Name _____ Date _____ Class _____

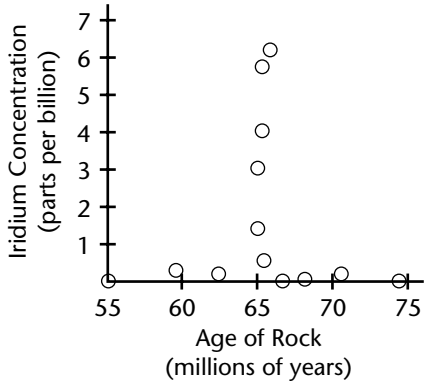
Evidence of a Large Meteorite

Meteoroids frequently hit Earth's atmosphere. If you were to get away from city lights on a clear night and patiently look at the sky for an hour or two, you would probably see several meteors, visual evidence that meteoroids are burning up due to air friction as they pass through Earth's atmosphere.

If Earth didn't have an atmosphere, its surface would probably look like the surface of the moon. Earth's atmosphere not only prevents many meteoroids from hitting the surface, but also tends to erase and cover up craters over time through the action of wind and rain. Scientists must look for other evidence that large meteorites have hit Earth. One place they look is in rocks.

When a large meteorite hits Earth, the result is similar to a huge bomb's exploding. Some of the material from the meteor turns to dust that goes high into the atmosphere, where winds carry it over the entire surface of Earth. Over millions of years, mud, sand, and dust (including dust from meteors) can build up and eventually turn into layers of rock.

Iridium is an element that is very rare in rocks on Earth, except those rocks that are very deep below the surface. Iridium is much more common in rocks from space. The graph below shows the amount of iridium present in some rocks at a site in Italy.



Study the graph, and answer the following questions on a separate sheet of paper.

1. How are the moon's craters evidence that large meteoroids probably hit Earth?
2. Why is evidence of meteoroid impact rare on Earth, despite the fact that meteoroids often pass into Earth's atmosphere?
3. About what age are the rocks that show the highest level of iridium?
4. What are two possible sources for the high iridium level shown in the graph?
5. In several other parts of the world, rocks of the same age have similar levels of iridium. What can you infer from this information?