SYNTHESIS OF SENTENCES
Synthesis of Sentences is the opposite of transformation of sentences and means combining a number of simple sentences into one new sentence. That new sentence might be either a simple sentence, a compound sentence, or a complex sentence.
1. By using a Participle:

- He jumped up. He ran away.
  - Jumping up, he ran away.
- He was tired of play. He sat down to rest.
  - Tired of play, he sat down to rest.
- He is well versed in English. He was appointed as the English teacher in the school.
  - Being well-versed in English, he was appointed English teacher of the school.
2. **By using a noun or a phrase in apposition** (Placing side-by-side two coordinate elements, the second of which serves as an explanation or modification of the first):

- This is my friend. His name is Rama.
- **This is my friend, Rama.**

- I spent two days in London. It is one of the most attractive places in England.
- **I spent two days in London, one of the most attractive places in England.**

- Buddhism was founded 2500 years ago. It is one of the greatest religions.
- **Buddhism, one of the greatest religions, was founded 2500 years ago.**
3. By using a preposition with noun or gerund:

- The moon rose. Their journey was not ended.
- **Before their journey ended, the moon rose.**

- He has failed many times. He still hopes to win.
- **Having failed many times, he still hopes to win.**

- Her husband died. She heard the news. She fainted.
- **On hearing the news of her husband’s death, she fainted.**
4. By using, Nominative Absolute Construction:

- The soldiers arrived. The mob dispersed.
- Seeing the soldiers arrive, the mob dispersed.

- The town was enclosed by a strong wall. The enemy was unable to capture it.
- Being enclosed by strong wall, the town was unable to be captured (by the enemy).
5. By using an infinitive:

- I have some duties. I must perform them.
- I have some duties to perform.

- We must finish this exercise. There are still three sentences.
- We still have three sentences in this exercise to finish.

- He wanted to educate his son. He sent him to London.
- He sent his son to London to have him educated.

- He is very fat. He can not run.
- He is too fat to run.
6. By using an adverb or an Adverbial Phrase:

- He deserved to succeed. He failed.
- He failed, undeservedly.

- The sun set. The boys had not finished the game.
- The boys had not finished the game by sunset.
Exercise
Combine each of the following pairs of sentences into a simple sentence
1. He won a jackpot. He built a big mansion.
2. He stood on tip-toe. He reached for the bunch of grapes.
3. He is going to London. He wants to pursue higher education there.
4. Milton was the Homer of England. He wrote Paradise Lost.
5. Patel was a strong man. He brought all the Princely States into the Indian Union. He used the method of persuasion. Sometimes he used the method of coercion.
6. Gandhi was a great visionary. He realized the danger of communal conflict. He sacrificed his life to bring about unity.
Answers

1. Having won the jackpot, he built a big mansion.
2. Standing on tip-toe, he reached for the bunch of grapes.
3. He is going to London to pursue higher education.
5. Using methods of persuasion and coercion, Patel, a strong man, brought all the Princely States into the Indian Union.
6. Having realized the danger of communal conflict, Gandhi, a great visionary, sacrificed his life to bring about unity.
CRYSTALLOGRAPHY:
Synthesis Exercise
Crystallography is the experimental science of the arrangement of atoms in solids. The word "crystallography" derives from the Greek words crystallon = cold drop / frozen drop, with its meaning extending to all solids with some degree of transparency, and grapho = write.

Crystallography is a branch of science that deals with discerning the arrangement and bonding of atoms in crystalline solids and with the geometric structure of crystal lattices. Classically, the optical properties of crystals were of value in mineralogy and chemistry for the identification of substances. Modern crystallography is largely based on the analysis of the diffraction of X-rays by crystals acting as optical gratings. Using X-ray crystallography, chemists are able to determine the internal structures and bonding arrangements of minerals and molecules, including the structures of large complex molecules such as proteins and DNA.

Crystallographic methods all rely on the analysis of the diffraction patterns that emerge from a sample that is targeted by a beam of some type. The beam is not always electromagnetic radiation, even though X-rays are the most common choice. For some purposes electrons or neutrons are used, which is possible due to the wave properties of particles that are described by quantum mechanics. Crystallographers often explicitly state the type of illumination used when referring to a method, as with the terms X-ray diffraction, neutron diffraction and electron diffraction. X-rays are useful for visualizing the electron clouds around atoms, whereas neutron diffraction methods will reveal the atomic nuclei. Thus far, electron diffraction has not been widely used. Crystallography by itself typically implies X-rays.
TASK: Find three definitions of X-ray crystallography. Using the sources, (and your own words), write your own definition.
1. A technique, using X-rays, to determine the atomic structure of molecules that have been crystallized. A technique for deducing molecular structure by aiming a beam of X-rays at a crystal of the test compound and measuring the scatter of rays.
2. The study of crystal structure by means of x-ray diffraction.
3. The use of X-rays of known wavelength to learn the structure of any crystalline material. Put otherwise, X-ray crystallography is a technology by which the locations of atoms in any crystal can be precisely mapped by looking at the image of the crystal under an X-ray beam.
X-ray crystallography is a method of study to determine the atomic structure of crystallized molecules. The x-ray beams are diffracted and measured, thus accurately mapping the crystal’s structure.
• http://www.english-for-students.com/SynthesisofSentences.html
• http://www.englishpractice.com/grammar/synthesis-sentences-part-ii/
• http://www.everythingbio.com/glos/definition.php?word=X-ray+crystallography
• http://www.medterms.com/script/main/art.asp?articlekey=12381
• http://www.answers.com/topic/x-ray-crystallography