

Interchange the Element in the 3D Model

Spoken Tutorial Project

<https://spoken-tutorial.org>

National Mission on Education through ICT

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Learning Objectives



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We will learn to,



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We will learn to,

- **Change the element in the 3D model to create a different molecule**



System Requirements



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► **Ubuntu Linux OS version 22.04**



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- ▶ **Jmol version 16.2.35**



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- ▶ **Java version 11.0.25**



Pre-requisites



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- ▶ **learner must be familiar with basic operations in Jmol interface**



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- ▶ learner must be familiar with basic operations in Jmol interface
- ▶ Jmol Spoken Tutorials link:
<https://spoken-tutorial.org>



Summary

- We have changed the element of the central atom in the 3D model to create a different molecule



Assignment

As an assignment:

- ▶ **Create models of phosphine and hydrogen fluoride from model of methane**
- ▶ **Measure the bond angle**



About the Spoken Tutorial Project

- ▶ Watch the video available at https://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- ▶ It summarises the Spoken Tutorial project



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- ▶ If you do not have good bandwidth, you can download and watch it



Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- ▶ Conducts workshops using spoken tutorials
- ▶ Gives certificates to those who pass an online test
- ▶ For more details, please write to contact@spoken-tutorial.org



Answers for THIS Spoken Tutorial

- ▶ Questions in THIS Spoken Tutorial?
- ▶ Visit <https://forums.spoken-tutorial.org>
- ▶ Choose the minute and second where you have the question
- ▶ Explain your question briefly
- ▶ The Spoken Tutorial project will ensure an answer

You will have to register to ask questions



Acknowledgements

- ▶ **Spoken Tutorial project was established at IIT Bombay by the Ministry of Education (MoE), Govt. of India**

