Why must Galileo be wrong?

A Scientist Challenges the Past

Renaissance writers and artists changed their views of people. They wrote about and painted real people in the real world. So too, in the 16th and 17th centuries, daring men of science had new ideas about the world. They challenged what ancient writers and the Catholic Church had said about the earth and the sun. These scientists looked around them. They observed nature, saw how people lived and learned that the earth moved around the sun.

They asked questions and searched for answers. Sometimes they found the answers. If they did not, they kept searching through the use of the scientific method (research, hypothesize, experiment, record, conclude, repeat). One of these scientists, these "searchers for truth" was Galileo Galilei who made many important discoveries.

In this reading Galileo is about to appear before the inquisition (a special court set up by the Catholic Church to try heretics) to explain his discoveries. The court seeks to uphold the teachings of the Church. Galileo will be given a choice of life or death. If he insists that the earth moves around the sun, he will die. If he denies what he knows to be true, he will live. Given these same choices, what would you have done? How can Galileo be so sure that he is right and the teachings of the Church are wrong?

Rome, 1633

To think that I have come to this! If I do not admit that I am wrong, I will be executed! I will be remembered for all time as a heretic who denied the truth of the teachings of his Church. Yet, Galileo Galilei, have always been faithful to my Church and to the discoveries of science. Now I am told that I cannot believe in both science and God.

The Church says that the earth is the center of the universe. I know better. I have read and tested the theories of Copernicus. A hundred years ago he proved by mathematics that the earth revolves around the sun. I made my own telescope because I wanted to test his ideas. People asked how the astronomy of the Bible could be wrong. It was an insane idea to think that the teachings of the Church have been false for so many centuries. But my eyes did not betray me. Copernicus was right. The earth is not the center of the universe, the sun is. How excited I was when I saw the rings of Saturn, the moons of Jupiter, and the countless stars of the Milky Way. These were my eyes, my telescope, making my discoveries!

We know the things we can see and prove. Is there any other possibility? There cannot be. Perhaps I was wrong to think that I could know more than the great scholars of my Church. If it is true that we are made in God's image, then we must be at the center of the universe. Are there not mysteries and spirits that we cannot understand? Only God knows all. The leaders of his Church can explain the meaning of life to us.

That is what I am supposed to believe. But in my heart of hearts I know that there is much to be discovered and explored. No one, not even the holy Church, knows the answers to all the mysteries!

If we are to find the answers to the riddle of the universe, we must never stop looking. We must experiment and experience as much as we can. Blind faith is not my way of life. I cannot accept whatever I am told simply because it has been said by the Church.

When I wanted to find the speed of falling objects, I dropped some weights from the top of the Leaning Tower of Pisa. I experimented, I saw and I made my conclusions.
(Continued from the other side)

The other day I heard an argument in the street. Five grown men were arguing over the number of teeth in a horse's mouth. The horse was standing right there, but no one thought of opening the animal's mouth and counting its teeth. In fact, no one even looked at the horse! This argument went on for over an hour. I suggested checking the horse's mouth, and I was rewarded by being pushed rudely aside. There was no conclusion to the argument. The people went away confused and angry. Is this the way to learn the answers?

Enough of these wandering thoughts! I must make up my mind. I know that I can have faith in my God and still search for answers. The Church fathers do not agree. They say I must give up my search for learning, destroy my book, agree that the sun moves around the earth. They want me to stop my experiments and accept the ways of God and of the Church.

I don't want to accept blindly, but if I am to see another sunrise, I must give in. I must pretend to believe. I will call the guard to tell them that they have won. I wonder — is it better to live a lie than to die and face the unknown?

Galileo in his own words:
"With sincere heart and genuine faith I abjure, curse and detest the aforesaid errors and heresies (of Copernicus) and also every other error against the Holy Church, and I swear I will never again say or assert anything that might cause a similar suspicion towards me."

Connection to Today:

The Vatican Clears Galileo:
In 1982, Pope John Paul II officially acknowledged that Galileo was correct in asserting that the Earth revolves around the sun. The Pope's pronouncement came after a 13-year study of Galileo's case by a Vatican science panel.

The panel concluded that Church leaders were clearly wrong to condemn Galileo, but that they had acted in good faith. They were working within the knowledge of their time, the panel said. Therefore they could not see how Galileo's discoveries could go along with their interpretations of the Bible.

Questions:

1) What was Galileo being asked to deny? Why were the Church leaders asking him to do this?
2) Who was Copernicus?
3) How did Galileo suggest the men settle the argument about the horse?
4) What did Galileo decide to tell the inquisition about his discoveries? Why do you think Galileo made this decision?
5) Why do you think the Church clears Galileo in 1982?
6) Based upon the cartoon above, how do you explain the thoughts of the Church officials?