

Free Fall Day 2a

Name: _____

1. Dana Kunze fell for about 3.3 seconds in the video. Assume that he started from rest and that he was in free fall. What was his final velocity and how far did he fall?

2. How close was he to free fall? He actually dove from a height of 52.4 meters. (Look at your answer to #1.)

- Pretty darn close. Not close at all.

3. You are exploring the Grand Canyon and are curious about how far down it goes. You drop a rock over the edge and hear it hit about 19 seconds later. How far down is it?

4. Below are free fall velocities and distances. See if you can find the patterns and complete the tables.

time (s)	velocity (m/s)
0	0
1	10 m/s
2	20 m/s
3	
4	
5	

time (s)	distance (m)
0	0
1	5 m
2	20 m
3	45 m
4	
5	

Free Fall Day 2b

Name: _____

5. If Dana Kunze had jumped near Neptune, the acceleration of gravity would have been -14 m/s^2 . If he had fallen for the same 3.3 seconds, what would his final velocity be? What would his distance fallen be?

6. On August 16 1960, US Air Force pilot Joe Kittinger rose to the top of the atmosphere in a balloon and jumped. He fell for about 27 seconds in free fall. How far had he fallen?