<u>The Physics of Trains</u>

Directions: Follow along with the movie and answer 30 of the 35 questions. The last 5 questions must be answered. Use the Bold headings on the page to help you keep track of where you are in the movie.

First Day on the Job
1. Where does this movie take place?

2. Why does the foreman need the two workers to move the train off of track D16?

3. Is Will new to railroading?

4. What happens to the train when Dewey gets off to switch the track?

5. Why doesn't Frank's daughter want to talk to him?

Catch up with the Coaster
6. How fast do the workers think the unmanned train is going?

7. What does Connie tell Ned to do?

8. What materials is the unmanned train carrying?

Picking up their Train
9. What was Will's hearing for?

10. Did Will put the right amount of cars on train 1206?

11. What does Connie suggest they do to stop the train?

Disaster on the Mainline
12. What does Ned see at the train crossing?

13. Why doesn't Frank go into the siding?

14. How fast is 777 actually going?

15. What is Mr. Galvin's idea to stop the train?

Getting off the Mainline
16. Do Frank and Will make it into the siding?
17. What do they decide to do about 777?

18. How long does Frank have left before he retires?

19. Why does Will have a restraining order against him?

Derailing 777
20. What did the police try to shoot?

21. Did the portable derailer work?

22. Who does Frank tell Will to call?

Hooking up to 777
23. What does Will do to help Frank hook up to 777?

24. How far out of Stanton is the train once they couple with 777?

25. Why is the track in Stanton so dangerous?

Coming into the Stanton Curve
26. What does Frank decide to do to help slow 777?

27. What happens in the Curve?

28. Who comes to the rescue and gets Will out of the locomotive?

Under Control
29. Who gets in the cab and slows 777?

30. What does Connie ask Will and Frank at the end?

Physics of Unstoppable (must be answered!)

$$V = \frac{D}{T} \qquad D = VT \qquad T = \frac{D}{V} \qquad A = \frac{Vf - Vi}{T}$$

31. How long did it take 777 to get from Arklow to Stanton which are 35 miles apart going 70 mph?

32. Why didn't stopping the train from the front or derailing the train work?

33. What was the acceleration of 777 after the independent brake gave out on 1206? 777 was traveling at 35 mph and accelerated to 70 mph over the course of 0.20 hours.

34. What was the velocity of 1206 traveling in reverse to catch up with 777? 1206 traveled 9 miles to hook up with 777 in before Stanton in only 0.13 hours (about 7 minutes).

35. Why do you think Frank switched between braking and accelerating to slow 777 from the back?