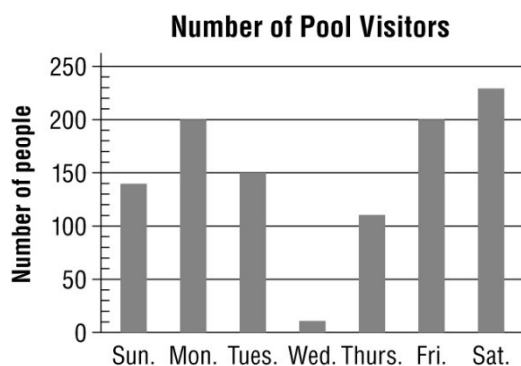


- 1) In science, we often gather information with our senses; by watching, listening, smelling, tasting and touching. For example, you might notice how the color of a flower changes. What is this process called?
- (A) stating hypotheses
 - (B) forming conclusions
 - (C) making observations
 - (D) performing experiments

- 2) Tristan counts the number of people who visit the pool each day for 1 week. He displays his findings on this bar graph.

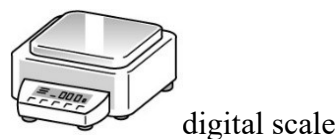
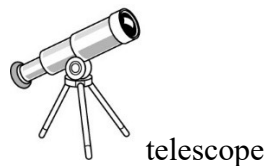
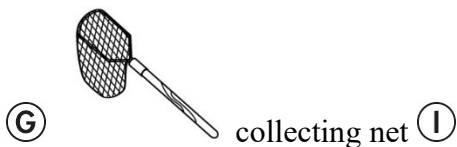
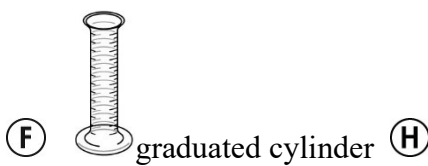


Between which two **consecutive** days did the number of visitors change the **most**?

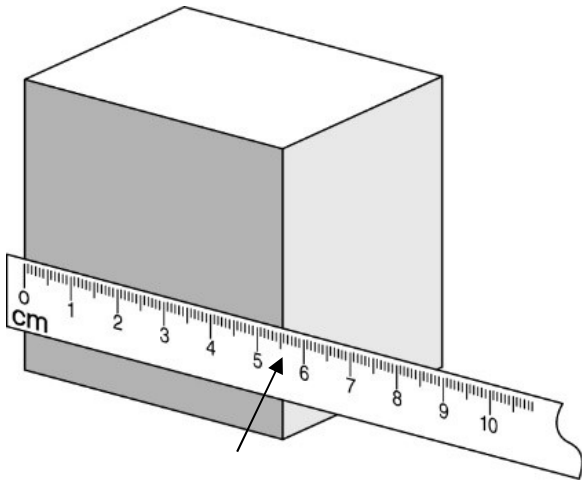
(Hint: This can be a change up or down)

- (F) Between Tuesday and Wednesday
 - (G) Between Wednesday and Thursday
 - (H) Between Thursday and Friday
 - (I) Between Friday and Saturday
- 3) Imagine that a scientist makes a **claim** that the size of an insect population (the number of insects in an area) depends on the temperature. Which set of observations should this scientist use in order to provide the best evidence to support the claim? (hint: What will give the most thorough data.)
- (F) The scientist must observe the insect population *only in winter.*
 - (G) The scientist must observe the insect population *only in the laboratory.*
 - (H) The scientist must observe the insect population *in different areas, but only in Summer.*
 - (I) The scientist must observe the insect population *in different areas throughout the year.*
- 4) Each measuring tool is designed to measure a specific property of an object or material. Which of these tools can be used to measure the mass of an object?
- (A) measuring cup
 - (B) spring scale
 - (C) pan balance
 - (D) thermometer

- 5) Kyle notices a present on the table with his name on it. He wonders what he is getting for his birthday. He decides to shake the box and listen to the contents of the closed box. He makes a guess about what is inside the present. Kyle did not realize it, but he was acting like a scientist. What was the **first step Kyle took** in this situation that a scientist also takes? (Think about how science inquiry starts)
- Ⓕ asking a question
 - Ⓖ collecting evidence/data
 - Ⓗ noticed something/making an observation
 - Ⓘ developing an explanation/making a claim
- 6) Which of the following **is always** an important **part of an experiment**?
- Ⓕ making a working model
 - Ⓖ observing things in a natural setting
 - Ⓗ making drawings of things observed
 - Ⓘ Asking measurable questions
- 7) Which of the following is not a scientific investigation? *(that means 3 are investigations)*
- Ⓕ performing a controlled experiment
 - Ⓖ using a model to test a hypothesis
 - Ⓗ observing how five caterpillars change into butterflies over a 2 month period
 - Ⓘ writing a letter about why it's important to protect plants and animals
- 8) Scientists usually write reports about their investigations. Why do they do this?
- Ⓕ to classify results
 - Ⓖ to communicate their work to other scientists
 - Ⓗ to perform experimental trials
 - Ⓘ to ask questions
- 9) A science class went on a field trip to study the organisms that live in a stream near the school. Which of these tools would be **most useful** for *collecting and making observations* about the animals living in the stream?

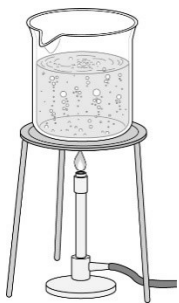


- 10) Angela measured the length of a block.



How long is the block?

- (A) 5 cm (C) 5.5 cm
(B) 5 in. (D) 6.5 in.
- 11) Which of the following would be **best** to do using repeated observation rather than an controlled experiment?
- (A) Find the average number of times, during a week in May, that a group of bees visits flowers.
(B) Find whether a diet that includes honey every day will reduce allergies.
(C) Find out what type of honey people like the most.
(D) Find whether a bee hive is stronger than a wasp nest in a battle.
- 12) Study the following picture.



Which statement demonstrates the **most thorough** example of scientific observation for this picture (*as it appears right now now*)?

- (A) The jar is changing into something new.
(B) The flame is doing something weird.
(C) Bubbles are forming in the jar and rising.
(D) I think ice will form in the jar.

13) The following picture shows two students working together in science class.



What are these two students doing right now?

- Ⓕ asking a question
- Ⓖ planning an investigation to do later
- Ⓗ recording observations and evidence

Extra Credit: (worth up to 5 bonus points)

If we were to run the “Clay Boat Challenge” one more time, what are 3 things you would do to maximize the number of marbles that your boat would be able to hold?