



Gupta Achievement Olympics

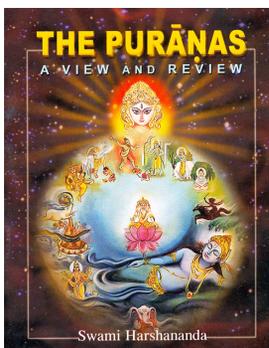
WHY WAS THE GUPTA EMPIRE A GOLDEN AGE IN INDIA'S HISTORY?
WHY DO THEY DESERVE THE GOLD?

EVENT 1 – LITERATURE

Gupta writers created many kinds of literary works. They wrote poetry, fables, and folktales. They also created plays, including both comedies and dramas. Some of the plays were about historical and political subjects. Large audiences gathered to watch the performances.

There were other forms of writing as well. Scholars and lawyers wrote about Hindu law and religion. Some of the great Sanskrit literature took shape during this time. The *Puranas* ("Ancient Lore") was a collection of Hindu legends that taught the lessons of the Vedas, or sacred Hindu texts, through tales of sages and kings. These stories had been passed down orally for generations. The Guptas were the first to gather these stories together and record them. The *Mahabharata* ("Great Work"), a poem composed over hundreds of years, reached its final form during the Gupta era. Its themes relate to Hindu values and the battle between good and evil.

The *Bhagavad Gita* (BAH-guh-vaht GHEE-tuh) is part of the *Mahabharata*. Its name means "Song of the Lord." The *Bhagavad Gita* is one of the most beloved works of Hinduism. In this poem, Prince Arjuna is taught basic truths of Hinduism by Krishna, an earthly form of the deity Vishnu. Some Gupta literature spread beyond India. Gupta sacred texts influenced cultures of countries as far away as Greece and Persia (present-day Iran). The famous Arabian tale about Aladdin and his magic lamp was inspired by a Gupta folktale.



Text from *The Puranas* Preliminaries (The story of Creation)

In the beginning, there was water everywhere and the Brahman slept on this water in the form of Vishnu. Since water is called nara and since ayana means a bed, Vishnu is known as Narayana. In the water there emerged a golden egg. Brahma was born inside this egg. Since he created himself, he is called Svayambhu, born (bhu) by himself (svayam). For one whole year, Brahma lived inside the egg. He then split the egg into two and created heaven and the earth from the two parts of the egg. Skies, directions, time, language and senses were created in both heaven and earth. From the powers of his mind, Brahma gave birth to seven great sages. Their names were Marichi, Atri, Angira, Pulastya, Pulaha, Kratu and Vashishtha. Brahma also created the god Rudra and the sage Sanatkumara.



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EVENT 1 – LITERATURE

Sanskrit was the academic language of the Southeast Asia from 2000 BCE – 600CE. Only about 15,000 people speak it as their mother tongue today.

वथौत् मुसक्लि लफ़ि शल्ल् बे अ मसितके

Without music life shall be a mistake

सैरनित्य् प़ल्य् फ़े
Serenity Fly Free

लोवे ेगिन् अनेव्
Love Begin Anew

लोवे इस इम्मोर्तलतिय

Love is Immortality

अहमस्मि योधः

I am a fighter



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EVENT 2 – ARCHITECTURE

The Gupta Age, being an age of intense religious interests, saw the construction of countless temples and other religious monuments. Majestic temples for various Hindu gods such as Vishnu, Siva, Surya and Kartikeya, as well as splendid shrines for the Buddha, and the Jaina. The Gupta builders constructed wonderful gateways, lofty pillars, and attractive edifices at the holy places and religious centers.

Among the few surviving examples of the Gupta architecture, the famous Dasavatara Temple is considered the best of their stone architecture. The body of the temple is covered with a beautiful sculpture with many figures. The most famous brick temple is at Bhitargaon. The beautiful designs on the body of the temple show the artistic talent of the builders who could mould the bricks in various forms.



Dasavatara Temple of Stone



Bhitargaon Temple of Brick

Exhibit 2.2

Dasavatara Temple in Central India built circa 500 CE



Which Mayan Temple most similar to this Indian Temple?

Which Mayan Temple is most different?

Exhibit 2.3

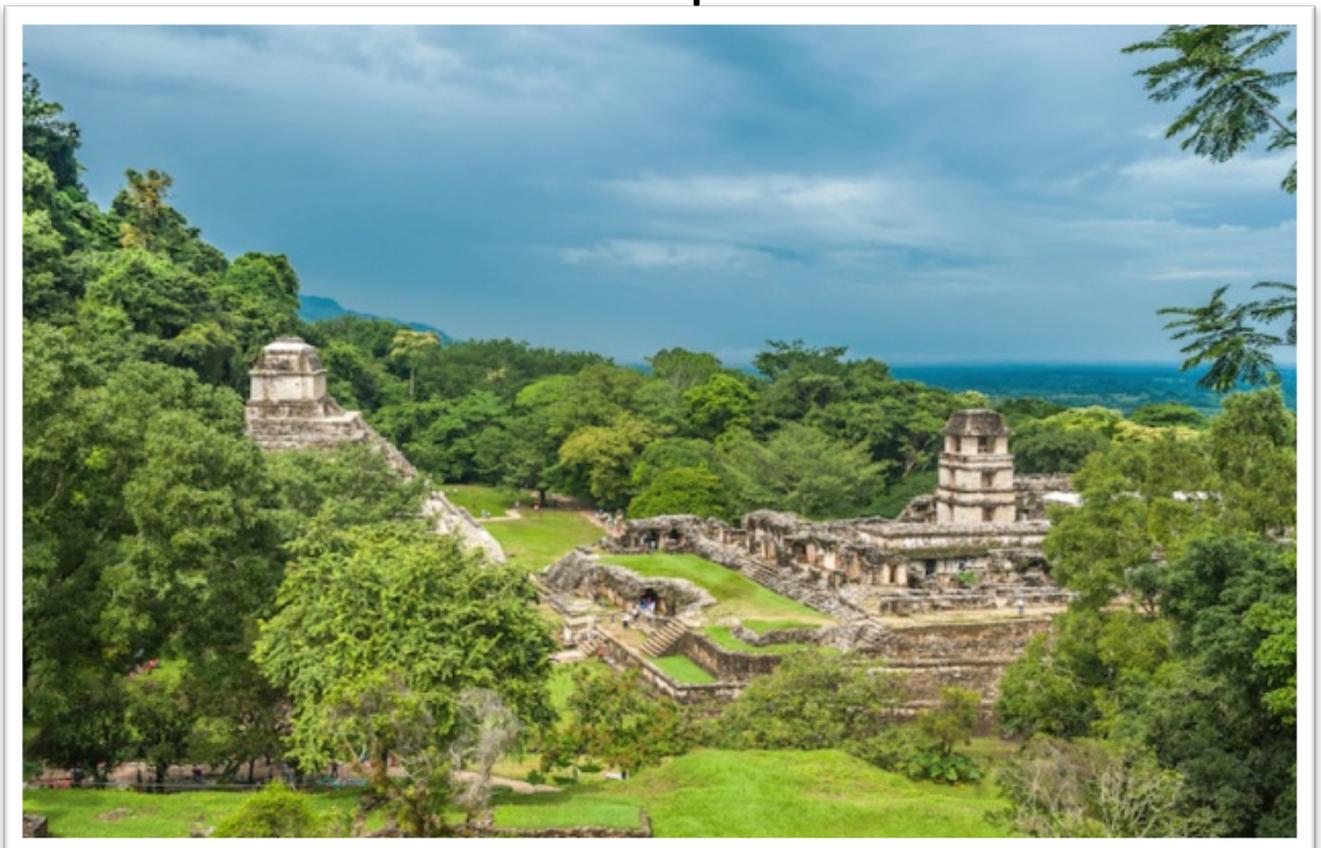
Lamanai



Source: <http://www.touropia.com/ancient-mayan-temples/>

Exhibit 2.4

Palenque



Source: <http://www.touropia.com/ancient-mayan-temples/>

Exhibit 2.5

Tikal



Source: <http://www.touropia.com/ancient-mayan-temples/>

Exhibit 2.6

Chichen Itza 1



Source: <http://www.touropia.com/ancient-mayan-temples/>

Exhibit 2.7

Altun



Source: <http://www.touropia.com/ancient-mayan-temples/>

Exhibit 2.8

Chichen Itza 2



Source: <http://www.touropia.com/ancient-mayan-temples/>



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EVENT 3 – MATHEMATICS

Hindu mathematicians had created a way of writing whole numbers using the numerals 1 through 9. Some Gupta mathematicians made further advances, one of which was developing the decimal system. The decimal system uses ten basic numerals that have different values depending on their "place." In the number 105, for instance, 1 is in the "hundreds place" and means 100. The system also works for fractions. In the decimal 0.10, 1 means one-tenth. Note the zeros in these examples. Hindu mathematicians were the first to treat zero as a number. Many calculations are impossible without the zero.

In later centuries, Arab peoples learned the Indian system of numbers and spread it to Europe. As a result, Europeans called this way of writing numbers "Arabic numerals." A more accurate name would be "Hindu-Arabic numerals," because the system actually originated with the ancient Indians. We still use this system today.

European	0	1	2	3	4	5	6	7	8	9
Arabic-Indic	•	١	٢	٣	٤	٥	٦	٧	٨	٩
Persian / Urdu	•	۱	۲	۳	۴	۵	۶	۷	۸	۹
Devanagari Hindi	०	१	२	३	४	५	६	७	८	९
	०	१	२	३	४	५	६	७	८	९
Gupta (4th cent. AD)	—	=	≡	𑀓	𑀔	𑀕	𑀖	𑀗	𑀘	𑀙
Brahmi (1st cent. AD)	—	=	≡	+	𑀓	𑀔	𑀕	𑀖	𑀗	𑀘



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EVENT 3 – MATHEMATICS

Place Value Card Stacking Game

The cups represent the “place value system.” “Place value” is a counting system. Each place has a certain value and as you move a place to the left, the value increases by times 10. Each cup represents one of that place value.



1. Each person should have a stack of cups with 9-0.



2. Spread the cups out and have your students seated around them.

4. Randomly stack 4 cups in a pyramid.



5. When everyone is stacked and ready to play, count down from 5 and everyone must then collapse the pyramid so they have a stack cups. The first person to read the number the stack makes, wins and gets 2 points. The other players who successfully read their numbers get 1 point each.

6. For the next round, add another cup. Keep adding until you use all 10 cups.

Billions			Millions			Thousands			Ones		
hundred billions	ten billions	billions	hundred millions	ten millions	millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones



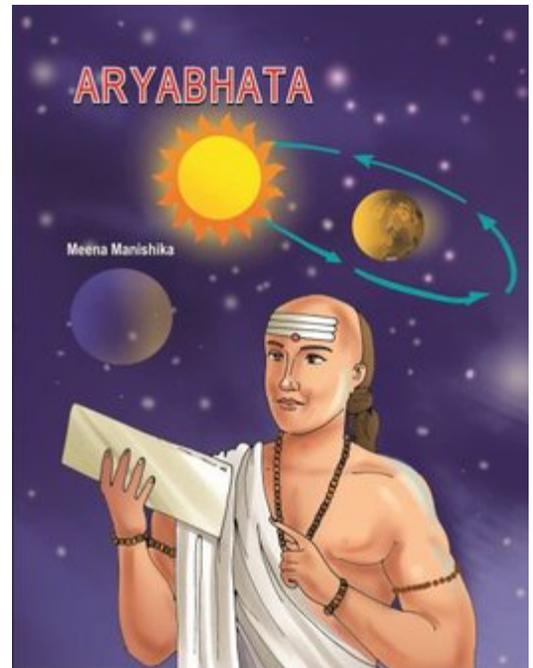
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EVENT 4 – ASTRONOMY

As time progressed, Indian astronomy became more scientific and less spiritual. Beginning in the first century, it seems clear that Indian astronomers recognized that the stars are the same as the Sun, only farther away. Verses mention that the night sky is full of suns, and that when our Sun goes below the horizon, a thousand suns take its place. This is an incredible scientific leap in thought.

One of the most famous Gupta mathematicians was a man named Aryabhata. He combined mathematics and astronomy to make important discoveries. He figured out that a year was exactly 365.258 days long. He calculated the approximate size of Earth. He proposed that planets were spheres. He was one of the earliest scientists to suggest that Earth spins on its **axis**, an imaginary line through Earth's center.



Also, he advanced this heliocentric theory. Many people at this time thought that the Earth was the center of the solar system. Aryabhata correctly determined that the sun was the center of the solar system and that all of the planets went around the sun. He also discussed his idea that the Sun is the source of moonlight. He also studied how to forecast eclipses. His books and others were translated into Latin in the 13th century, and profoundly influenced European mathematicians and astronomers.

Several Indian scientists of the 6th century also were the first to advance the idea of gravity. They noticed that a special force keeps objects stuck to the earth, and hypothesized that the same force might be responsible for holding heavenly bodies in their place. The idea pre-dates Newton's conception of gravity by about 1100 years.



National Science Teacher Association
Video on Moon Phases

<https://www.youtube.com/watch?v=wz01pTvuMa0>



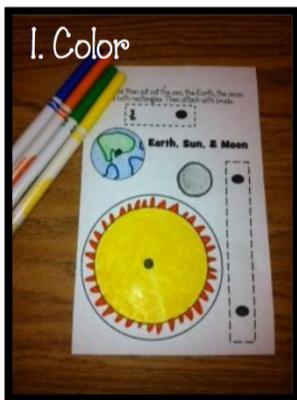


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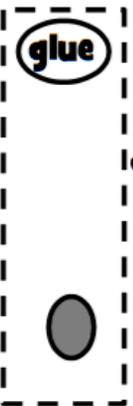
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EVENT 5 – ASTRONOMY

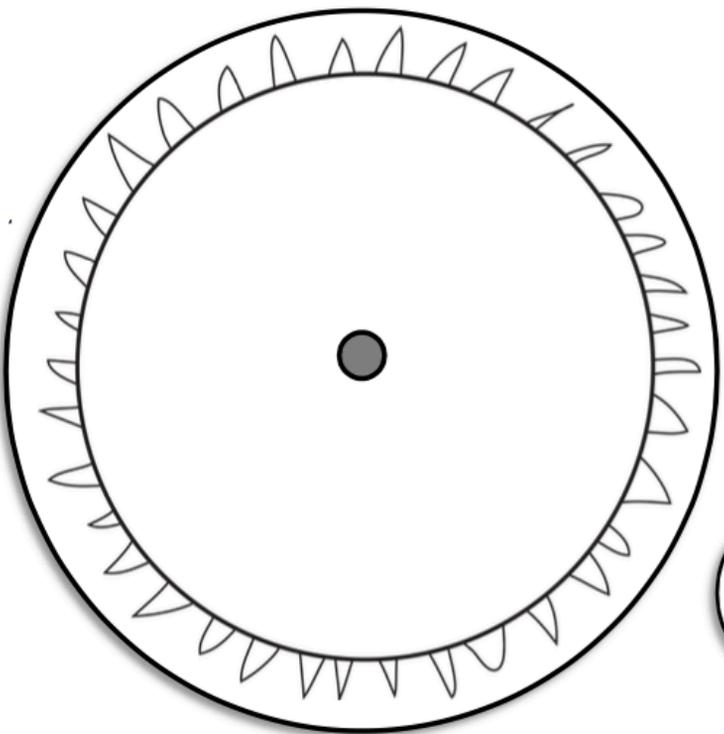
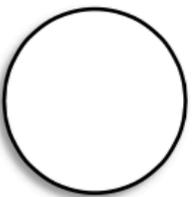
Follow the directions below to make a model of the sun, moon and earth.



Color and then cut out the sun, the Earth, the moon and both rectangles. Then attach with brads.



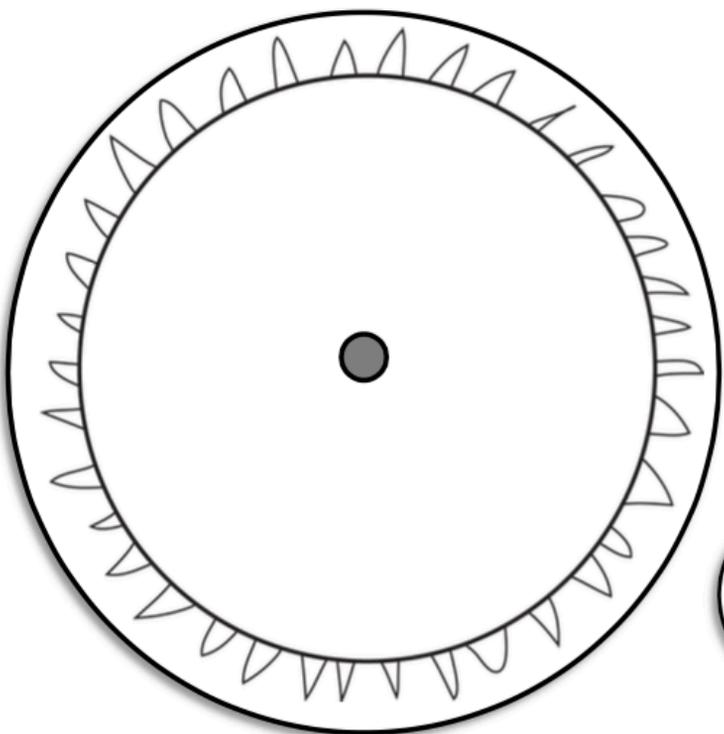
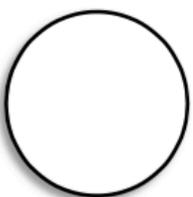
Earth, Sun, & Moon



Color and then cut out the sun, the Earth, the moon and both rectangles. Then attach with brads.



Earth, Sun, & Moon





Gupta Achievement Olympics

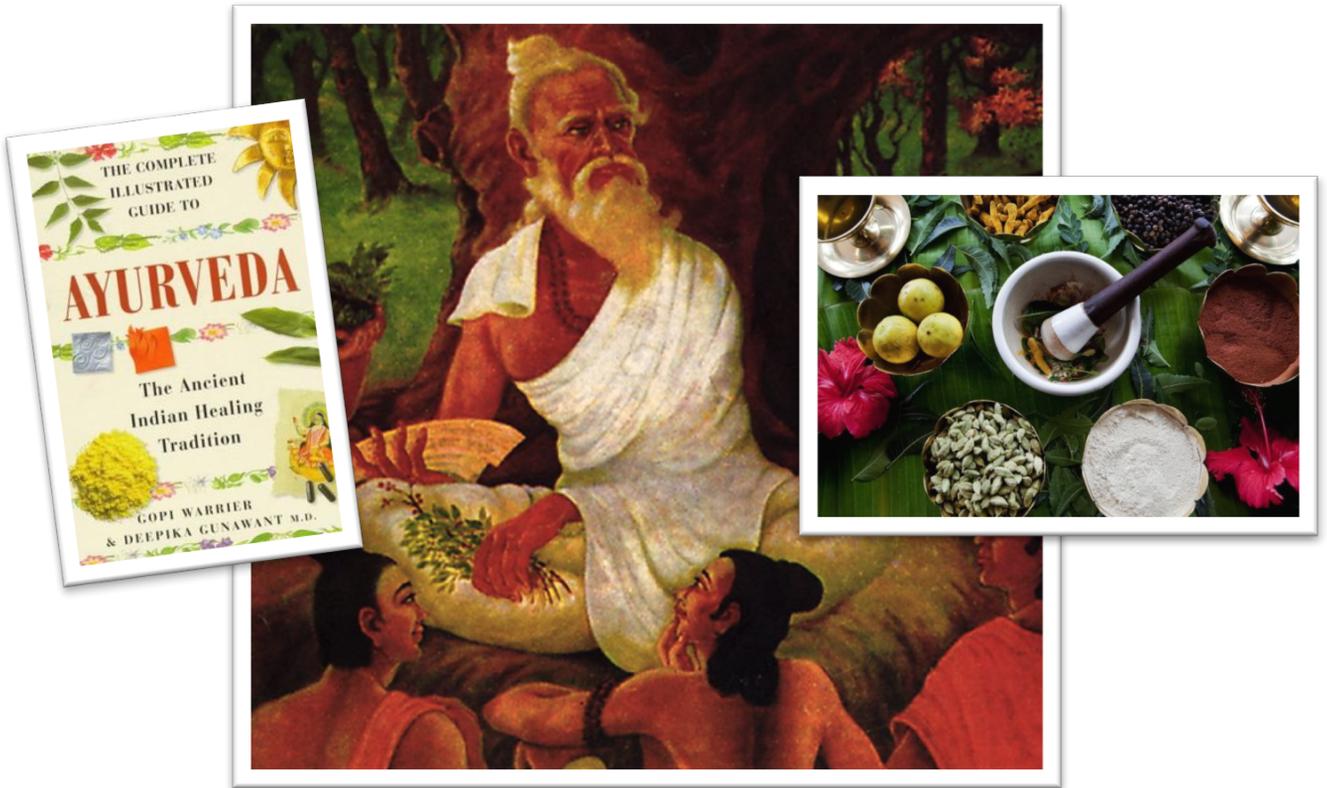
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EVENT 6 – MEDICINE

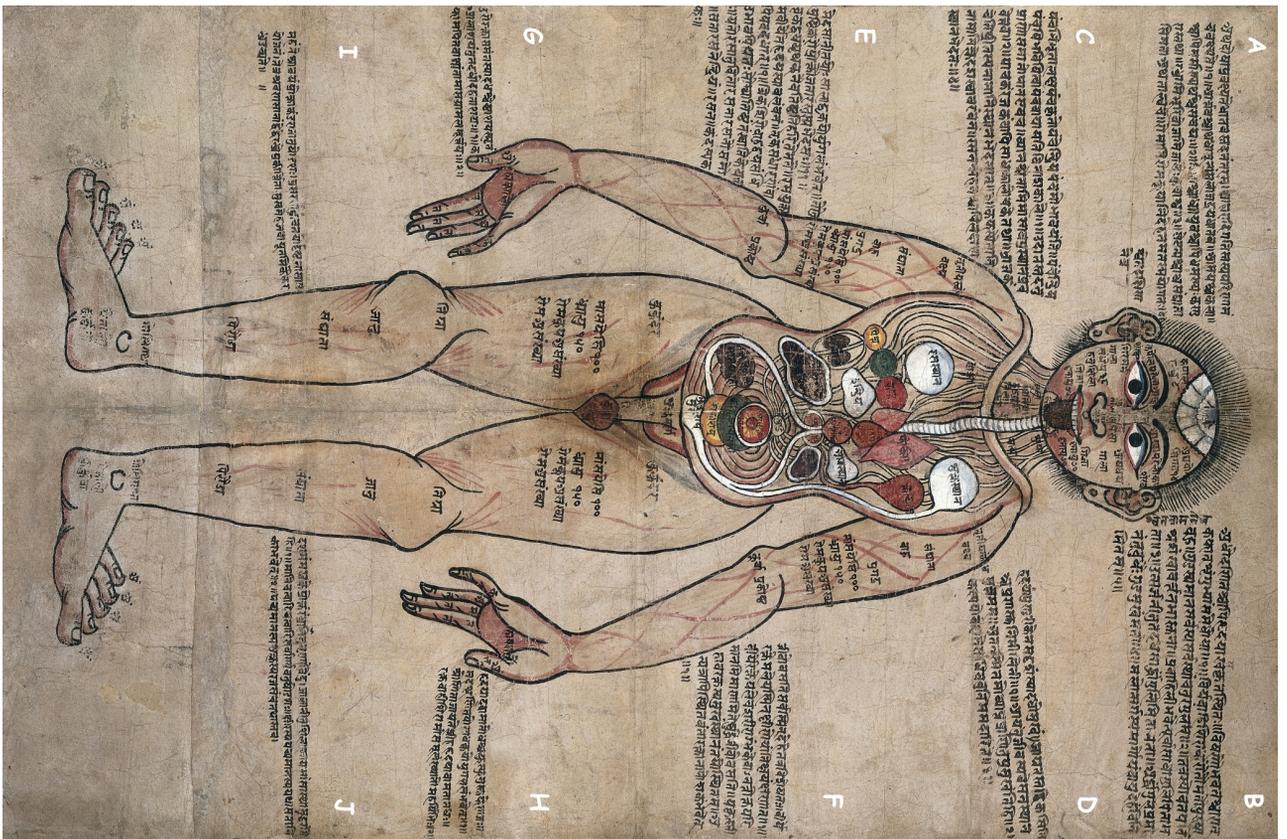
Directions: Examine the clues in Exhibit 6 to hypothesize what kind of achievements the Gupta Empire had in medicine.

Exhibit 6.2



Source: <https://herbsaremedicines.wordpress.com/tag/medicinal-plants/>

Exhibit 6.3



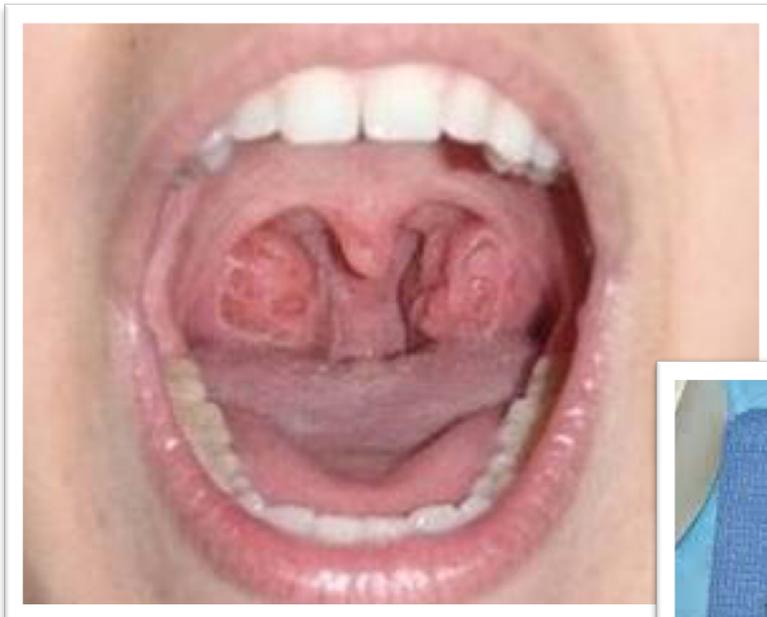
Source: <https://en.wikipedia.org/wiki/Dissection>

Exhibit 6.4



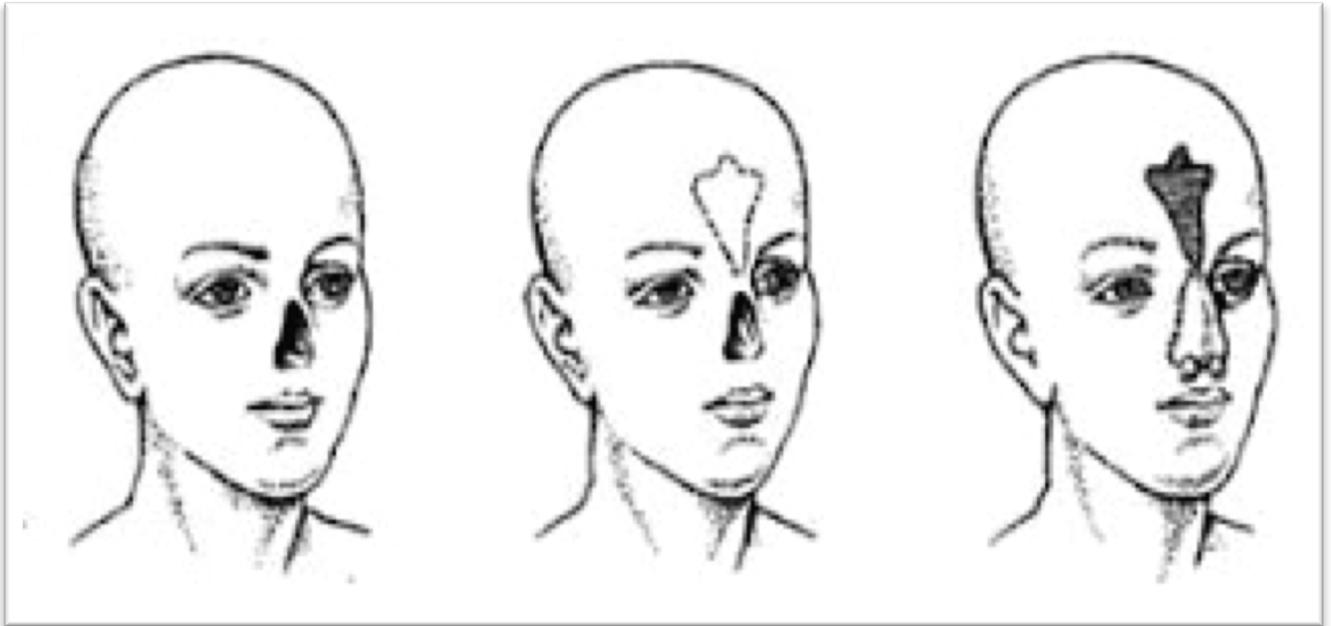
Source: <http://mongolschinaandthesilkroad.blogspot.com/2014/03/ancient-prescriptions-from-tibet.html>

Exhibit 6.5



Source: Healthyhype.com

Exhibit 6.6



Source: <http://clciv-bioethics-life.blogspot.com/2011/03/from-cures-to-causal-reasoning.html>

Exhibit 6.7



Source: <http://www.artisanplasticsurgery.com/before-after/face/earlobe-repair/>



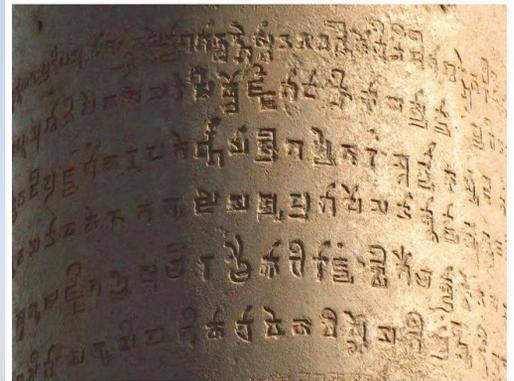
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EVENT 7 – METALLURGY

One remarkable accomplishment of the Gupta Empire was its metalwork. Gupta kings controlled huge mines of gold, copper, and iron. Metalworkers made gold and copper coins. They engraved the coins with pictures honoring Gupta rulers. The coins often highlighted the rulers' wealth and their achievements in art, politics, and war.

Gupta metalworkers were also famous for their ironwork. An iron pillar at a place called Meharauli is one example of these artisans' unusual skill. The pillar is made of solid iron. It stands 25 feet tall and weighs about 13,000 pounds. The sides are engraved with a story that describes the achievements of a Gupta emperor. The iron is nearly rust free after 1,600 years in the rain and sun. No one knows how Gupta ironworkers acquired such advanced metalworking skills.







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EVENT 8 – SCULPTURE

Another art form in the Gupta Empire was sculpture. Sculptors created statues out of stone, wood, bronze, and terra-cotta clay. Many of these statues portrayed the Buddha or Hindu deities. Some sculptures showed scenes from important people's lives. Many sculptures were created to stand on their own foundations. Others were carved into the walls of temples and caves.

The temple statue of the Buddha shown below reflects attention to clean lines and detail. The Buddha sits on a highly decorated seat. His hands and legs are smoothly crossed. His expression is calm and peaceful. The sculptor used lowered eyes and a calm face to portray the Buddha's wisdom. More attention was given to the poses and gesture of the figures.



Source:

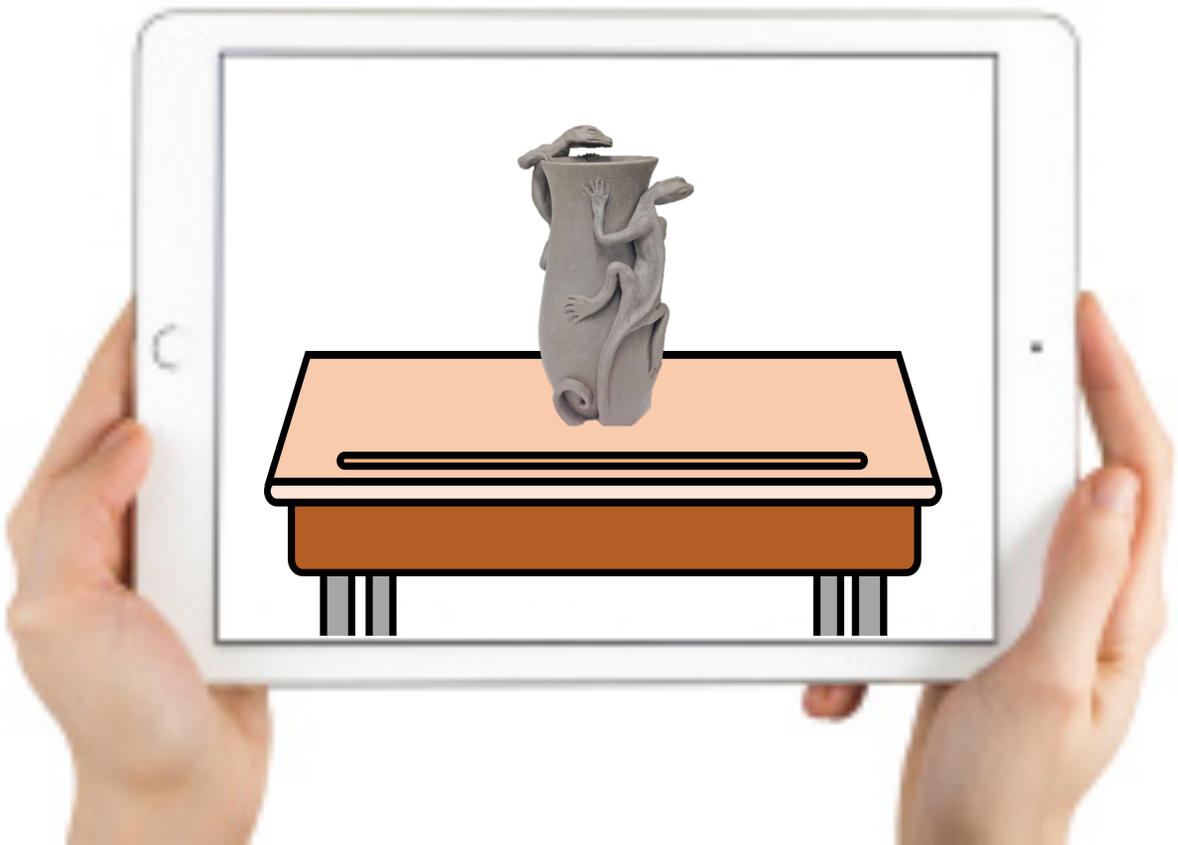
[https://commons.wikimedia.org/wiki/File:A_Seated_Buddha_statue_\(Gupta_temple\).JPG](https://commons.wikimedia.org/wiki/File:A_Seated_Buddha_statue_(Gupta_temple).JPG)

EVENT 8 – SCULPTURE

With the clay, start building a sculpture. Everyone in the group must contribute. Keep it rated PG!

The rest of the groups will add on to the sculpture as we continue with this lab. It will be interesting to see the finished product at the end of the day.

To really see how the sculpture progresses throughout the day, take a picture of the sculpture when your group is done, just before you move to the next station.





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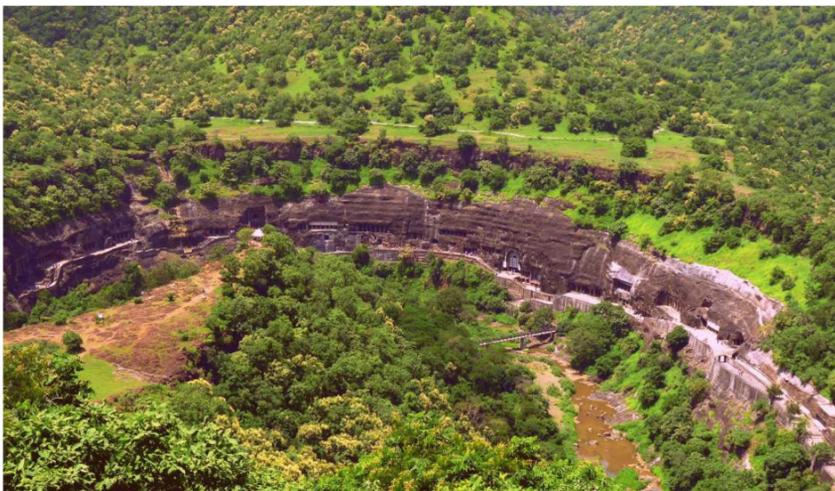
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EVENT 9 – PAINTINGS

The Gupta Empire is known for its paintings. This art form was an important part of life for noble families. These families were wealthy people of high birth. No home was complete without a painting board or an easel. Popular subjects included deities and other religious topics. Nobles and members of the royalty also hired artists to create works of art. Some paintings highlighted the luxury of noble life. They were often done on long scrolls.



Perhaps the greatest ancient Indian paintings are those known as the Ajanta (uh-JUHN-tuh) cave murals. The murals cover the walls of the 30 caves that make up an ancient Buddhist monastery in central India. The paintings are done in rich, bright colors including red, purple, and green. Artists made the paints from minerals and clay.



Some of the Ajanta murals show scenes from the Buddha's life. Some murals portray stories that reflect Buddhist values, such as love and understanding. Many of the scenes include graceful images of kings, queens, musicians, and dancers. Other scenes show animals and hunters in the forest. These woodland scenes are decorated with flowers, trees, and complex patterns. Gupta artists were skilled painters.

Ajanta Cave Mural



Exhibit 9.2

Ajanta Cave Mural of Buddha Preaching from Cave 26



Source:<http://www.visualphotos.com/photo/2x15755938/the-central-figure-in-this-cave-painting-found-in-cave-26-at-ajanta-india-is-the-buddha-who-is-depicting-overcoming-the-temptations-of-the-demon-mara-and-his-daughters-the-buddha-touches-the-mother-earth-with-the-fingers-of-his-right-hand-symbol.jpg>



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EVENT 10 – BUILT UNIVERSITIES

The period of the Gupta Empire was a time of learning. The Guptas built many colleges and universities throughout the empire. Some universities were Hindu; others were Buddhist. The schools were open primarily to males. However, teachers' daughters were allowed to attend. Hindu universities provided the upper classes with religious training. Students attended classes in religion, mathematics, astronomy, chemistry, and Sanskrit. They could also study sculpture, painting, music, and dancing.

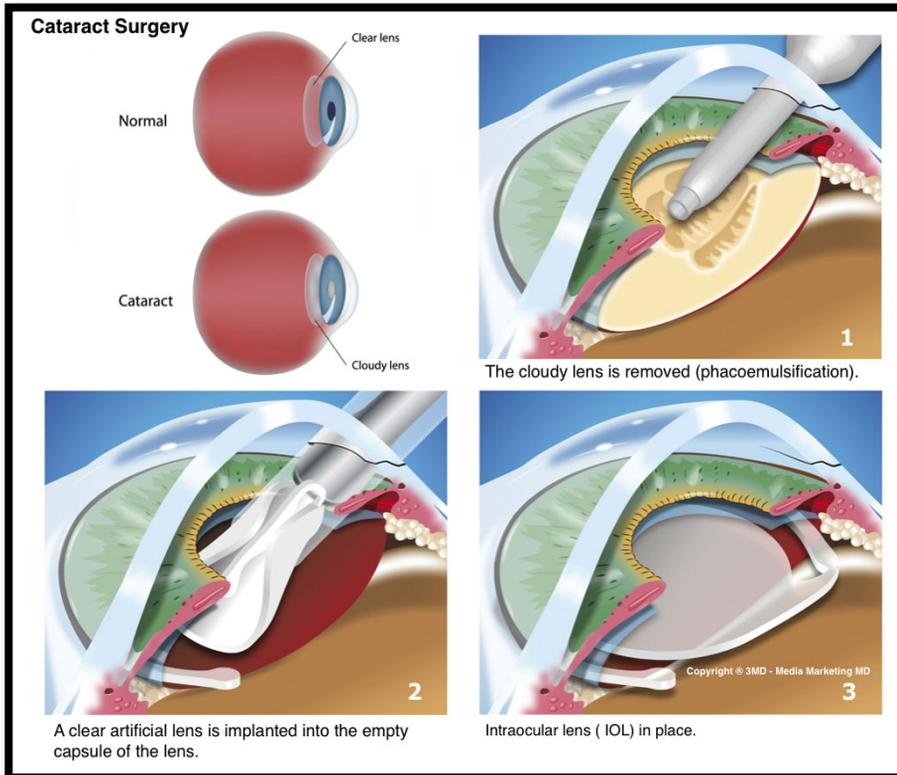
The most famous university was the Buddhist school at Nalanda, in northern India. The school had eight colleges and three libraries. It also had a hospital and a monastery. Students were instructed in Buddhist and Hindu philosophy. They also studied logic, grammar, and medicine. Students of medicine learned the practices of the day. They were trained in how to question patients about their physical problems. Students were taught how to make cures from bark, roots, leaves, and minerals. They also learned how to use the front claws of giant ants to stitch up wounds. Hindu doctors were especially skilled at performing surgery.

Photos of Nalanda University are below:





Author and Surgeon Sushruta wrote of eye surgery performed in the 800s BC. He wrote Sushruta Samhita, India's text for medicine and surgery. The following is an excerpt:



"It was a bright morning. The surgeon sat on a bench which was as high as his knees. The patient sat opposite on the ground so that the doctor was at a comfortable height for doing the operation on the patient's eye. After having taken bath and food, that patient had been tied so that he could not move during the operation.

The doctor warmed the patient's eye with the breath of his mouth. He rubbed the closed eye of the patient with his thumb and then asked the patient

to look at his knees. The patient's head was held firmly. The doctor held the lancet between his fore-finger, middle-finger and thumb and introduced it into the patient's eye towards the pupil, half a finger's breadth from the black of the eye and a quarter of a finger's breadth from the outer corner of the eye. He moved the lancet gracefully back and forth and upward. There was a small sound and a drop of water came out.

The doctor spoke a few words to comfort the patient and moistened the eye with milk. He scratched the pupil with the tip of the lancet, without hurting, and then drove the 'slime' towards the nose. The patient got rid of the 'slime' by drawing it into his nose. It was a matter of joy for the patient that he could see objects through his operated eye and the doctor drew the lancet out slowly. He then laid cotton soaked in fat on the wound and the patient lay still with the operated eye bandaged. It was the patient's left eye and the doctor used his right hand for the operation."



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EVENT 11 – ROADS

Gupta rulers encouraged trade by creating a system of well-built roads. Care and precision were used to build these roads. First engineers cleared the roadway of plants, trees, and rocks. Then, holes were filled in. Finally, workers smoothed the ground until it was level. The finished roads were made of hard-packed dirt.

The roadways were designed for safety and comfort. They were built a few feet off the ground. Ditches, or canals, ran along either side. These features helped prevent flooding during the rainy monsoon season. Water would run off the road and into the ditches.

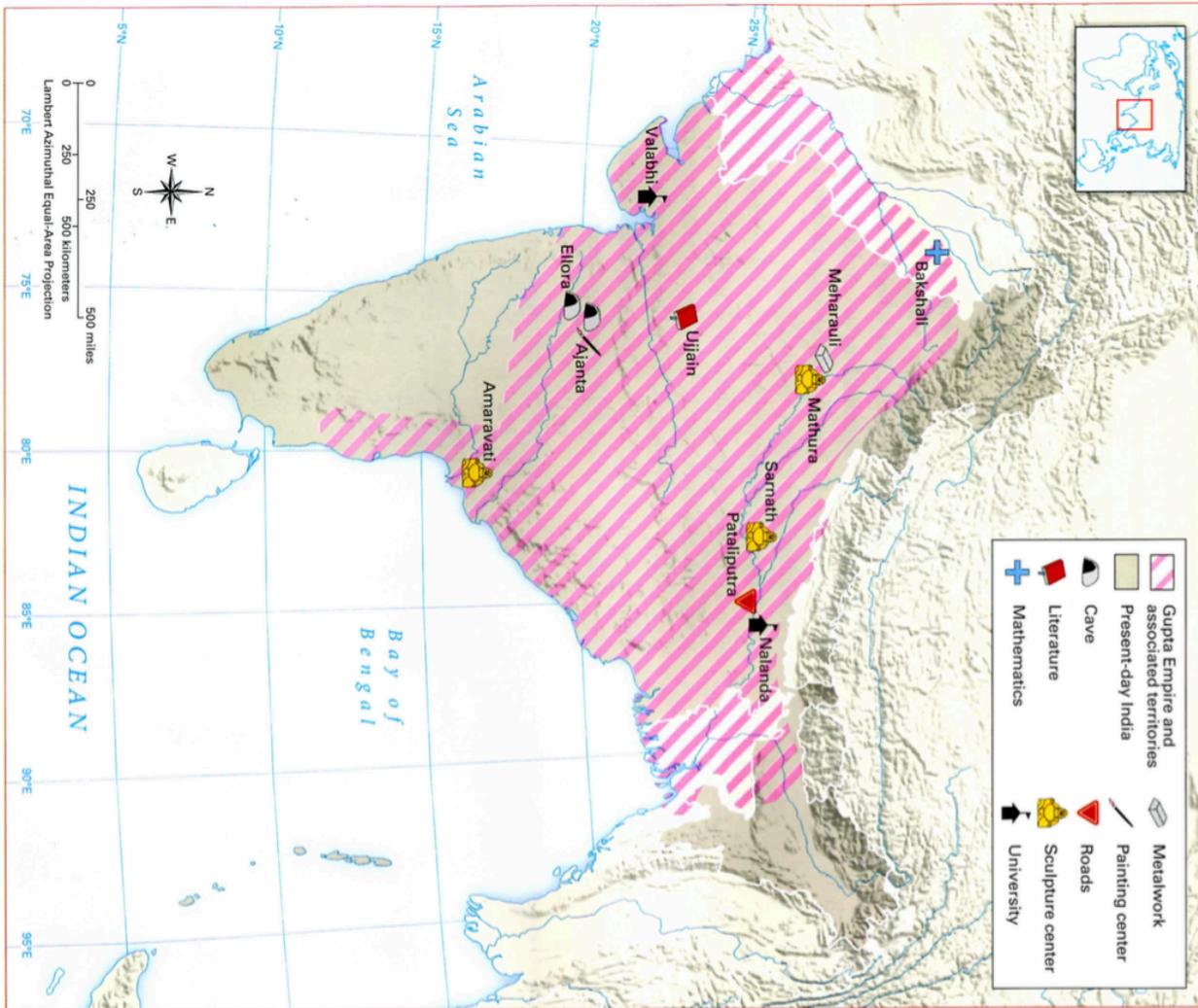
Signs along the roadway told travelers where they were. Signs also marked off the distances so people could calculate how far they had traveled. Rest houses gave travelers a place to relax or spend the night. Wells provided water for drinking and cooking.

The empire's roads greatly benefited trade. They enabled busy traders to move easily from city to city within the large empire. Traders could also move goods from the middle of the country to important waterways. From there, traders could ship their goods and sell them in other countries. The roads also connected India to China and the lands east of the Mediterranean Sea.



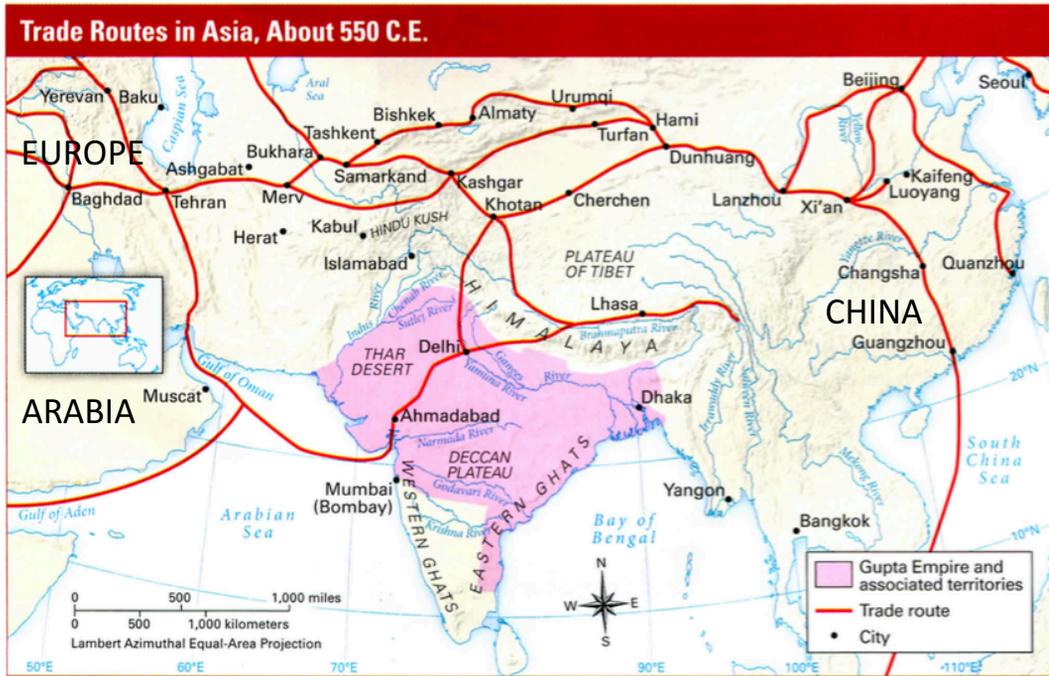
Exhibit 11.2

Achievements of the Gupta Empire, About 320–550 C.E.



Source: TCI History Alive Ancient Worlds Chapter 18

Exhibit 11.3



Source: TCI History Alive Ancient Worlds Chapter 18