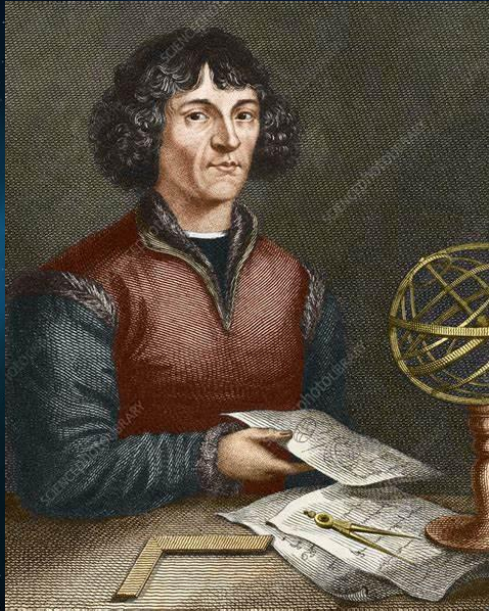


*M5U1 Reading and writing*

# Copernicus' Revolutionary Theory

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# Raise questions based on the title



- ◆ Who is Nicolaus Copernicus?
- ◆ What's his theory about?
- ◆ How did he prove his theory?
- ◆ Why was his theory revolutionary?



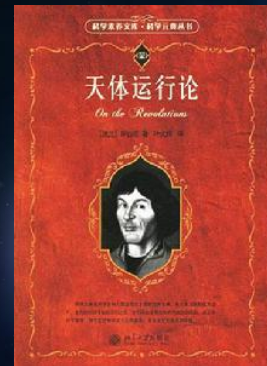
# A brief introduction to Nicolaus Copernicus

- was born on February 19, 1473, in Poland

- studied at various universities in Poland and Italy

- physician, mathematician, astronomer...

- *On the Revolutions of the Celestial*



Read for structure and fill in each blank with one word

C o p e r n i c u s '  
r e v o l u t i o n a r y t h e o r y

Para.1 the problem

Para.2 something strange

Para.3 the observations

Para.4 Copernicus' new  
theory

Para.5 contributions



# Para. 1 the problem

Circle two adjectives that describe Copernicus' feelings.

Nicolaus Copernicus was **frightened** and his mind was **confused**. ?


Appositive Clause:  
give information

?

All his mathematical calculations led to the same conclusion: **that earth was not the centre of the solar system. Only if you put the sun there** did the movements of the other planets in the sky make sense.

VS

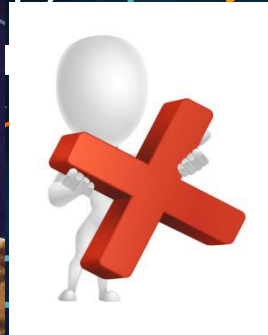
**The Christian church** believed God had made the world and for that reason the earth was special and must be the centre of the solar system. **powerful**  
**punish him for even suggesting such an idea**



Partial Inversion:  
stress the importance

## Para. 2 something strange

Q: What had astronomers found strange?



changes in the movements of the planets

brightness of the stars

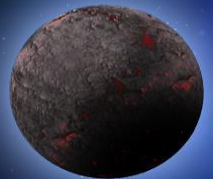


## Para. 3 the observations

Circle the verbs that show Copernicus' research.

Copernicus had thought long and hard about these problems and tried to find an answer. He had collected observations of the stars and used all his mathematical knowledge to explain them. But only his new theory could do that. So between 1510 and 1514 he worked on it, gradually improving his theory until he felt it was complete.

What do these verbs tell you about Copernicus' qualities?



## Para. 4 the new theory

Q: What was Copernicus' theory?

- The sun is the centre of the solar system.
- The planets go round the sun, including the earth.
- The earth is spinning as it went round the sun.
- The moon goes round the earth.

Q: When did he show it privately to his friend? Why?

Q: When did Copernicus publish his theory?

Q: Do you think he was right or not to be cautious?



# Para. 5 contributions

Q: Why was his theory so revolutionary?

replaced the Christian idea of gravity which said things fell to earth because God created the earth as the centre of the universe



"If I have seen further, it is by standing on the shoulders of giants."

-Isaac Newton  
Philosopher, Astronomer, Physicist, Scientist,  
Mathematician  
1643 - 1727

theory and the work of Issac Newton, Albert Einstein and Stephen Hawking.

revolutionary

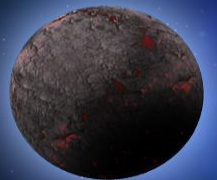
changed the old theory

founder of modern astronomy



## Discussion:

Q: If you were Nicolaus Copernicus, would you have hidden your theory for so many years? Give your reasons.



# Writing:

潮恩教育

Now write a short letter asking Copernicus to publish his ideas so everyone can read them.

*belles dames en robes de soie a*

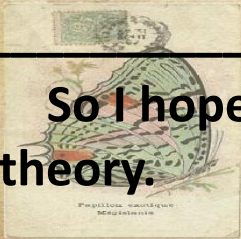
**Dear Nicolaus Copernicus,  
I am a student...**

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**So I hope you will feel you can publish your new theory.**

**Yours sincerely,  
(your name)**

*en robes de soie avec*



## Writing:

Be persuasive  
and logical !

Now write a short letter asking Copernicus to publish his ideas so everyone can read them.

First, in pairs brainstorm some reasons why he should publish his theory.

- there are problems with the present theory
- he has done many years of observations to prove his new theory is true
- science cannot develop unless people publish their ideas

Second, make a plan.

Para.1: Tell Copernicus who you are and why you want him to publish his ideas.

Para.2: The first reason

Para.3: The second reason

Para.4: Ask him again to reconsider publishing his idea.



# Homework

1. Write the letter after class and polish it.
2. surf the internet to know more about  
Nicolaus Copernicus



*“To know that we know what we know,  
and to know that we do not know what  
we do not know, that is true knowledge.”*

*Nicolaus Copernicus*

# A possible version for reference

Dear Nicolaus Copernicus,

I'm a student studying astronomy and I would like to read your new theory about the solar system. I hope you will publish it for several reasons.

I understand the problems with the present theory. The way the planets move is not what you would expect if the earth was the centre of the universe. It is also odd that the brightness of some stars seems to change. So I agree with you that we need a new theory.

I know your observations have been very carefully carried out over many years. Now you must have the courage to publish them. Never can science advance unless people have the courage of their beliefs. I know you worry about what will happen if you publish your new theory. No matter how people oppose it, time will show whether your ideas are right or wrong.

So I hope you will feel you can publish your new theory.

Yours sincerely,

Li Hua

