

Name: _____



Reading Comprehension: Elevator to Space



An Elevator to Space

Maybe you think that building an elevator to space is impossible, but in fact, it could soon happen. The Obayashi Corporation from Japan has announced that it will build an elevator to space by the year 2050. The elevator will use robotic cars to transport things into space. But what kinds of things would it transport? Just think about the things that usually go to space: satellites, rocket fuel and even people.

Building an elevator to space would cost around \$10 billion. So, why do it? Well, companies are paying a lot of money to make rockets. These rockets are used to put satellites and people into space. An elevator would be cheaper than using rockets. Rockets require a lot of fuel. Building a space elevator will be expensive, but it will save money in the long run.

It is difficult to decide where to put the space elevator, but scientists think they might put it somewhere out in the ocean. It's also difficult to find the right material to build the elevator? The answer might be nanotubes. Nanotubes are 100 times stronger than steel, but they can also be extremely thin. However, it is difficult to build enough nanotubes to make the space elevator. Therefore, finding the right material to build the elevator is still somewhat of a challenge.

There are still many problems to solve, but experiments are already taking place on the International Space Station to find out how to build the space elevator. In these experiments, scientists test different models to try to find the best one. There are many other problems to solve. For example, how will the elevator deal with Earth's weather and space junk? What would happen if a hurricane came and hit the space elevator? In science, everything needs to be considered!

Questions: Use Full Sentences for Full Points!

/20 points in total.

5 of those points are for using proper sentence structure, with capitals and periods.

1. What is the company called that wants to build an elevator to space? /2

2. When does this company expect to build this elevator to space? /2

3. How much would the space elevator cost? /2

4. Why are rockets expensive? /2

5. What is the material that scientists want to use to make the elevator to space? /2

6. How strong is this material? /2

7. Where can scientists test different models of a space elevator? /2

Reinvest Your Understanding:

8. Do you agree with the idea of building a space elevator? Why or why not? /3

9. Where do you think the elevator would be located? Near a city or away from people? Why? /3

10. Bonus: What do you think is the greatest threat to a space elevator? For example, how might nature destroy a space elevator? Describe what might happen! /2

Sources:

Carbon Nanotubes: Present and Future Commercial Applications. Michael F. L. De Volder, Sameh H. Tawfik, Ray H. Baughman⁶, A. John Hart. Science. Vol. 339, Issue 6119, pp. 535-539

A colossal elevator to space could be going up sooner than you ever imagined Scott Snowden - Oct. 2, 2018
<https://www.nbcnews.com/mach/science/colossal-elevator-space-could-be-going-sooner-you-ever-imagined-ncna915421>