

\*suggested schedule\* but can be completed at own pace until 8/31 11:59pm

**Monday**

- Finish Brain Dumps and Notes if needed
- Complete pg. 1 in HW Packet

**Tuesday**

- Complete pg. 2

**Wednesday**

- Complete pg. 3-4

**Thursday**

- IXL: B.1 Identify control and experimental groups (WKB)

**NO HOMEWORK FRIDAY!!  
ENJOY YOUR WEEKEND :)**

**Reminders**

- Topic 1a Test Monday 8/29
- Complete Brain Dump/Notes (in notebooks)
- Review Nature of Science Knowledge Organizer
- HW Packet due 8/31 at 11:59 pm

**Nature of Science Unit Vocabulary**

Name \_\_\_\_\_

Date \_\_\_\_\_

## Testable or Not Testable

### A testable question

- involves a cause and effect;
- has two variables—one thing (the independent variable) is changed to see its effect on another thing (the dependent variable); and
- investigates something that we can observe or measure.

**Make an X to indicate whether each question is testable or not testable. Then comment about why you think so.**

	Testable	Not Testable	Why?
Does the amount of water affect the growth of a basil plant?			
Do people like peanut butter more than jelly?			
How does changing the shape of a kite affect its ability to fly?			
How do kites work?			
What is the effect of time spent studying on test grades?			
What causes a volcano to erupt?			
Does the power level of a microwave change the rate at which popcorn pops?			



**Assignment Instructions:** Read the following Controlled Experiment Scenarios. Identify the Independent Variable (**IV**), Dependent Variable (**DV**), Constant Variables (**CV**) (at least 2) and Control Group (**CG**). Form the Testable Question (**TQ**) and the Hypothesis (**HP**) (**find the Rationale in the scenarios: What did the experimenters think...?**).

A student investigated whether ants dig more tunnels in the light or in the dark. She thought that ants used the filtered light that penetrated the upper layers of earth and would dig more tunnels during the daytime. Ten ant colonies were set up in commercial ant farms with the same number and type of ants per ant farm. The same amount of food was given to each colony, and the colonies were in the same temperature. Five of the colonies were exposed to normal room light and five were covered with black construction paper so they did not receive light. Every other day for three weeks the length of the tunnels was measured in millimeter using a string and a ruler. Averages for the light and dark groups for each measured were then computed. The averages are listed in the following chart.

- **IV:**
- **DV:**
- **CV:**
- **CG:**
- **TQ:**
- **HP:**

# PRACTICE QUESTIONS

SC.5.N.1.3/SC.5.N.2.2

- 1 Daniel learned that many ants feed on certain sweet liquids left behind by other insects called honeydew. Daniel decides to investigate ant food further by conducting an experiment to see if ants are more attracted to honey than sugar. The results of Daniel's findings are listed below.

Experiments	Ants in the Sugar Container	Ants in the Honey Container	Ants in the Surrounding Area
Trial 1	8	14	2
Trial 2	6	16	1
Trial 3	6	16	3

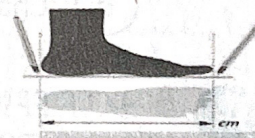
Which statement is the **best** conclusion to draw from Daniel's recorded results?

- (A) The ants are more attracted to sugar.
- (B) The ants are more attracted to honey.
- (C) The ants are not attracted to sugar or honey.
- (D) The ants equally like sugar and honey.

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Marc's Birthday	Age	Shoe Size
January 9, 2003	9	3
January 9, 2004	10	4
January 9, 2005	11	5
January 9, 2006	12	6
January 9, 2007	13	7
January 9, 2008	14	6
January 9, 2009	15	9

Marc's mother noticed that his feet seemed to be growing at one shoe size per year. So, out of curiosity, she decided to record his shoe size each year on his birthday.



What mistake did Marc's mother most likely make in her measurements?

- (A) She measured his feet twice per year.
- (B) She made inaccurate measurements in the year 2007.
- (C) She made inaccurate measurements in the year 2008.
- (D) She stopped measuring her son in 2009.

# PRACTICE QUESTIONS

SC.5.N.1.3/SC.5.N.2.2

- 3 Chloe wants to know if caterpillars prefer eating decaying old leaves or new leaves just picked from the tree. She takes some cuttings of a plant and combines one set with new leaves and another set with old leaves. She then places the cuttings of the plant, combined with leaves, on opposite sides of a bed of soil. The caterpillars she has collected are placed in the middle of the soil bed, an equal distance from both sets of cuttings.

In order to record the results, what should Chloe do next?

- A Research which type of food caterpillars prefer.
- B Repeat the experiment with worms or bugs.
- C Record the number of caterpillars that remain somewhere in the soil.
- D Count and record the number of caterpillars that feed off of each set.

- 4 The science lab for the week was to investigate the effect of color on heat absorption. The class decided to compare heat absorption using the color black as compared to the color white. The results of four of the five lab groups indicated that more heat is absorbed by the color black.

What should the lab groups do to determine why one group got different results?

- A All groups should immediately try the experiment again.
- B Compare the procedures of the one group to the other four groups.
- C The group that concluded that white colors absorb deserve a failing grade.
- D Change the data of the group that had different findings to match the others.

- 5 Anaya created an experiment to see if apple cider vinegar, when added to baking soda, releases more gas bubbles than when added to white vinegar. Which statement **best** describes why Anaya should write down her experimental procedure?

- A The information will show other experimenters that baking soda causes too many gas bubbles.
- B The result will help consumers decide which vinegar to purchase.
- C To allow other researchers to understand why she selected her hypothesis.
- D So that experimenters may repeat the exact scientific investigation.