Science – Grade 9

Question 1: [Standard/Benchmark: IIAB] [rubric below]

Score	Description
2	The student demonstrates a thorough understanding by including one of the following types of heat transfer: • The student describes radiation where heat is transferred from the lava to the atmosphere in the form of light or electromagnetic radiation. • The student describes conduction where heat is transferred from the lava to the surrounding rocks as the lava comes into contact with other rocks. • The student describes convection where heat is transferred in circulating cells either in Earth's interior in a process that lead to the eruption or, where heat is transferred as circulating cells within the molten lava or in the air surrounding the lava flow.
1	The student demonstrates a minimal understanding by earning 1 point.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response

Training notes:
Student receives 1 point for the type of heat transfer and 1 point for correctly relating that type of heat transfer to the lava flow.

Question 2: [Standard/Benchmark: IIAB]

Grade 4

[Standard/Benchmark: IIA3]

Students in a class measure the mass of a clay ball. The clay ball is then divided into several pieces, and the mass of each clay piece is measured. Finally, the masses of all of the pieces are added together.

How does the mass of the clay ball compare to the total mass of the clay pieces added together? Explain your answer.

Score	Description
2	The student demonstrates a thorough understanding by including the following: If the mass of all of the pieces are totaled, the mass of the clay ball should equal the total mass of the clay pieces since the same amount of matter remains constant.
1	The student demonstrates a minimal understanding by not explaining the response.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured Or there is no response

[Standard/Benchmark: IIB4]
[Art Description: Desert Food Web]

The food web list several living things in a desert food web.

A. What is the primary source of the energy for this food web? Explain your answer.
B. What living thing should be listed at X? Explain your answer.

Score	Description
4	The student demonstrates a thorough understanding by including the following: (2 points for each) A. The sun provides the energy for the food chain. Some solar energy is captured by plants and stored. The energy is transferred to other living things when they eat the plants. B. Any small primary consumer such as mice or rabbits. These organisms eat plants and are in turn eaten by the hawks.
3	The student demonstrates a general understanding by earning 3 points
2	The student demonstrates a simple understanding by earning 2 points
1	The student demonstrates a minimal understanding by earning 1 point
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response

[Standard/Benchmark: IICA]

When viewed from Earth, the constellation shown appears to travel across the sky because –

A
B
C
D