**#32—Crash Course World History Video Notes**

**Coal, Steam, and the Industrial Revolution**

1. Although it occurred around the same time as the French, American, Latin American, and Haitian Revolutions—between, say, \_\_\_\_\_\_ and \_\_\_\_\_\_\_—the industrial revolution was really the most revolutionary of the bunch.
2. Here’s one simple statistic that sums it up: Before the industrial revolution, about \_\_\_\_\_\_ of the world’s population was engaged in farming to keep itself and the other 20% of people from starving.
3. So what happened? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_! Here’s my definition: The industrial revolution was an increase in production brought about by the use of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and characterized by the use of new \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ sources.
4. The industrial revolution began around 1750 in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ industry: The invention of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_by John Kay in 1733 dramatically increased the speed of weaving, which in turn created demand for yarn, which led to inventions like the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and the water frame.
5. Soon these processes were mechanized using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ power, until the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_came along to make flying shuttles really fly in these huge cotton mills.
6. The most successful steam engine was built by Thomas Newcomen to clear water out of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_improved the steam engine and made possible not only railroads and steamboats but also ever-more efficient cotton mills.
8. And, for the first time, chemicals other than stale \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, were being used to bleach the cloth that people wore—the first of which was sulfuric acid, which was created in large quantities only thanks to lead-lined chambers, which would’ve been impossible without lead production rising dramatically right around 1750 in Britain, thanks to lead foundries powered by coal.
9. Here are some Eurocentric reasons why industrialization might have happened first in Europe:
10. There’s the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ superiority argument that basically holds that Europeans are just better and smarter than other people.
11. And then, others argue that only Europe had the culture of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_that made the creation of these revolutionary technologies possible.
12. Another argument is that freer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ institutions encouraged innovation and strong property rights created incentives for inventors.
13. And, finally, people often cite Europe’s small \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which required labor-saving inventions.
14. The problem with these Eurocentric why answers, is that they all apply to either \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or both. At the time, China, India, and Europe were all roughly at the same place in terms of industrial production.
15. It’s hard to make the European cultural superiority argument because China had been recording its history since before Confucius, and plus there was all that bronze and painting and poetry. It’s also kind of difficult to make a blanket statement that China was economically inferior to Europe, since they invented \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and led the world in exports of everything from silk to china.
16. It’s also difficult to say that China lacked a culture of invention when they invented \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and printing, and paper, and arguably \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. So really, in a lot of ways, China was at least as primed for an Industrial Revolution as Britain was.
17. So, why didn’t it happen? Well, Europeans—specifically the British—had two huge advantages: First, they had \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that was near the surface, which meant that it was cheap to mine. Because there was all this incentive to get more coal out of the ground, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_were invented to pump water out of the mines.
18. Secondly, there were \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Britain (and to a lesser extent the Low Countries) had the highest wages in the world at the beginning of the 18th century.
19. But here’s one last thing to consider: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ was the world’s largest producer of cotton textiles, despite paying basically the lowest wages in the world. Indian agriculture was so productive that laborers could be supported at a very low cost. And that, coupled with a large population meant that Indian textile manufacturing could be very productive without using machines, so they didn’t need to industrialize.
20. But more importantly from our perspective, there’s a strong argument to be made that Indian cotton production helped spur British industrialization. It was cotton textiles that drove the early Industrial Revolution. Indian cottons created the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and then British manufacturers invested in machines to increase production so that they could compete with India.