

Ziggy Sheynin

Mr. Ettlin

APCSP, Period 1

7 January 2020

Scoring for Alex Beaver's Explore Task: LIGO

Row 1: 1

I awarded this point because there is an artifact; the artifact is a computational artifact; the innovation identified in the artifact does match the innovation described in the written response; the artifact does identify the innovation clearly; the artifact does illustrate, represent or explain the innovation's intended purpose, function, or effect; the written response describes the innovation's intended purpose and function and explaining how the computational artifact illustrates, represents, or explains the intended purpose, function, or effect. Both the artifact and the written responses go over and analyze LIGO and what it does.

Row 2: 1

I awarded this point because he correctly identifies and describes that LIGO is used to detect gravitational waves that were previously unidentifiable.

Row 3: 1

I awarded this point because Alex identifies one positive effect of LIGO stating that it will drastically improve our ability to understand science and space.

Row 4: 1

I awarded this point because, in addition to LIGO improving our understanding of science, Alex stated that one negative effect of LIGO is the money it requires and the space

needed to build the sensors to collect the data. He also states that LIGO proved the existence of gravitational waves which were previously undetectable.

Row 5: 1

Alex describes how the knowledge gained from LIGO improves societal understanding of space and black holes. He also states the economic impact of investing in LIGO because it is a costly process.

Row 6: 1

I awarded this point because Alex describes what kind of data is produced and how it is processed. He states, “the data is measured as a float from the light sensors. The data set is the value of the light reception sensor over time and the conversion of that light data to gravitational wave strength data over time.” Which I deemed sufficient to describe the kind of data inputted.

Row 7: 0

I did not award this point because Alex never mentions how the data presents a security concern of any kind. He mentions how the data is collected and what it could be used for, but none of the security problems related to the data.

Row 8: 1

I awarded this point because he used and cited three sources.