the law. The tablets were destroyed in 390 BC by an invading army of Gauls and apparently never replaced. No complete or official copy of the laws exists today so we don't know exactly what they said. You can read what we do know here:

http://www.constitution.org/sps/sps01_1.htm

You can read much more about the history of the Roman Republic and the development of Roman Law on Wikipedia.

If you were to elect a consul, what kind of person would you want him or her to be? Make a list of qualities you would want in a leader.

9 EXPLORATION: Roman Alphabet

The alphabet used in western languages today (including English, German, Romanian, Spanish, and many more) comes directly from the ancient Roman alphabet, which was borrowed from the Greeks, who learned alphabetic writing from the Phoenicians. Show your students this alphabet and ask if they recognize it:

ABCDEFHIKLMNOPQRSTVXYZ

This is the Latin alphabet used by the Romans. Later people added the G, J, U, and W, and that is the alphabet we have today. We also added in lower case letters and punctuation, two things missing from ancient Roman writings.

© EXPLORATION: Horatius at the Bridge

The last king of Rome, Tarquinius, didn't give up his power without a fight. When he was expelled from the city he ran to the enemies of Rome and convinced them to invade in order to take back his throne. The king of Clusium, an Etruscan city, agreed to back Tarquinius and marched on Rome with his soldiers. The Romans met the Etruscans outside the city on the other side of the Tiber River. The Romans didn't stand even one charge. With the Romans fleeing in disarray back to the city, the Etruscans realized they could just mill across with the rest and get inside the city gates that way. A young officer named Horatius and two of his fellow officers held the bridge against the enemy while allowing the fleeing Romans to cross in safety. The two other

Fabulous Fact

Early Roman soldiers were unpaid citizens who served as part of their duty to the state. They fought against nearby city-states in defending Rome or in conquering neighbors. Later, as Rome's conquests moved further afield and the Republic became wealthy, the army evolved into professional soldiers.

officers made it back to the city, but Horatius was the last man on the bridge, giving the Romans time to destroy it behind him. With no other options he leaped into the river in full armor and miraculously swam his way back to the Roman side where he was hailed as a hero. The Etruscans settled in for a long siege of the city which eventually ended in a peace treaty. Horatius had saved the fledgling Republic which almost died before it had begun and he had done it by sacrificing his own safety and, as he thought when he jumped into the river, giving up his life. Amazingly, he survived.

In 1842 AD Thomas Babington wrote a series of lays or poems he called "Lays of Ancient Rome." One of the lays was *Horatius* and tells the story, with some poetic license, of the hero at the bridge.



Horatius Defending the Bridge by Charles Le Brun, 1643

You can read it here:

http://www.theotherpages.org/poems/rome.html or purchase the book. Have your kids memorize this stanza:

Then out spake brave Horatius, The Captain of the Gate: To every man upon this earth Death cometh soon or late. And how can man die better Than facing fearful odds, For the ashes of his fathers, And the temples of his gods . . .

Ambitious kids can memorize the entire lay, as English schoolchildren did in past days.

Famous Folks



A big part of the wars that bankrupted the Roman Republic were the Punic Wars against Carthage. You'll want to read more about Hannibal who is covered in Unit 1-7 of the Layers of Learning Curriculum.

Fabulous Fact

In a republic the people choose their own leaders. "Publica" means people.

Additional Layer

The Romans often used assassinations as a political tool. Assassinations happen in modern governments with alarming frequency as well. But in stable countries assassinations are never commissioned or performed by the opposition party, but rather by a madman acting alone. How do you think political assassinations affect the stability of a country, and what effect do you think that had on Rome over time?

Fabulous Fact

The Roman senate was instituted in 753 BC, survived the revolution into republic, the fall of the republic, the split into eastern and western empire, the fall of the western empire, and into the reigns of the barbarians in the west and the Byzantines in the east. In all, it lasted some 1500 years.

Go To The Source

You can read for yourself how Roman government was organized from a long dead Roman guy, Polybius, who very kindly described the government of his day, approximately the second century B.C.

http://www.fordham.ed u/HALSALL/ANCIENT/ polybius6.asp

Its not difficult or very long, so give it a shot.

On the Web

Visit

http://www.schoolsliaiso n.org.uk/kids/access/ro me/print_rome.htm

for fun activities including a printable "dress the roman soldier" activity. You can also color the Roman soldier on the coloring page in the printables section of this unit.

OUTPOUR SERVICE SERVI

As you discuss the Roman government, sketch each person or group of people and write down what their role is and some information about their job.

From 500 BC to nearly 1500 AD, for two thousand years, Roman government had more or less the same system, with only a few changes.

When the Roman Republic was established, the people in charge were two men called consuls. Women were not allowed to be consuls. The consuls were in charge of the army, the laws, and taxes. If either one of the consuls said "veto" (or "I forbid it" in Latin), then nothing would be done.

The consuls were advised by the 300 member senate, also made up of only men. The senators usually served for life, and often the new senators were the sons of current senators.

Prefects were the ones in charge of running the city. They ran the markets, shops, and ports. They also heard court cases.

Tribunes were members of the senate who were supposed to represent the poor and their interests. Tribunes came from the class called plebeians. They were commoners who owned land; some of them were very rich. Some modern scholars speculate that they were naturalized foreigners and not native Romans because this class had to struggle for centuries to have basic rights. For example, plebeians were not allowed to know the laws, but could be punished for disobeying them. Often the consuls actively repressed the power of the tribunes, even physically preventing them from voting and throwing them out of the senate.

The Assembly was a group of men who voted on issues when the consuls asked them to. They helped make decisions on big things like whether or not to go to war. They also elected the consuls and prefects and senators.

As Rome grew the central government had less and less power and more decisions were made locally by provincial governors and by the generals who were expanding the Empire. Rome was really an important proving ground for government by the people, as so many of the ideas they tried were new.

● ● EXPLORATION: Cincinnatus

In 458 BC a poor, old man was out in his fields plowing when an

official delegation of senators from the city of Rome found him and asked him to put on his senatorial toga. The old man was Cincinnatus and he had not always been poor. In fact, the senate had stolen his wealth and lands in retribution for bad behavior on the part of Cincinnatus' son. Cincinnatus had humbly and without complaint retired to a small, poor farm across the river from Rome where he lived life as a subsistence farmer with his wife. But when the senate came that day begging Cincinnatus to serve as dictator in a six month term and save the city from an invading army of Aequi and Sabines, he agreed.

He called his wife, Racilia, to bring him his toga. He put on his toga, left the farm and called for every adult male to join the army. Cincinnatus had body guards, senators fawning over him, and absolute power. The men assembled, Cincinnatus led the people in a double pronged infantry and cavalry attack against the invaders, leading the infantry personally on foot. He utterly defeated the invaders and sent them packing, then returned to the city amidst wild cheering. Sixteen days after he had been called to serve his people he gave up his position and returned to his farm.



Cincinnatus leaves the farm to be dictator of Rome, painting by Juan Antonio Ribera, 1806

In 493 BC he was once again called upon to lead as dictator in order to put down a conspiracy of one Spurius Maelius, who wished to become king. Once again, the moment the task was completed, he gave up his power freely and went back to his farm.

Additional Layer

The cities of Cincinnati, Ohio, USA; Cincinnatus, New York, USA; and Cincinnato, Lazio, Italy are all named in honor of Cincinnatus.

Additional Layer

The fasces is a common symbol of government in the United States and France to name two. It also has been used to represent totalitarian dictatorships, especially Benito Mussolini's Fascist state in Italy during the 20th century, from which Mussolini got the name fascism.



If you look closely you can see the fasces on the arms of Lincoln's chair above, but no axe.



And here it is on the Colorado state seal.

Additional Layer

George Washington has been called the American Cincinnatus because he too gave up his power freely when his task was done and, as Cincinnatus, he did so on more than one occasion.

When told by an American citizen that after the war Washington would return to his farm, King George III responded "If he does that he will be the greatest man in the world!"

Additional Layer

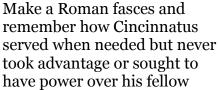
Here is a map of roads that led from Rome in Italy, but Roman roads could be found from Persia to Britain to North Africa to Portugal.



The Via Apia is the bright red road leading south to the Greek colonies. It is no mistake that this was the first of the roads built. During his lifetime he was honored and revered for his selfless service to his country and for his humility in turning down absolute power of his own free will. Later, when he was a very old man indeed, one of his sons got into trouble with the military. The lawyer serving as council for this son of Cincinnatus merely asked the jury which of them would go tell Cincinnatus the news if his son were convicted. The young man was acquitted.

When Cincinnatus was given absolute power he would have been given the symbol of his power, a fasces, or bundle of sticks tied together with a red ribbon and the blade of an ax protruding. The

bundle represented power and authority in the ancient Roman Republic. The sticks, traditionally birch rods, represented power and legal jurisdiction, and also strength through unity. The ax blade represented the power of life and death, or in other words, the death penalty. It was all this power that Cincinnatus freely gave up, though he did not legally have to. Due to his popularity he could probably have been made king, but would not.





citizens or destroy their freedom. Use a bundle of sticks tied with a red ribbon. Add an "axe head" made from cardboard and painted metallic. Or make a mini version from straws and craft foam.

© EXPLORATION: All Roads Lead To Rome

The Roman road system was pivotal to their society. Begun in 312 BC with the Apia Way, the roads made it possible for Romans to move armies, trade, and communicate. Later the vast network of roads also made it possible for their enemies, the Barbarians, to invade. Many of their roads were even paved; over 50,000 miles of them, in fact. The roads were made using broken stone, cement, sand, and broken tiles. What are our roads made from today?

The Romans also divided their roads by milestones. Each Roman mile was a thousand paces, or 4,841 feet. The milestones were literal stones that had carvings on them with inscriptions detailing the number of mile and other information about the road. Once the milestones were in place, historians started to refer to them as the locations where recorded events occurred.

We still use mile markers today. Visit mile markers on a roadway near you. How can they be useful to us today? Take a notebook and pencil and describe what you see at a specific mile marker. What affect does our road system have on the kind of country we are?

SEXPLORATION: Aqueducts

Aqua = water Duct = to lead



Roman milestone in Portugal.

Additional Layer

Are your kids studying Latin? Check out *The Young Romans* by Rose Williams. It tells the story of real life young Roman children in Latin with parallel English text. It also introduces vocabulary and concepts before each story.

Think About It

When people speak of republics (including the ancient Roman Republic and the republic of the United States of America) they always speak of an experiment, but they never use that phrasing when speaking of other political forms even Marxism, fascism, communism and other 20th century isms. Rome's Republic lasted for about 500 years and America's has lasted for over 200. It isn't republics that are out of the ordinary, but freedom itself.

... So aqueduct means to lead water. Roman aqueducts, the first built in 312 BC, were long stone channels that carried clean water

from the nearby hills into their towns. They had to be built just right, with enough slope that the water would keep running without being stagnant, but not so much that it would flood the towns. You always see pictures of aqueducts as impressive bridges across



wide valleys and a few were, but most aqueducts were tunnels below ground. Rome had several springs and the Tiber River within its walls, but the springs tasted bad and the Tiber was unsafe to drink. The Romans did not invent aqueducts of large water cisterns, but they perfected them and made them into necessary public luxuries.

Roman aqueducts were still in active use well into the early modern period and a few even get partial use today. They were built to last.

Build your own model aqueduct from clay.

Additional Layer

Ever wonder who invented socks? No? It was the Romans, who normally wore sandals. When their soldiers fought in northern climates they needed to keep their tootsies warm so they made socks.

Additional Layer

The city of Bath, England is named after the ancient Roman baths that are still there. Today the baths are a tourist destination, but up until the recent past they were actually used for bathing, at least by the well-to-do. Bath features in several of Jane Austen's novels for example.



Photo by DAVID ILIFF. License: CC-BY-SA 3.0

Additional Layer

Military expenditures in the later century of the Republic became so onerous that in order to pay the debts they had to debase the money, or decrease the actual value of the coins. Today we call that inflation and governments still do it, even though since long before Rome we've seen how the practice brings a nation down.



Take a virtual tour of the Baths of Caracalla at http://www.pbs.org/wgbh/nova/lostempires/roman/day.html

While you're exploring the baths, make notes about some things you find unusual or different than what we have today. What facilities do we have that remind you of a Roman bath?

9 EXPLORATION: Fall of the Republic

Rome fell twice, once when the republic failed and again when the empire failed. Read more about it and see if you can find parallels to today. What should we watch out for? Have a family discussion.

By 287 BC the plebeians had achieved political equality with the patricians, but they didn't get to enjoy it for long. From 287 to about 133 BC the Roman Republic was engaged in continual wars, which meant that because of conscription, the common farmers had to leave their farms for extended periods. By the time they got home their farms were in ruins and they went bankrupt. Destitute former soldiers and their families flooded into Rome and the other great cities looking for work, but there was no work. All these desperate citizens faced with an economy in ruins and high taxes due to the continual wars voted for whoever promised them the most stuff. The people were led into dependence on the government and the government was led into corruption.

In 133 BC Tiberius Gracchus was elected Tribune, and he attempted to enact a law that would limit the amount of property a person could own. The aristocracy who had been buying up all that discounted land were bitterly opposed to the law and it was vetoed by a tribune named Marcus Octavius. Tiberius Gracchus was angry and had Marcus Octavius impeached, essentially saying that any representative who went against what the majority wanted at the moment was no longer a representative. If allowed to stand, this new precedent would destroy the Roman constitution and institute instead a tyranny of the majority. Tiberius' law and impeachment of Marcus stood, but Tiberius was murdered when he next ran for office.

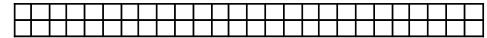
A few years later Tiberius' brother, Gaius, was elected Tribune. His goal was to weaken the power of the senate which had been attempting to destroy the right of the people to due process of the law in order to secure more political power. Gaius outlawed the means by which the senate was doing this and also proposed that allied Italian peoples be given full citizenship as Romans. Gaius was killed as well. Politics continued on in this way with

increasing corruption until a young general named Julius had enough and took the reins of government for himself. In the process he destroyed the republic and the freedom of the people, who had perhaps shown they could not handle freedom.

OUTION : Caesar's Code

Julius Caesar was an extremely skillful and popular general at a time when the senate of Rome was completely corrupt. He was abused and mistrusted by the senate and when they told him to give up his command and return to Rome, basically in disgrace after triumphs upon triumphs, he instead marched to Rome with his troops and took over the government, instituting some much needed reforms by force, but in the process endangering the republic.

Julius Caesar invented a code so he could send secret messages to his troops. It was a shift code. To make your own shift code, write all the letters of the alphabet on 1 line. Under the letters, write them again, but shift them over several letters. Use a shift of 6 as you fill in the key to decode the message I've left for you here: IXUYY ZNK XOBKX



Did you get it? I told you to cross the river. When you are writing one, you look at the top row and write the corresponding letter on the bottom row. When you are deciphering it, you look at the bottom row and then re-write it using the top row's corresponding letters. Write several of your own coded messages.

• • EXPLORATION: All Hail Caesar

Shakespeare's Julius Caesar tells the story of what happens after Caesar dies. His friend, Marc Antony, gives a famous speech all about the greatness of Julius Caesar. Perhaps you've heard it: "Friends, Romans, Countrymen, lend me your ears!" Write your own speech about what should be remembered about Julius Caesar. Practice your speech and then perform it. You can begin with that famous quote.

Beware the Ides of March

Julius Caesar was killed on the Ides (or 15^{th)} of March in 44 BC by his rivals in the senate. They stabbed him to death, hoping his demise would bring the Republic back; instead it brought civil war and a complete demise of the republic.

Famous Folks

During the last days of the Roman Republic, there seemed little hope that the people could actually govern themselves, but one man at least still believed that the republic and freedom were worth dying for. His name was Cicero. He was a Roman consul, statesman, orator, and lawyer. He opposed the dictatorship of Julius Caesar and advocated a return to republican values. His ideas were foundational to the writings of John Locke, Montesquieu, and David Hume, who were, in turn, the basis for the American Founding Fathers' view of government by, for, and of the people. His most famous work is De Republica in which he argues against Julius Caesar's seizure of power.

GEOGRAPHY: ASIA

Fabulous Fact

It was the Greeks who first decided that Europe, Asia, and Africa were three separate continents. They actually are all connected continuously by land and rest on the same geological plate, the Eurasian plate. Though the borders have shifted a bit in people's minds, we still consider Europe and Asia to be separate continents.

Teaching Tip

Drawing your own map, even if it turns out a bit odd, really helps you cement a place in your mind.

Additional Layer

Anciently the names of Europe, Asia, and Libya (which is what all of Africa was called) came from Greek myths. Asia is the name of a nymph.



Asia is the largest land mass on earth, spanning many thousands of miles and hundreds of unique cultures. Asia stretches from tundra in the north through taiga, grasslands, and

deserts until it reaches the jungle tropics in the south. The vast stretches of land effectively insulated the Chinese culture in the east from the Middle Eastern and European cultures in the west. Asia is bordered on the west by Europe, on the north by the Arctic Sea, on the east by the Pacific Ocean and on the south by the Indian Ocean.



● ● EXPLORATION: Huge Asia Map Project

Make a huge outline map of Asia. Get some large paper, like butcher paper and draw your own outline of Asia really large on the paper using a student atlas as a guide. You may want to pencil in a grid lightly before you begin to help you stay on track. Don't worry if it doesn't come out perfectly. As you work through this geography section, add things to your map as you go. Use lots of illustrations and colors to make it fun. For example, when you learn about Asian animals add a small drawing of the animals in their location in Asia. If you study Asian flags, add them to the margins. Put Asian cities, rivers, and mountains in as you come across them. Include major landmarks, both natural and man made. We've also included an outline map to color at the end of this unit

Solution Solution Solution

Do a poster project about an Asian animal. Include a picture of the animal, whether printed out from the Internet or drawn. Include animal facts such as habitat, food preferences, what their young are called, a life cycle diagram, and anything else interesting you come across. Choose from this list:

> Bactrian camel Bengal tiger Javan rhinoceros

Komodo dragon caracal saimang gibbon

tarsier Siamese fighting fish giant panda giant salamander pig tailed macaque sloth bears clouded leopards pea fowl



👴 😀 😊 EXPLORATION: Religions of Asia

Learn about an Asian religion. The three dominant religions of Asia are Hinduism, Confucian/Taoism, and Islam. Learn about one of these. What are their beliefs? What is the origin of each? Find out where they started and mark them on your Asia map.

● ● EXPLORATION: Asia's Mosts

Here is a list of Asia's "mosts." Use a student atlas to find where these are in Asia and put them on your map:

Highest Mountain: Everest Lowest Elevation: Dead Sea

Easternmost Point: Cape Chelyabinsk

Westernmost Point: Capa Baba

Longest River: Yangtze

Country with the largest population density: Singapore Country with the lowest population density: Mongolia

Country with the largest population: China Largest country in square miles: Russia

Language spoken by the most people: Chinese

Largest city: Shanghai Largest desert: Arabian Largest lake: Caspian Sea Deepest Lake: Lake Baikal

Additional Layer

The only species of horse still living that has never been domesticated lives on the steppes of Mongolia in central Asia. It is called Przewalski's Horse.



Photo by Chinneeb and shared under CC license on Wikimedia.

Additional Layer

Almost all major world religions had their start in Asia, including all the Abrahamic religions: Judaism, Islam, Christianity and Bahá'í.

Find out what an Abrahamic religion is and what Bahá'í beliefs are.



House of worship in Panama.

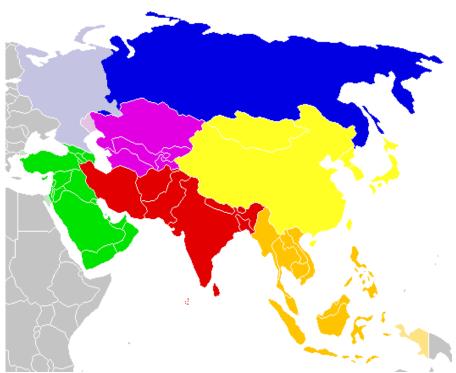
Additional Layer

Much of Asia is emerging economies, which means they're growing very rapidly and modernizing in terms of infrastructure, education, and world financial power.

If you call a large company for help you'll most likely end up talking to someone in India. That's because of a business model called outsourcing. It's cheaper to hire someone from an emerging economy like India than it is to hire someone from a highly developed economy like Canada or the United States, particularly in a low skilled job like answering a telephone. It's beneficial to everyone because the company gets their phones answered at a cut rate price and the employee in India gets a high paying (for their area) job that helps their economy and future opportunities advance even more rapidly. It's free trade at its finest, unless you are the customer trying to understand "John" from Mumbai instruct vou on how to solve your computer issues with a heavy accent.

👴 🕲 😊 EXPLORATION: Regions of Asia

Asia has six major regions: Southwest Asia, South Asia, Southeast Asia, East Asia, Northern Asia, and Central Asia. Label and lightly color these regions on your map.



blue=northern, pink=central, yellow=eastern, orange=southeast, red=southern, green=southwestern

● ● EXPLORATION: Asian Country Hangman

Play Asian country hangman. Pick a different Asian country for each round. Let the kids use a student atlas or map in trying to discover the country name before your man is hung. They will pour over the map of Asia, becoming familiar with country names in the process.

9 EXPLORATION: Karst Hills

Mold the karst hills of China from crispy rice treats. The hills near the River Li are formed from limestone that's weathered away by rain. They end up looking like giant haystacks sticking straight up out of a flat plain. Sometimes they form fantastic shapes. Karst formations can be found all over the world. Look up



Photo by chensiyuan and shared under CC license on Wikimedia.

pictures of the Karst hills near the River Li, and then find out more about how they are formed. And then, of course, eat your karst hill models.

EXPLORATION: The Great Wall of China



The Great Wall of China is one of the most recognizable landmarks in the world. The wall winds up and down across deserts, plateaus, mountains, and grasslands. It covers approximately 5,500 miles from east to west of China. With a history of more than 2,000 years, some of the sections are now in ruins or have disappeared. It was built by many people over a huge span of time, all in various sections which were then joined together as a defense against intruders. Parts of it included steep mountains while parts of the wall were completely manmade.

Build a model of the Great Wall using square tissue boxes as the watchtowers, and shorter, rectangular tissue boxes as the walls between towers. Cover them with construction paper and use crayons to decorate the wall.

Add the Great Wall to your map.

The Taj Mahal is a beautiful mausoleum built in India. When Mughal Emperor Shah Jahan's wife died in childbirth, he built it in honor of her and of their love story. She is buried there, as is Shah Jahan.

It was built by thousands of craftsmen from 1632 to 1653 and is a gorgeous

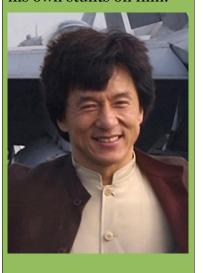


Fabulous Fact

More than 800 native languages are spoken in India, more than 600 in Indonesia.

Famous Folks

Possibly the most famous Asian in the west is Jackie Chan, kung fu artist extraordinaire from China, who does all his own stunts on film.



Free Tibet?

You've probably seen the bumper stickers demanding freedom for Tibet. What's that all about?

In 1951 China took Tibet by force. The Dalai Lama, head of state for Tibet, went into exile and has protested the Chinese occupation of his country. Learn more about this issue.

Famous Folks

Asia has towering skyscrapers in world financial centers and also billions of poverty stricken souls. One of the most famous people of Asia was not born there, but served, one by one, the poorest of the poor in the land of India. She was Mother Theresa. a Catholic nun who dedicated her life to serving and loving. Learn more about her and her mission.



"What can we do to promote world peace? Go home and love your family."

-Mother Theresa

Teaching Tip

Part of the subject of geography is current events, which involves understanding other cultures, other governments, and political and social events happening around the world in recent and present times. Current events is not just about following the headlines.

representation of Muslim art and architecture. It is most known for its huge onion-shaped dome and symmetrical minarets, or prayer towers, that surround it.

Put together the model Tah Mahal using the template at the end of this unit. Add the Taj Mahal to your Asia map.

Output Output Ou

Mt. Fuji, Mt. Ararat, Mt. Everest, and Mt. Kailash are all famous mountains in Asia. Mt. Fuji is a symbol of Japan and represents beauty and harmony. Mt. Ararat is the location where Noah's ark landed after the flood according to the Bible. Mt. Everest is the highest mountain on the earth, and so, is a popular, though dangerous, climb. Mt. Kailash is a Hindu holy peak in Tibet. Find each of these famous peaks and add them to your Asia map.



Mt. Fuji, Japan

OUTER STATE OF ASIA OUTER STATE OF ASIA OUTER STATE OF ASIA

You can sing the countries of Asia (minus the Middle East) to the tune of "It's Raining, It's Pouring." Repeat the song 3 times to get all the countries in.

Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan, Afghanistan, Pakistan, India, Nepal, Bhutan.

Bangladesh, Myanmar, Thailand, Laos, Vietnam, Cambodia, Malaysia, Singapore, Indonesia.

Brunei, Philippines, China, Mongolia, Russia, North Korea, South Korea, Taiwan, and Japan.

• BEXPLORATION: The Forbidden City

The Forbidden City is one of the neatest landmarks within Asia. It is a city within the city of Beijing. Made up of over 900 buildings, it was the Imperial Palace of China for nearly 500 years. Now it is a museum full of Chinese artifacts and amazing architecture. Color the Forbidden City coloring page from the end of this unit.



Play this game from Asia that is similar to Rock, Paper, Scissors. You can play with 2 or more people. Here are the rules:

Each player hits their fist on the palm of their other hand while saying "Bird, Rock, Pistol, Plank, Water," then on the next hit, makes a sign. The signs are:

- Bird all five fingers bunched together at the fingertips
- Rock clenched fist
- Pistol outstretched thumb and index finger
- Plank palm facing down with fingers together
- Water palm facing up with fingers together

Here is a list of which sign defeats the others:

- Bird beats plank and water
- Rock beats bird, plank, & water
- Pistol beats everything except for water
- Plank beats bird and water
- Water beats everything except bird and plank

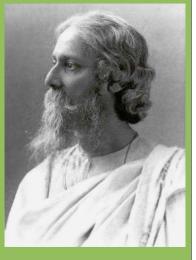
9 EXPLORATION: Hamesh Avanim (5 Stones)

To play this game from Israel you'll need five gold-colored square stones. If you don't have any of those lying around, you can use any 5 pebbles that are smooth and about the same size. How to play:

- 1. Toss the five stones on the ground.
- 2. Select one stone for tossing. Toss it in the air, pick up one stone with your other hand, and catch the tossed stone on the back of your hand. Continue until you have picked up all stones.
- 3. Repeat steps 1-2, only this time pick up two stones at a time. Repeat this picking up 3 and then 4 stones at one time. How far can you get?

Famous Folks

Rabindranath Tagore was the first Asian to win the Nobel Prize in 1913. He was a writer and poet from Bengal in India.



The Asian Century

In the 19th century the British dominated the world. In the 20th century it was the Americans. In the 21st many think it will be Asia because of their leaps and bounds economically and because of their massive population.

Fabulous Fact

The land area of Asia is larger than the land area of the moon. Asia is about 17,212,000 square miles and the moon is 14,658,000 square miles.

SCIENCE: TREES

Additional Layer

Trees, because of their size and beauty, have often taken on mythic proportions. Take the Yggdrasil, or the Tree of the World, from Norse mythology.

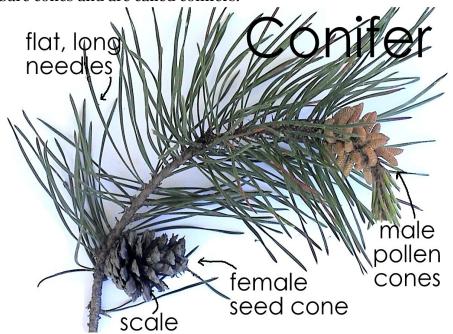


The Yggdrasil is an immense ash whose branches extend up into the heavens and its roots delve down into sacred waters. The tree spans the nine worlds and is the meeting place of the gods.

Additional Layer

Make bark or leaf rubbings for a fun and easy art project. You can identify the trees and place the labeled rubbings in a nature notebook. Turn the rubbings into the cover of a journal or frame them and put them on your wall.

Trees are tall woody plants with a single stem. There are flowering trees and non-flowering trees. Non-flowering trees bare cones and are called conifers.



Conifers have male and female cones, sometimes on the same tree and sometimes on different trees. The male cone is soft and yellow and grows at the ends of branches. The female cones are larger and stand upright on the branch until they are mature, when they hang down and ripen, either releasing their seeds or falling from the branch in tact. Conifers pollinate through wind power. On windy days the pollen is swept from the male cones and drifted across the sky, falling on the upturned female cones. Conifers also have needles or scales instead of broad leaves.

All plants use a transport system to move water and nutrients around, but in trees it reaches giant proportions and is an engineering marvel. How does a tall tree pull water up from its roots clear to the top leaves without a pump? Transport uses two methods: evaporation of water and osmosis. When water evaporates from the leaves it pulls more water up through the stem because water molecules are attracted to each other and to the sides of the vessel they are in. Osmosis means that molecules move from areas of high concentration to areas of low concentration. So if nutrients are being used up in one area of a plant, then more will automatically move in to fill that void.

👴 🕲 🖰 EXPEDITION: Plant a Tree . . . Or Ten.

Visit the Arbor Day Foundation online www.arborday.org. If you join they will send you ten free trees to plant. Around Arbor Day there are tree planting activities and projects in nearly every community. The national date of Arbor Day is the last Friday in May, but the date in your state will depend on the best planting time for trees in your climate. Search online to find the exact date.

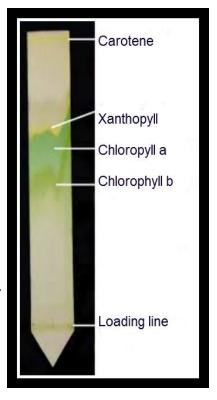
Observe transport in plants. You need a celery stalk, a glass, some water, and food coloring. Place a celery stalk in a glass of colored water. Cover the glass with plastic wrap, leaving a small hole for the celery to come through. Mark the height of the water with a piece of tape or a wax crayon. Leave it overnight.

You will see that the celery leaves have turned the color of the water. If you pick up the celery stem and look at the bottom, you can see circles where the colored water stained certain parts of the stem more than others. The stained areas are the vascular bundles where the water rose through the plant. Now check the water level. Has it gone down? Leave it for a few more days and keep an eye on the water level. Keep the glass covered with plastic so you know you're not losing water through evaporation.

• • EXPERIMENT: The Colors of a Leaf

See all the colors of a leaf.
Deciduous trees change colors in
the fall from green to red, orange,
yellow, and brown. The fall colors
are always in the leaves but during
the growing season the colors are
masked by the green chlorophyll.
You can see this by doing a simple
experiment.

- Gather several leaves from deciduous trees, you can use all the same type of tree, or several different types.
- 2. Chop the leaves into tiny bits with a food processor or a knife.
- 3. Put the chopped leaves in a glass beaker or container.
- 4. Then cover the leaves with isopropyl rubbing alcohol.
- 5. Let it sit overnight.



Special Roots

Most trees have a root system that is completely hidden underground, but a few like the Banyan tree have pillar roots that descend from upper branches down into the earth, growing into huge pillars.



Other trees like the kapok have buttress roots, that start halfway up the trunk and angle down toward the ground, making a sturdy base.



Additional Layer

Under the soil trees depend on fungus. The fungus provides certain nutrients like phosphorus and in return, the fungus gets some of the energy the tree had produced through photosynthesis. This type of relationship between living things is called mutualistic.

Additional Layer

Humans use trees for timber to build houses, food, fuel, furniture, paper, beauty, wind breaks, sound reduction, medicine and about a thousand other things.

What do you use trees for? Take a tour of your house and look for places wood is used.

Read *The Giving Tree* by Shel Silverstein. What uses was that tree put to?

Fabulous Fact

Most trees go through a dormant period. In cold places this is winter. In tropical places they go dormant during the dry season.

Additional Layer

Forests, including the plants and soils, store about 40% of the carbon in the biosphere, or living sphere of the Earth.

Only about .04% of the atmosphere is carbon dioxide, depending on the season and the location. Of that .04%, only about 3.3% is caused by human activities.

- 6. Cut a coffee filter into a one inch wide strip as long as the diameter of the filter.
- 7. Set one end of the paper into the alcohol and fold the other end over the rim of the glass container to keep it in place.
- 8. Moisture will creep up the filter paper, leaving strips of color behind as different colors rise to different levels. You can see all the colors present in the leaves.

• EXPLORATION: Layers of a Tree

Make a model of the layers of a tree. Tree trunks grow in layers in this order from inside to outside:

- 1. Heartwood, in the center, is the dead structural layer of the tree. The heartwood will not rot as long as it is protected by the outer layers of a living tree. The heartwood gives the tree the strength to grow tall. Represent it with a toilet paper tube.
- 2. Sapwood is the next layer. New transport cells that take water all



- over the tree are formed here every year. When they die they become heartwood. Represent this layer with corrugated cardboard wrapped around your heartwood.
- 3. Cambium is the area with growth cells of the tree. If this layer is damaged all the way around a tree, it will die. This sometimes happens when voles or mice girdle a tree in the winter time. Use green construction paper to represent this layer.
- 4. Inner bark comes next. It is formed by the cambium and is the layer that contains phloem cells and moves nutrients from the leaves all over the tree. Represent this layer with light brown or white construction paper.
- 5. Outer bark is made up of dead inner bark cells and its purpose is to protect the tree. Represent this layer with dark brown construction paper.

● ● EXPLORATION: Conifers

Learn about the leaf features that make conifers unique. Here are questions you can ask yourself about the tree to differentiate it from other conifers.

- •Does it have scales or needles?
- •How long are the needles?
- Are the needles arranged alternately on the branch or oppositely?
- •Are the needles flat, round, or triangular?
- •Are the needles single or grouped in twos or threes?

Additional Layer

Dragon trees are extremely long lived, as in thousands of years, and slow growing plants.

Look up the legend of the Dragon Tree.



This cedar tree has short scales, arranged alternately on the branch.



This tree has short, flat, single needles arranged oppositely on the branch.

The tree pictured at the beginning of this unit has long, flat needles grouped in twos and arranged alternately on the branch.

Go outside and find several different types of conifers. Examine the differences and similarities between their leaves. If you don't live in a place with conifers, find pictures online to examine.

• • EXPLORATION: Tree ID

Learn to identify trees. The Arbor Day Foundation has an excellent guide you can print and access here: www.arborday.org/kids/TreemazeFINAL.pdf.

Follow the directions and learn about tree classification as well as some of the species that live near you. There is also an online tree identification guide for any tree. See the other online games and activities from the Arbor Day Foundation.

◉ ❷ ② EXPLORATION: Carbon Cycle

Learn about the carbon cycle. Carbon, like water, is a renewable, naturally recycled resource on Earth. We start following it where it exists as carbon dioxide (CO₂) in the atmosphere. Carbon dioxide is breathed in through the stomata in a plant's leaves and

Additional Layer

The Tree of Tenere was standing in the middle of the Sahara desert over 250 miles from the nearest tree over a well 40 meters deep. All of which makes it hard to explain how a drunk Nigerian man managed to hit and kill it in all that empty wasteland. It had been a landmark for caravans and a sight to behold.

Look up the story to find out more and learn where the tree is now and what stands in its stead today.

Explanation

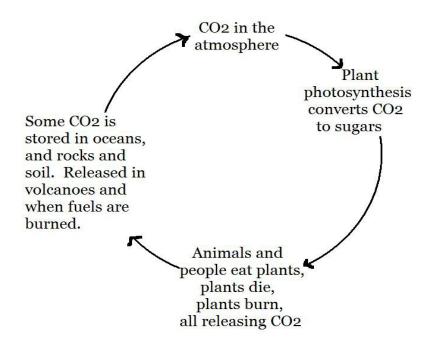
Making sun catchers can seem like a pointless exercise in Mom doing the craft for the kids. You have to cut out the frame for them, help with the design, grate the colored wax and help them arrange it, use the iron for them, and then help them glue it all together. Give it a purpose beyond frustration and messes for Mom.



The purpose of the craft is to bring a bit of fun and to make the science, geography, or history lesson more memorable. So if you are learning about fish, get a how-todraw fish instruction, have the kids draw their own fish on paper, then trace their drawing onto the wax paper with a permanent marker... then make the rest of the sun catcher craft. You can do the same thing with Columbus' ship, or the flag of Mexico, or a frog, or trees, or the sun and so on.

Michelle

used in photosynthesis. The carbon is trapped in the plant material as sugars. People and animals eat plants for the energy in these sugars. The carbon becomes the basic building block of all living things. People and animals breathe back out carbon dioxide as part of our respiration where it returns to the atmosphere. Carbon is also stored in the Earth in rocks and soil and the oceans until it is released through heating or burning into the atmosphere. Here is a basic diagram of the carbon cycle.



Have your kids make an illustrated poster showing the carbon cycle.

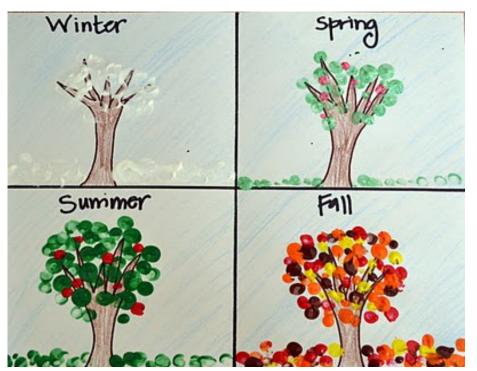
● ● EXPLORATION: State Tree

Every state has an official state tree. Find out what yours is and make a poster of it. Draw a picture of the tree, mark where it can be found on a map of your state, and find out why it was chosen as the state tree. Does it have any economic or agricultural uses? Do animals use it for habitat or food?

© EXPLORATION: Fingerprint Season Trees

I've got a lil' pre-schooler this year who's always aching to get in on the school action with us. She'll sit there for hours listening in on what we're learning about and doing little workbooks, but she REALLY loves it when I plan a special project just for her. While the big kids were learning, she got to finger paint season trees:

All of the black lines were just simple hand drawn outlines I made



ahead of time with a sharpie marker. She got to use all of her little fingerprints and dab them on to the pictures to create the snow and the leaves. Pretty cute, and oh, so easy. The leaves on the mountains outside of our windows are just started to turn all their beautiful fall colors, so the timing couldn't be more perfect!

SEXPLORATION: Tree Distribution Map of Idaho

Certain trees grow in certain places for very good reasons. Try making a species distribution map for Idaho. We'll choose six common species. There are of course many more, but the map gets complicated enough with just six.

You can talk about how certain species thrive under certain circumstances where others will not. For example, in most of North Idaho the Ponderosa Pines are all old trees. You rarely see a young Ponderosa because the seedlings require fire to break the seeds open and allow the next



Ponderosa Pine, shared under CC license by Walter Siegmund

generation to sprout. But for decades Idaho practiced total suppression of wildfires.

Additional Layer

Tree rings really do tell you how old a tree is and what weather conditions were like during a particular year. Find out how historians use tree rings to learn about weather patterns and disasters of the past.

Tree Expert

Arborists are tree experts who can diagnose tree diseases, remove limbs or entire trees, determine which trees should be planted where, and generally care for trees. They usually work in urban settings like parks, yards, and public places.

Writer's Workshop

Trees make people feel good. Imagine Central Park without trees. Imagine a city without trees. Think about how a lone tree in the middle of a vast prairie makes you feel, or a line of trees along a stream in the desert. Write a poem about a tree. It doesn't have to follow any pattern, just write how vou feel about a particular tree using a few descriptive words.

Additional Layer

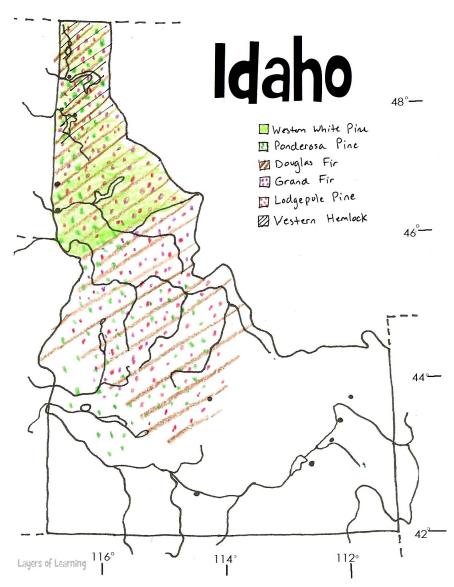
Carbon dioxide is considered a greenhouse gas. A greenhouse gas is one that traps the Sun's heat in the atmosphere.

Greenhouse gases are a natural part of the atmosphere and vital for life here on Earth, but many people think that there are too many greenhouse gases because of human industrial and farming activities over the last couple of centuries.

Besides carbon dioxide, some other greenhouse gases include water vapor (95% of all greenhouse gases, virtually none of which is caused by human activities), methane gas (.360% of greenhouse gases), nitrous oxide (.950% of greenhouse gases) and CFC's (.072% of greenhouse gases, all of which is caused by human activities).

Carbon accounts for about 3.618% of the greenhouse gases.

Learn more about both sides of the global warming debate. You will find tons of information from both sides on the web. Look up each species and find out details that make it live where it does. Look at a physical map of Idaho and see what the land is like where these trees grow. How much rainfall a species needs, what elevation it thrives in, and so on.



Use the Idaho map at the end of this unit or you can print it off from http://www.layers-of-learning.com/idaho-tree-distribution/.

With a little research you can make a tree distribution map of your own state.

THE ARTS: ROMAN ART

We have an amazing amount of art from the Romans. We can see their pottery, their fresco paintings, mosaics, coins, sculptures, weapons, plaques, masks, jewelry, and buildings. Because of the strength of their empire and military, they enjoyed enough peace and security to create all kinds of artwork.

The Romans borrowed a great deal from the peoples around them, especially the Greeks. We can see Greek influences in much of their art



and especially in their architecture. Beyond just influences, there is a lot of Roman art that is copied exactly from the Greeks. They made replicas of Greek art, which they obviously admired. They also borrowed from the Etruscans, the Egyptians, and others. Roman art is really a combination of all these styles that they admired. Later Renaissance artists would copy and expand on the classical art from the Greeks and Romans.

⊙ ⊕ EXPLORATION: Dig it Up

We've found a lot of evidence of the Romans and learned what their lives were like from artifacts. We can still see (and even use) Roman buildings. We have lots of their art, tools, and other things. Go visit the BBC's website on Rome and click on the *Dig it Up* game. You'll get to be an archaeologist and put together the clues from your dig to learn more about the Romans. While you're there you can explore more about the Romans on the website: http://www.bbc.co.uk/schools/primaryhistory/romans/

⊙ ⊕ EXPLORATION: Pompeii

Pompeii was a Roman town situated near Mt. Vesuvius. When Mt. Vesuvius erupted unexpectedly, the town was quickly covered by layers of ash and then lava. The buildings, the people – everything was covered by the volcano. Only the tops of the buildings could be seen by the time Vesuvius was done. Over the years, the volcano erupted more times and Pompeii became buried deeper and deeper in the ground.

Additional Layer

Pliny wrote about a Roman artist named Peiraikos, "whose artistry is surpassed by only a very few . . . He painted barbershops and shoemakers' stalls, donkeys, vegetables, and such, and for that reason came to be called the 'painter of vulgar subjects'; yet these works are altogether delightful, and they were sold at higher prices than the greatest [paintings] of many other artists."

(Vulgar means common)

What makes art, well, art? Is it real art if it's useful or is art defined by being only for looking at and making high brow judgments of human nature or society?

The Power of Words

Perhaps the greatest of the Roman art can be found not in things, but in words.

Read poetry and plays from these authors:

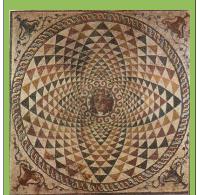
Ovid
Virgil
Horace
Catullus

Writer's Workshop

Imagine you were sitting several miles from Pompeii and watched as the volcano erupted and buried the town. Write a newspaper article about what you witnessed.

Additional Layer

Some Roman mosaics are geometric patterns known as tessellations.



Mathematically minded kids will love to explore with tessellations.

Learn more about tessellations. Use paper, a computer, or pattern blocks to make more complicated designs.

Get printable pattern blocks here: http://www.aug.edu/~lc rawford/Tools/pattern_ blocks.pdf

You can print free pattern block mats for pre-school and up practice:
http://prekinders.com

http://prekinders.com/p attern-blocks/ Eventually it was discovered and dug up by archaeologists.

Because the town had been sealed so quickly, it was preserved incredibly well. There were the remains of people and animals, lots of artwork and buildings, and even eggs that hadn't broken.

Create a shoebox diorama of the city of Pompeii. Show the eruption in the background with the town down below.



OUTPOUR SET OF SET OF

Roman mosaics were made from many tessalae, or small pieces, all put together to form a picture. They were made using natural materials like stone, glass, and ceramics, so their colors were limited to what you find in nature.



Mosaics were found all throughout Roman homes and churches. Often the walls and floors of their buildings were covered with elaborate pictures, geometric patterns, Celtic designs, and mazes.

You can make your own digital Roman mosaic online at this website: http://gwydir.demon.co.uk/jo/mosaic/mkmosaic.htm It's easy to create, save, and print your pictures.

Output Output Ou

We made our own Roman mosaics out of construction paper. I had the kids draw a simple design on one sheet, then glue squares of paper in other colors to fill in the design.



● ● EXPLORATION: Mythology in Art

The Romans often included mythological scenes in their artwork. To them, this would have been like us painting a scene from the Bible. Their stories told of their gods and their religion. Read about one of the Roman myths from

http://rome.mrdonn.org/myths.html and paint a picture of the story.

The Romans wore cosmetics along with their fine clothing and jewelry. Paleness was considered attractive, so they powdered their faces, used blush on their cheeks, wore eye make-up, and applied lipstick. Play make-up artist on someone you know and apply their make-up for them. They also made and wore perfume, so you can give your subject a little spritz to smell good when you're finished with the make-up.

9 9 EXPLORATION: Idealism Versus Realism

The Romans made art based on the Greeks, but they still had their own style. For example, the Greeks were famous for their idealistic portrayal of people – they made their subjects look better than in real life. The Romans, though, are know for their realism. Their portraits of people show every blemish and wart. They tried to make the person look exactly what they looked like in real life instead of trying to show the ideal look.

Additional Layer

Geometric patterns and order were important to the Romans. Why do you think geometric patterns, proportion, and spacing are more beautiful to the eye than haphazard design? As you go around your town look for examples of well proportioned design and poor design; notice the details of both. Why does one look beautiful while the other is ugly?

Additional Layer

Besides mosaics, the Romans were known for their architecture. Check out David Macaulay's, City: A Story of Roman Planning and Construction. The drawings are amazing and the text is detailed enough to be interesting, but it avoids crossing over into boring.

No Pain No Gain

Roman women, not unlike women of today, routinely used products they knew to be harmful to their health, like the make-up laced with lead.

As for the men, they generally viewed cosmetics as deceitful since they concealed the true person, but men still went for the pretty faces and the women still wore the powders.

Trajan's Column

Trajan's
Column is an
excellent
example of
how Roman
artwork was
less "artistic"
and more
utilitarian
than the
Greeks. The
column is an
excellent
example of

architecture and relief mosaics with its winding story of the military campaigns in Dacia that reaches from the base to the top. It never would have been built if Trajan hadn't needed a little propaganda though.

Additional Layer

There are elements of Roman culture with us still today. Much of our language is based on Latin. The traditional treatment of women, segregating them into the private sphere of the home, comes from Roman culture. Much of our architecture copies Roman forms (the Romans in turn copied the Greeks). As you learn more about the Romans see if you can spot some more ways our culture has hung onto the old Roman ways.

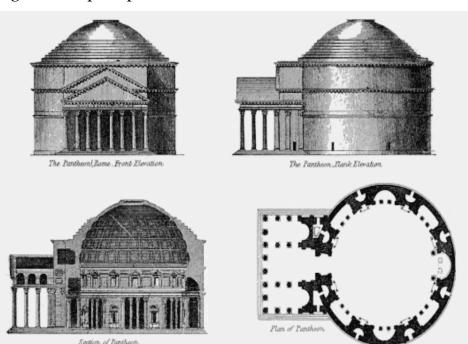
Draw a self-portrait of yourself. Look in the mirror or at a picture of yourself as you go. Make it look as realistic as possible so it looks just like you, moles and all.

• • EXPLORATION: The Pantheon

The Pantheon was a temple designed to honor the whole pantheon of Roman gods. The ceiling is a dome, like the top half of a ball. It sits atop a cylinder. If you were to extrapolate and continue the dome, its dimensions would perfectly touch the floor of the cylinder.

There is also a hole in the ceiling, called the Oculus, which provides both light and air in the building. Good thing, because the walls are so thick that there aren't any windows. The oculus lines up with the equinoxes.

Today it's a Catholic church. People attend mass services and can even be married there. Once a year there is a neat custom that has been kept up over the centuries; they drop rose petals down from the Oculus to celebrate Pentecost. The petals represent the Holy Spirit coming down on the people. Local firemen actually put a ladder truck up there, climb on the roof, and wait for the signal to drop the petals.



Build your own pantheon-style building with toy building blocks. Study these plans of the Pantheon as you go and notice how simple shapes can be put together to make beautiful and complex forms.

SEXPLORATION: The Colosseum

The Colosseum was an amazing building with a horrific purpose. It was constructed for crowds to watch people kill each other as a sport. Gladiators were fighters who fought to the death. They fought animals and also other people, all while the crowd looked on and cheered. It was also a theater for plays and a grand stage for any other entertainment the Roman emperors could think up.



The building itself was impressive. It seated around 50,000 people and was designed with arched vaults and stairways. The corridors and multiple doors (80 entrances)

made it possible for all the spectators to quickly get in and out and move about the building. Underneath the floor there was a series of trapdoors, cells, and passageways. The men who were fighting appeared before the eyes of the spectators right there on the battlefield. There was a huge canvas covering to provide shade as well.

The Colosseum today isn't what it used to be. Much of the building has been destroyed, mostly by earthquakes. Use the coloring page at the end of this unit to "restore" the Colosseum. Finish drawing the walls. You can even show the canopy on top if you'd like to. It was held on by hundreds of masts posted atop the walls with cables connecting the canopy atop the arena.

• EXPEDITION: Visit a Roman Architectural Site

It may not be in your budget to make it to Rome to see the great works of the Romans in person, but there's probably a copy of Roman architecture very near you. Most American capitol buildings are built copying Roman styles. What can we say, it's a classic. Read up on column types, proportion, symmetry, molding styles, arches, and domes, then go visit. Often you can arrange for very worthwhile tours within capitol buildings.

Fabulous Fact

They even held sea battles in the Colosseum! The building could actually be filled with water to host ship battles between gladiators. It was called naumachia.



Detail of a painting by Ulpian Checha, 1894.

Additional Layer

Not all Roman architecture was beautiful and artistic. They also built tract homes like the ones in the Via della Focet development that catered to upper middle class patrons and multi-story fire traps of apartments that catered to the poorer classes. See, nothing's really new. Except maybe mobile homes.



Roman apartment buildings in Ostia, Italy.

Famous Folks



Hadrian
was a
Roman
Emperor.
He paid
to have
many
buildings,

roads, and aqueducts built, like the temple of Zeus at Athens. Besides being an emperor, he was also an architect. He designed the magnificent Pantheon among other things. After he died he was honored as a Roman god by his people.

Concrete was known by earlier people like the Etruscans, but the Romans perfected its composition and use. When Rome fell, the knowledge of concrete did too. It wasn't rediscovered until the 1700's.



This is a Roman mosaic that was once a sign on a public bath. It shows bath slippers and three strigils, or cleaning tools, and reads "A bath is good for you."





• BEXPLORATION: Design a Roman Fibula

The Romans wore fibulae, or brooches, to fasten their cloaks with. You can make your own fibula on card stock. Just draw

and color your design, cut it out, and then secure a safety pin on the back with some tape. Fasten it to a cloak (a sheet will do just fine). Often the Romans had either geometric shaped brooches or outlines of animals.



● ● EXPLORATION: Fresco

Fresco painting is the technique of painting on to wet plaster. The word fresco means fresh, because the painting is being done on fresh plaster. The paint then literally becomes part of the wall as the plaster dries. It has a glowing look that you don't get when you paint on dry plaster. Murals are often made in the fresco style so they can literally become a part of the wall. Typically, we think of the Renaissance when we talk about frescoes, but this painting technique actually goes back into the ancient times. Fresco paintings were popular in ancient Crete, Egypt, Greece, Rome, and India. In ancient Rome there were many people who couldn't afford to put fine finishes like marble into their homes, so they instead had their walls painted with marble looking frescoes— the first faux painting perhaps.

Before frescoes became popular, most buildings were adorned with mosaics. Which of these two do you think would be cheaper? Easier?

Besides faux painting, sometimes painters even made fake windows and arches to make homes look fancier. You could paint a window frame on your fresco painting and put a scene inside it.

To try your own fresco painting, get a foil baking dish, some Plaster of Paris (usually sold at craft stores), paints, and brushes. Mix up a batch of the Plaster of Paris according to the directions on the package, then pour about a half inch to an inch of it into the foil dish. Let it set up for a few minutes until it is damp, but feels somewhat solid (the amount of time it takes depends upon how wet your plaster is...just keep an eye on it.) Once it's solid, paint on the wet surface. Make sure the whole surface is covered with paint from corners to corners.



As the plaster dries, the paint becomes a part of it and the colors are vivid and glowing.

Additional Layers

Giotto and Fra Angelico were two famous fresco painters whose work adorns churches. Find some of their paintings and learn something of the two men.

Also look at one of the most famous frescoes—Michelangelo's work on the Sistine Chapel.



What kinds of paints are usually used in frescoes? Learn more.

Coming up next . . .



ROMAN REPUBLIC – ASIA – TREES – ROMAN ART

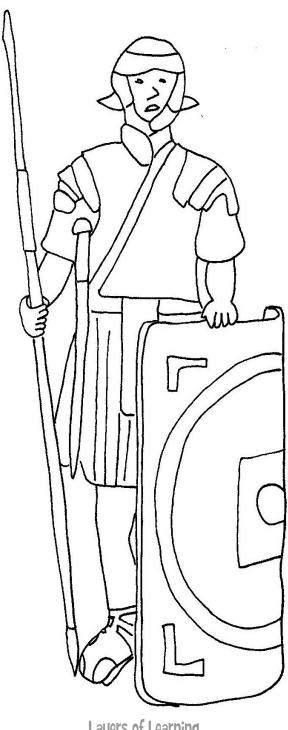
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ROMAN REPUBLIC – ASIA – TREES – ROMAN ART

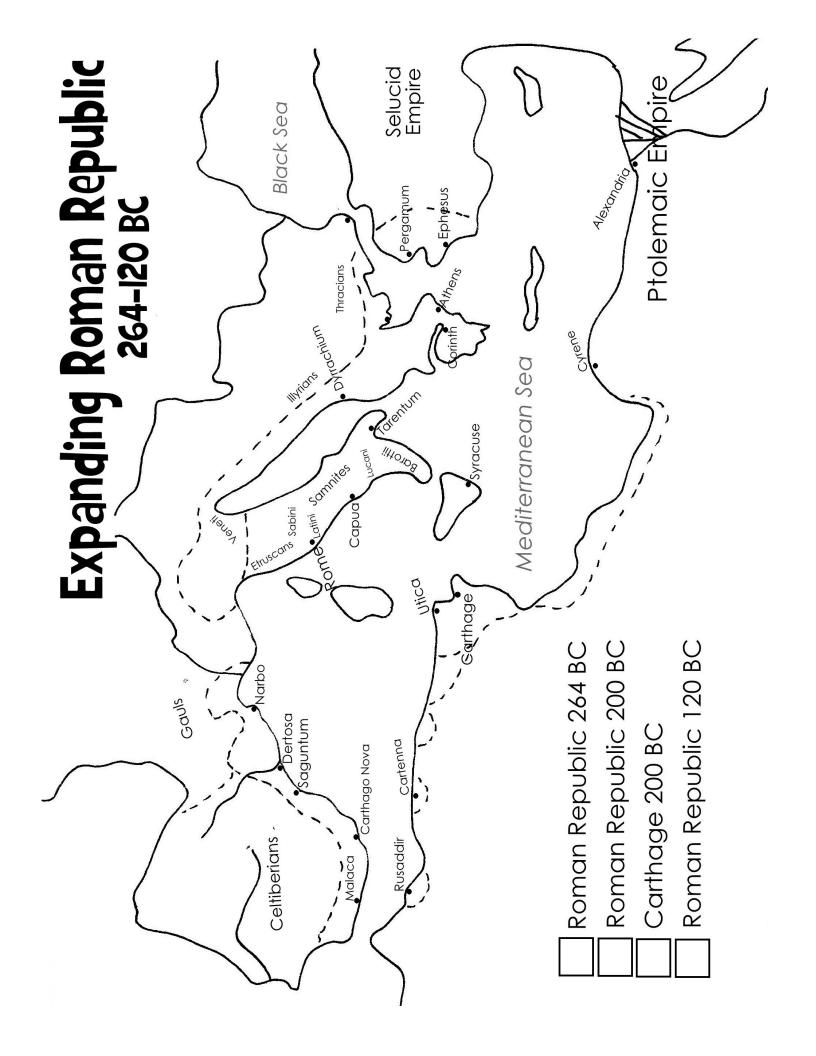
My Ideas For This Unit:		
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Roman Soldier

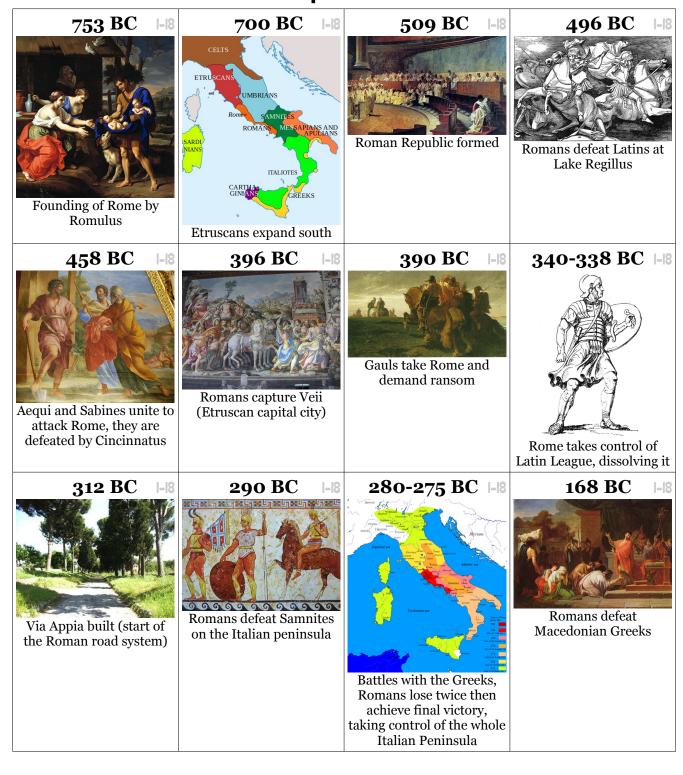
The Romans conquered many countries with their powerful army. The Emperor used the army to protect Rome and to control the people it had conquered. Some soldiers were away from their families for long periods of time. When a soldier had served in the army for 25 years he could become a citizen of Rome.



Layers of Learning



Roman Republic: Unit I-18





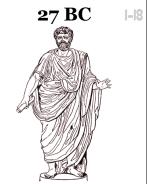
Romans defeat Carthage and Corinth



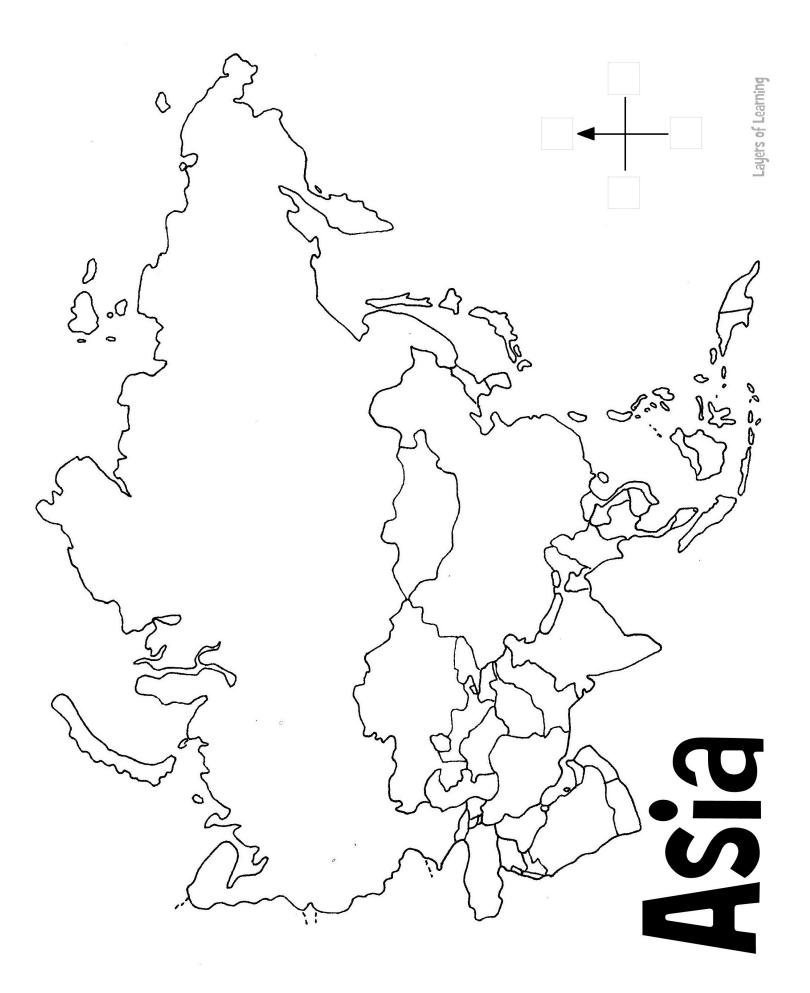
Romans finish takeover of Iberian Peninsula, defeating the last of the nations there



Province of Asia given to Rome by King of Pergamum (in modern Turkey)

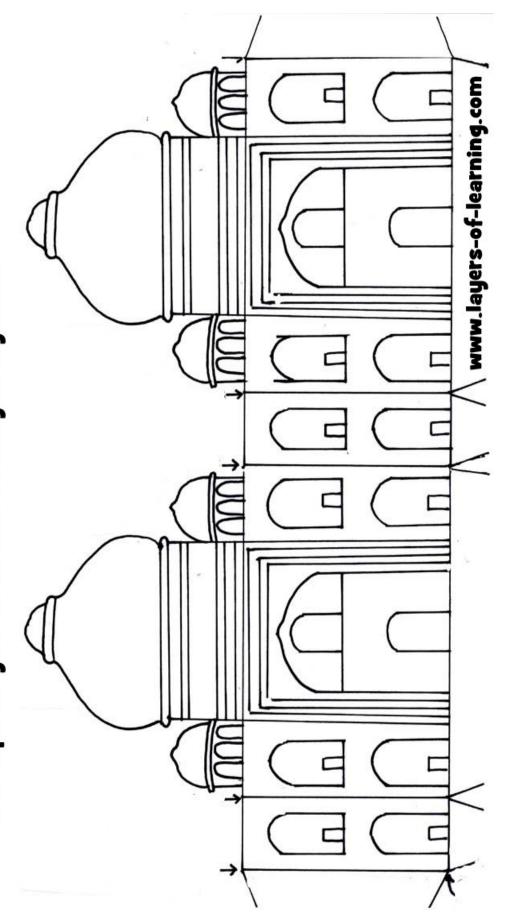


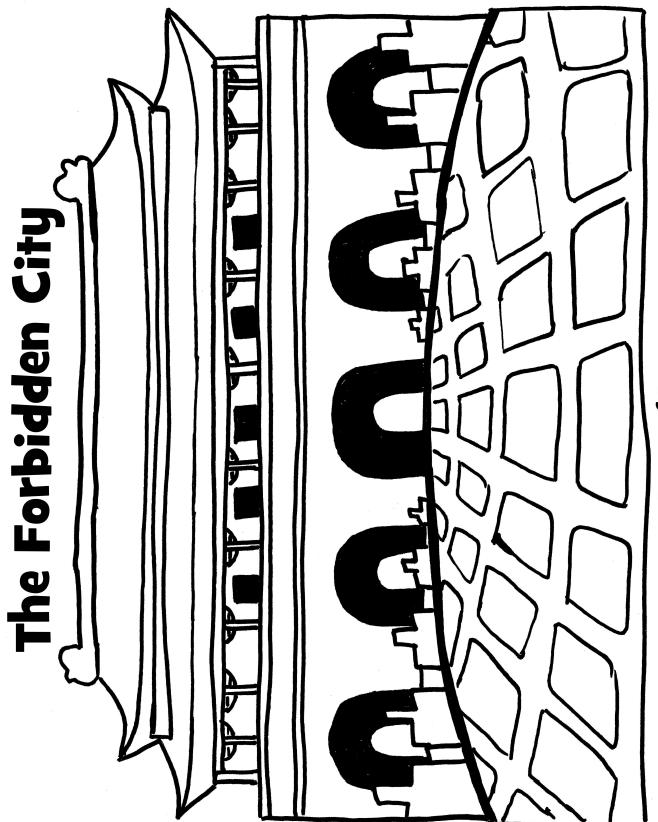
Roman Republic ends when Caesar Augustus expands on his adopted father's power grab and declares himself the first Emperor of Rome



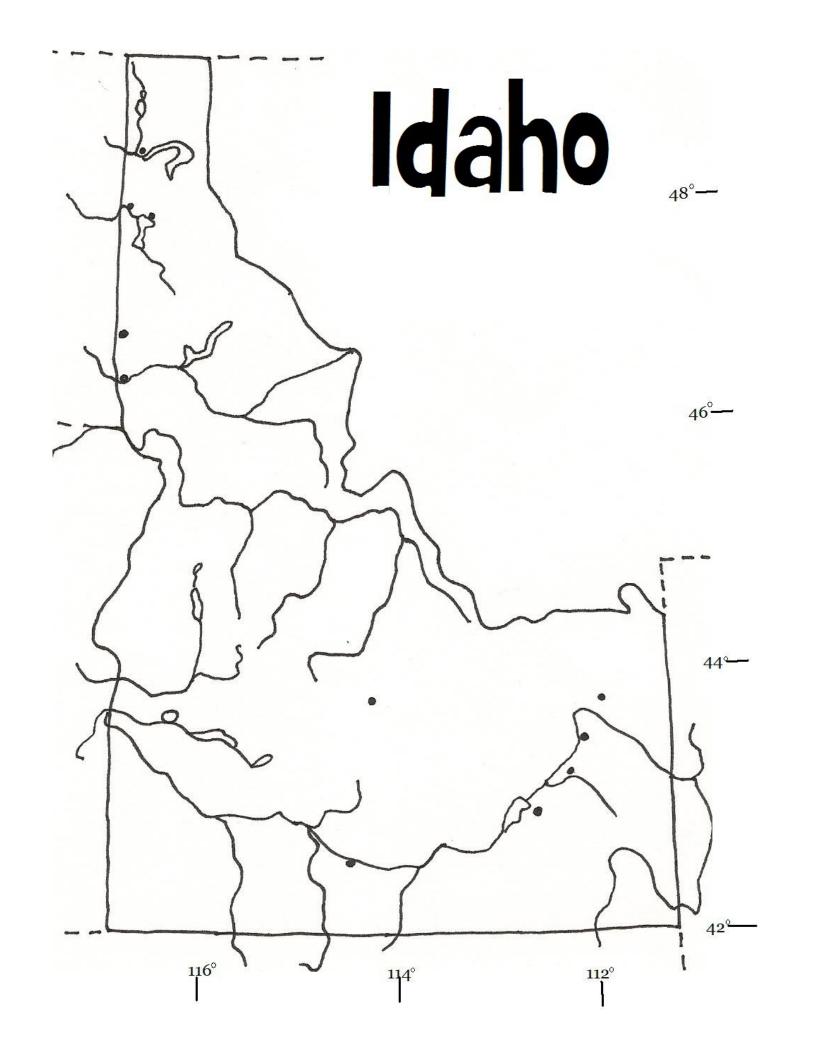
Model of the Taj Mahal

Directions: Print out 2 copies of this page on to cardstock or thick paper. Cut along the outlines, then fold at each arrow. Use tape or glue to fasten the edges together.





www.layers-of-learning.com



The Roman Colosseum

The Colosseum is celebrated as one of the most amazing architectural buildings from Roman society. You can still see it today, but it has been partly destroyed. Can you finish drawing the walls in and restore it to what it once was?



ABOUT THE AUTHORS

Karen & Michelle . . . Mothers, sisters, teachers, women who are passionate about educating kids. We are dedicated to lifelong learning.



Karen, a mother of four, who has homeschooled her kids for more than eight years with her husband, Bob, has a bachelor's degree in child development with an emphasis in education. She lives in Utah where she gardens, teaches piano, and plays an excruciating number of board games with her kids. Karen is our resident Arts expert and English guru {most necessary as Michelle regularly and carelessly mangles the English language and occasionally steps over the bounds of polite society}.

Michelle and her husband, Cameron, homeschooling now for over a decade, teach their six boys on their ten acres in beautiful Idaho country. Michelle earned a bachelor's in biology, making her the resident Science expert, though she is mocked by her friends for being the *Botanist with the Black Thumb of Death*. She also is the go-to for History and Government. She believes in staying up late, hot chocolate, and a no whining policy. We both pitch in on Geography, in case you were wondering, and are on a continual quest for knowledge.

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