Level 0 – Students build background skills and knowledge needed to do a Level 1 activity. Students analyze one variable or they determine patterns, organize data into a table or graphical representation and draw qualitative conclusions based on the representation of these data.

Level 1 – Students use the background skills developed in Level 0. They calculate descriptive statistics, seek patterns, identify outliers, confounding variables, and perform calculations to reach findings; they may also create graphical representations of the data. Datasets are small in size. The data models come from particle physics experimentation.

Level 2 – Students use the skills from Level 1 but must apply a greater level of interpretation. The analysis tasks are directed toward specific investigations. Datasets are large enough that hand calculation is not practical and/or the use of statistics becomes central to understanding the physics. They perform many of the same analysis tasks but must apply a greater level of interpretation.

Level 3 – Students use the skills from Level 2. They develop and implement a research plan utilizing large datasets in a teacher led structured environment. They have choices about which analyses they do and which data they use; they plan their own investigations.

Level 4 – Students use the skills from Level 3. They identify datasets and develop code for computational analysis tools for the investigation of their own research plan in an unstructured environment.