

Planning and Carrying Out Investigations

Elements of Student Performance

Middle School



[Science & Engineering Practice 3](#)

Observable features of the student performance by the end of grade 8:

Identifying the phenomenon to be investigated

Identify and describe the phenomenon under investigation.
Identify and describe the purpose of the investigation, which includes a question about the phenomenon.

Identifying the evidence to address this purpose of the investigation

Describe the data to be collected and the evidence to be derived from the data.
Describe how the evidence will address the purpose of the investigation through the relevant crosscutting concept.
Describe how the data collected will be relevant to the purpose of the investigation.

Planning the investigation

Describe describe the tools and methods used in the investigation plan* and how they are relevant to the purpose of the investigation.
Describe which factors will serve as independent and dependent variables in the experimental investigations.
Describe the number of trials for each experimental condition.
Describe the controls for each experimental condition.

*investigation plan may be teacher-given or collaboratively developed or individually developed depending on the standard

Collecting the data

Collect and record data based on the investigation plan.
Evaluate the experimental design based on the data collected.

[MS-PS2-2](#) / [MS-PS2-5](#) / [MS-PS3-4](#) / [MS-LS1-1](#) / [MS-ESS2-5](#)

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