Video – *Back to Chernobyl*

Name: _____
Hour: ____ Date: _____

1. In what year did this accident occur?

2. What was the temperature of the glowing graphite in the reactor core?

3. Around the reactor, what radiation reading does the scientist expect to get?

4. Who were the first people on the scene?

5. Why did the Soviet government keep the Chernobyl accident secret for 1 ½ days?

6. Why were the trees around the power plant cut down and buried in concrete-lined pits?

7. The initial levels of radiation would overwhelm a person's nervous system in ___ minutes.

8. For how long was each soldier allowed into the areas of highest radiation?

9. Why are gamma rays so dangerous?

10. What did the cameraman who made the documentary die from?

11. Why do American officials say that a Chernobyl-like accident is unlikely in the U.S.?

12. How many control rods were supposed to be inserted in Soviet reactors at all times?

13. Compared to Three Mile Island, how many times more radiation was released at Chernobyl?

14. Why did Chernobyl's operators NOT shut down the reactor when the power crashed?

15. The combination of what TWO things caused the Chernobyl accident?

16. Why did the Soviets NOT practice emergency drills at the power plant?

17. Where do you *really* NOT want radiation?

18. The Chernobyl accident would have been worse if it had been _____ at the time.

19. How many countries received fallout from this accident?

20. What is one of the main human concerns about this accident?

21. What is the minimum number of control rods required in Soviet reactors now?

22. On a good note, nuclear energy does NOT contribute to what?

23. Do the Russians have plans to build any more nuclear power plants?

24. What has happened to the families who left the town of Pripyat?

25. Describe the town of Pripyat as it appears at the end of the video.

Video – *Colosseum*

Name: _____
Hour: ____ Date: _____

1. How many years ago was the Colosseum built?

2. The Colosseum was a theater of _____.

3. A typical day in the amphitheater could feature the deaths of how many men and animals?

4. How many spectators could the Colosseum seat?

5. Why could spectators stay comfortable in the Colosseum, even during the hot summer?

6. What was the Pantheon?

7. A concrete dome over the Colosseum would have required supporting walls that were _____ feet thick.

8. It is believed the lines on the Roman coins represent what?

9. What was the function of the “ornamental” stones that jut out from the Colosseum’s walls?

10. Brian Austin’s work at the _____ has taught him the power of what simple machine?

11. What is the purpose of the horizontal beam?

12. Why were the sailors needed at the Colosseum?

13. Once the masts and booms are up, what is the next step?

14. Why would the ancient riggers have needed to get out to the ends of the booms?

15. Was the team successful with the mast/boom/awning idea?

16. Earthquakes have toppled how much of the stadium's limestone façade?

17. The Romans perfected concrete by adding what substance to it?

18. Could Roman concrete set under water?

19. How far could the wooden booms extend before breaking?

20. In the Colosseum, who had the best seats of all?

21. Chris's version of the roof relies heavily on what material?

22. In theory, Chris's roof will work like what?

23. Rome's power extended over how many square miles of territory?

24. Huge amounts of water were brought into the Colosseum so that WHAT could take place?

25. What does the canvas begin to do when the wind picks up?

26. Does the second design method work?

27. Does ancient evidence support Reiner's beam method or Chris's rope construction?

28. What was another advantage of the beam construction?

29. In the computer simulation, was there ever a time during the day when the Emperor was in the sun?

30. "The giant canopy was its crowning glory, floating above the crowds, providing comfort and shade, even as _____."

Video – *Crisis in the Atmosphere*

Name: _____
Hour: ____ Date: _____

1. Hans Oeschger pioneered the technique of retrieving WHAT from ancient ice?

2. Where do the oldest cores come from?

3. What do carbon dioxide and methane do in the atmosphere?

4. Since the Industrial Revolution, carbon dioxide has increased by what percent?

5. Within how many years will we experience significant climatic changes?

6. How does the CO_2 level in the computer simulation compare to today's CO_2 level?

7. Earth's average temperature could increase by HOW MUCH by the middle of the century?

8. Why were CFCs originally chosen?

9. Chemically, CFCs are deadly to what?

10. Natural ozone protects the Earth from what?

11. A single chlorine atom can destroy how many molecules of ozone?

12. Why were the readings from the NASA satellite ignored?

13. The ozone hole above Antarctica was larger than what?

14. What would happen if the phytoplankton were destroyed by ultraviolet radiation?

15. For how long will the CFCs already in the atmosphere continue to destroy the ozone?

16. As long as we rely on coal, wood, and oil, WHAT cannot be stopped?

17. What portion of heat leaks out of windows?

18. Light bulbs consume about what percentage of electricity in the U.S.?

19. In the Swiss apartment complex, what is the exhaust heat captured and used for?

20. The system that charges the electric cars runs on what?

21. What is the small price to pay for a cleaner, safer environment?

22. According to the World Resources Institute, what two issues must we act on, now?

23. WHO is responsible for addressing the problems of climatic change?

24. What should we be afraid of?

25. The question we must now ask, for our children and for their children is:

Video – *Daredevils of the Sky*

Name: _____
Hour: ____ Date: _____

1. Who is given credit for designing the first engine-powered aircraft?

2. Over what body of water did the Frenchman Bleriot fly in 1909?

3. Replacing wing warping with ailerons made possible the construction of airplanes with _____, more rigid wings.

4. For an aerobatic pilot, “conditioning” means building up tolerance to what?

5. What are the two types of “g’s”?

6. What are the four basic maneuvers in aerobatics?

7. Most airplanes will recover from a spin…

8. Early in WWI, what happened to Allied plane losses after Germany began manufacturing the Fokker Eindecker?

9. When executing an Immelmann turn, what often happened to a plane’s engine?

10. During World War I, what was the life expectancy of an Allied pilot at the front?

11. What was Baron von Richtofen also known as?

12. What is one of the most difficult maneuvers to execute, first done by James Doolittle?

13. Air racing and aerobatics depend crucially on…

14. By what percentage do pilots in monoplanes score better than pilots in biplanes?

15. What does the geared engine on the S-341 allow John to use?

16. When will the real test for the Staudacher planes come?

17. How many events make up the World Championships?

18. Why was Le Havre a controversial location for holding the World Championships?

19. Each maneuver is given a score from ___ to ___.

20. What happened to one of the Russian planes early in the competition?

21. Did the weather conditions improve the next day?

22. What medal did Patty Wagstaff earn?

23. Where were the 1994 World Championships held?

24. What place did Mike Goulian earn at the 1993 U.S. Aerobatics Championships?

Video – *The Future of the Past*

Name: _____
Hour: ____ Date: _____

1. A fresco is a painting done on…

2. WHAT often did more harm than good?

3. If the packing is left on too long, what could happen when it is removed?

4. How tall is Cologne's Gothic Cathedral?

5. The Cathedral was meant to be a reflection of…

6. In the 1950s, it was discovered that WHAT was attacking the medieval windows?

7. WHAT appear on the medieval glass when it rains?

8. What element holds the stained glass pieces together?

9. What is a drawback of the restored, five-layer glass windows?

10. What is embedded in the lacquer?

11. How thick are the sheets of copper on the Statue of Liberty?

12. What originally separated the copper from the iron?

13. Kure Beach has been used as an industrial test site since…

14. What material was chosen to replace the iron bars?

15. For how long should Liberty's new skeleton last?

16. The scientists measure the thickness of the patina with an _____ caliper.

17. Why must varnish eventually be removed from works of art?

18. Solvents designed to remove varnish sometimes also take off what?

19. WHAT are used to highlight each layer?

20. WHAT break up organic material?

21. The J. Paul Getty Museum is especially known for its Greek and Roman…

22. Because every artifact is unique, every device must be…

23. How old is the statue of the Greek youth believed to be?

24. How many tourists visit the Parthenon each year?

25. When the iron clamps corroded, what did they do to the marble?

26. Which metal was finally chosen?

27. What percentage of Greek industry is located in Athens?

28. Now, WHAT is attacking the Parthenon?

29. The original stone maidens are now in a museum in an environment of WHICH gas?

30. Researchers are now using science to try to understand the _____ process.

31. Modern _____ and space-age materials can breathe life into ancient treasures.

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