

SCIENCE GRADE 6

A. Short Answer (SA) 2 points

Mean: 1.22

Standard: I.C.1

Strand: Scientific Thinking and Practice
Content Standard: Understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically.
Benchmark: Use mathematical ideas, tools, and techniques to understand scientific knowledge 1. Evaluate the usefulness and relevance of data to an investigation

A group of students conducts an experiment to determine if playing loud music while mice travel through a maze will affect the time it takes the mice to complete the maze.

They collect the following data during their investigation:

- Length of the maze
- Type of music played
- Amount of time it took to finish the maze
- Mass of each mouse
- Volume of the music
- Names of the mice in the experiment
- Types of wood used to build the maze

Identify 1 set of useful data the group collects and explain why this data is useful.

B. Rubric

Top score response:

The student identifies one set of useful data:

- Length of the maze
- Volume of the music played
- Amount of time it took the mouse to complete the maze
- Type of music played

The student gives a reasonable explanation for their choice such as:

- The volume needs to be recorded to make sure that the same volume was used in all the trials.
- The amount of time is important because they will have a set of data to compare and they can evaluate their results.

Score	Description
2	The student demonstrates thorough understanding of the relevant scientific concepts and/or procedures. The student completes the task correctly, using scientifically sound procedures and provides clear and complete explanations and interpretations. The response may contain minor flaws that do not detract from the demonstration of thorough understanding.
1	The student demonstrates partial understanding of the relevant scientific concepts and/or procedures. The response includes some correct information, but indicates a lack of essential understanding of the scientific concepts and/or procedures. Explanations and/or interpretations are incomplete or only partially supported. The response may contain flaws that indicate misunderstanding of the task or of the scientific concepts and/or procedures.
0	The student demonstrates no understanding of the relevant scientific concepts and/or procedures. The response is incorrect or irrelevant to the skill or concept being measured, or no response is provided.

C. Student Responses

Score 2

57

The amount of time Because the music
could of made them go slow or fast

57

Amount of time it took
to finish the maze because
that's what they're asking.

57

The data most useful would be the
type of music played because what
if they respond differently to different
types of music.

Score 1

57

Lack of the maze I guess this because
if your maze is 100 feet long it will
take a long time for it to get
there.

57

Type of music played.
Some animals react better with music
and make the run.

*

57

the length of the maze because
If you don't know how long the
maze is then you wouldn't know
if music helped.

57

The amount of time it took each mouse. Cause
that's the real important thing in all this.

57

Amount of time.

Well they need to know
the time it took with
no music, and the
time it took with
music

57

Type of music is useful data because what if you had rock in Roll music and it bothered him but then you put on soft rock and it was relaxing to the mice and he did it faster.

Score 0

57

names of the mice
they need to know
the name so they know
who ran the fastest