



5. A piece of laboratory equipment is shown to the right. What can this equipment be used to measure?

- A. the mass of a powder
- B. the volume of a liquid
- C. the temperature of a flame
- D. the pressure applied by a gas

SI: A  
G7.4

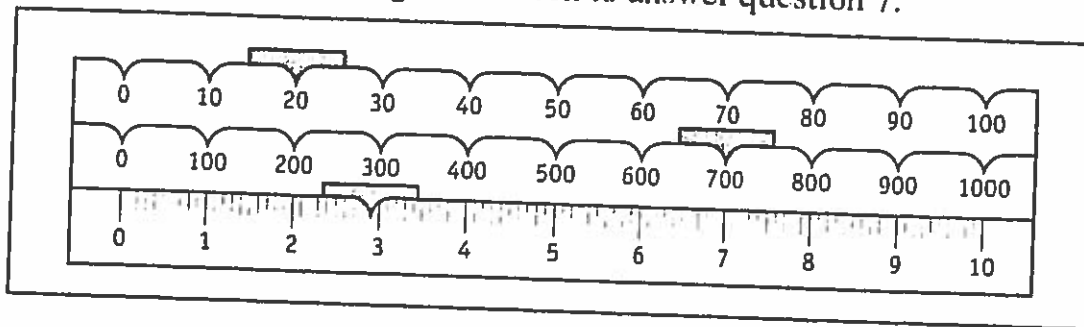


6. What effect would increasing the sample size have on the results of a controlled experiment?

- A. The results would have less validity.
- B. The results would show increased bias.
- C. The results would become more reliable.
- D. The results would have to be retested more often.

SI: A  
G8.2

Use the following illustration to answer question 7.



7. The triple-beam balance shown above was used to measure the mass of an object in grams. What mass is being shown?

- A. 723 g
- B. 722 g
- C. 722.9 g
- D. 722.99 g

SK: A  
G6.2

8. Which is an observation rather than an inference?

- A. The moon has no atmosphere.
- B. Gravity pulls all objects on Earth to the ground.
- C. Some day the universe will probably come to an end.
- D. A solar eclipse occurs because the moon blocks the sun.

SI: B  
G6.3

9. What has been an undesirable consequence of the adoption of technologies using fossil fuels for energy?

- A. People can travel more easily to distant places.
- B. Many goods can be manufactured at lower prices.
- C. Designs of new technologies often face both cost and time constraints.
- D. Increased carbon dioxide in our atmosphere is causing global warming.

S&T: A  
G6.2

Use the following information to answer questions 10 to 14.

A group of students is investigating how long children usually sleep at night. They interviewed ten groups of parents, asking each how long their child slept the previous night. The results of the investigation are shown below:

Subject	Hours Slept	Subject	Hours Slept
Child A	9	Child F	8
Child B	11	Child G	9
Child C	10	Child H	10
Child D	9	Child I	10
Child E	12	Child J	9

0. What is the median number of hours each child slept?
- A. 9 hours  
B. 9.5 hours  
C. 10 hours  
D. 10.5 hours
- SI: B  
G8.4
1. What is the mode number of hours for these results?
- A. 8 hours  
B. 9 hours  
C. 10 hours  
D. 11 hours
- SI: B  
G8.4
2. What is the mean length of time for these results?
- A. 9.0 hours  
B. 9.5 hours  
C. 9.7 hours  
D. 10.1 hours
- SI: B  
G8.4
3. How could the students improve the validity of their investigation?
- A. interview fewer parents  
B. record the favorite foods of each child  
C. specify a precise age for the children in the study  
D. use a different day of the week to conduct the interview
- SI: A  
G7.3
4. In this study, what was the independent variable?
- A. the parents  
B. the children  
C. how long each child slept  
D. when the children went to sleep
- SI: A  
G7.2
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5. It is very important that scientists keep clear, thorough and accurate records. In your Answer Document, provide two reasons why clear, thorough and accurate records are important when conducting an experiment. (2 points)
- SK: A  
G6.2