

Year 11 Physics student work sample – Grade E

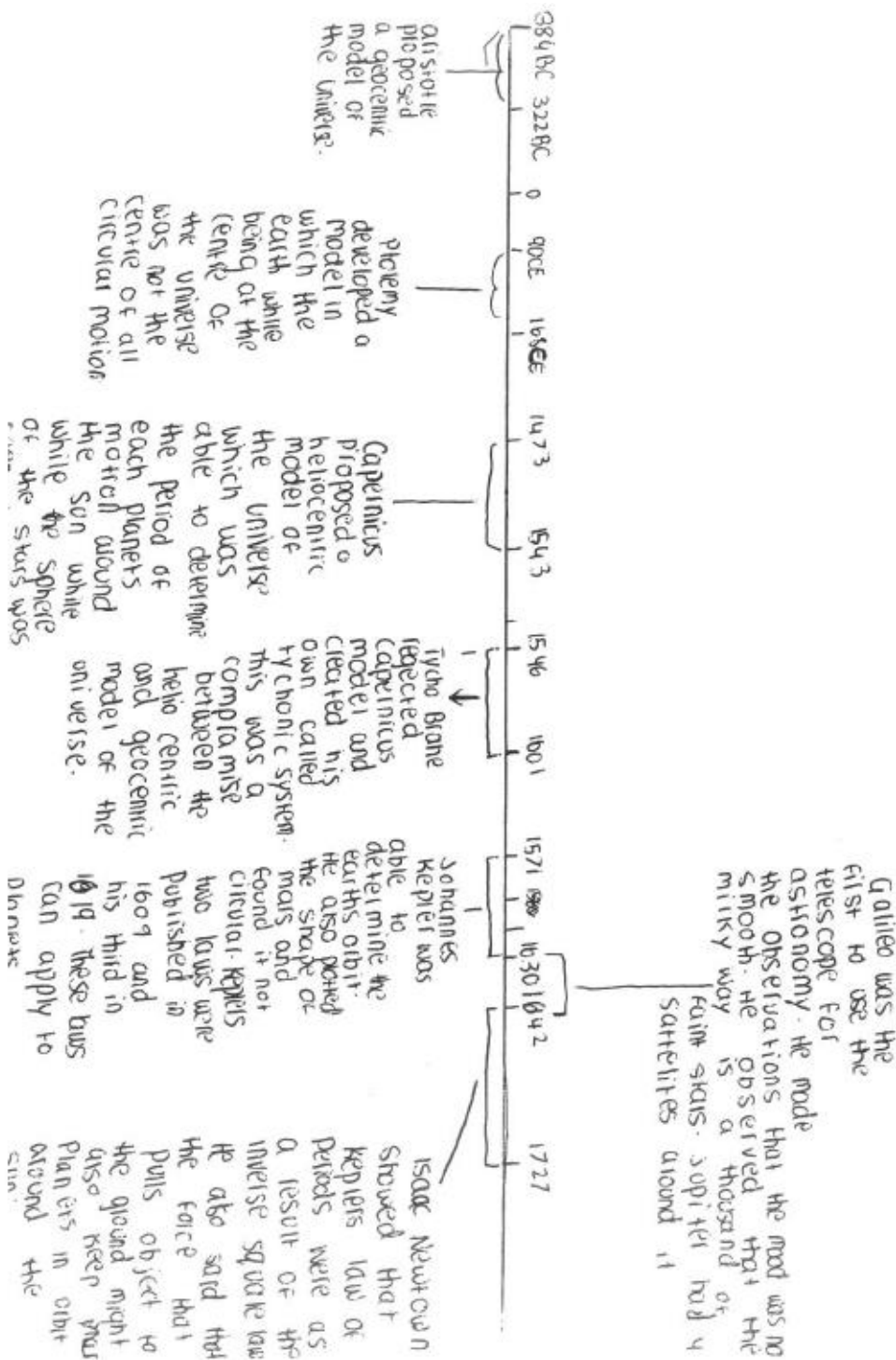
Models of the universe

Advance in technology has provided scientists with new evidence and scientific knowledge that have change ideas about models of the universe. This can be seen through the development of models from the time of Aristotle to the 21st century. Aristotle proposed the geocentric model of the universe, however there was no technology at the time of Aristotle's life, so thus all of his work was purely based on observation and philosophy. Ptolemy observations, who came after Aristotle were largely guided by the writing of Aristotle. He didn't have technology to aid him and his work was purely based on observations. Observations continued to Copernicus also used observations as well as mathematics equation in his development of the Heliocentric model. However, this way in modelling the universe significantly changed with the introduction of the telescope. Galileo had learned that a Dutchman, Hans Lippershey had developed a telescope, therefore Galileo proceeded to build one himself. Galileo was the first person to use the telescope for astronomy and this tool changed was the beginning of a new development in technology that changed ideas about the universe. The telescope allowed Galileo to make significant observation about the universe which has allowed other scientists to research. The development of the telescope and the knowledge that past scientist have provided through their observation support the heliocentric model that is currently accepted in the 21st century.

This section outlines some relevant information in a logical sequence. It identifies movement from geocentric model to the heliocentric model

This part identifies Galileo's use of the telescope but does not give any details of the observations that Galileo recorded or their significance to providing evidence for the heliocentric model of the universe

Further details of the relevant advances in technology would strengthen this response



This response diagrammatically develops a chronological sequence of events. This is not a true timeline as time is not drawn to scale

Indicated here are the models of Aristotle, Ptolemy, Copernicus and Brahe, but the response does not mention Kepler, Galileo or Newton

Grade Commentary

Frances demonstrates an elementary knowledge of content and understanding of the role of technology in developing models for the solar system. In addition, the response demonstrates elementary skills in structuring and communicating ideas.

Frances's response demonstrates characteristics of work typically produced by a student performing at a grade E standard.