

## WEEK 1. The Scientific Method

### DAY 1

Write out a short definition for each word.

Observation \_\_\_\_\_

\_\_\_\_\_

Hypothesis \_\_\_\_\_

\_\_\_\_\_

Experiment \_\_\_\_\_

\_\_\_\_\_

Prediction \_\_\_\_\_

\_\_\_\_\_

Theory \_\_\_\_\_

\_\_\_\_\_

Assumption \_\_\_\_\_

\_\_\_\_\_

Causality \_\_\_\_\_

\_\_\_\_\_

Copy Proverbs 18:17 from your Bible.

\_\_\_\_\_

\_\_\_\_\_

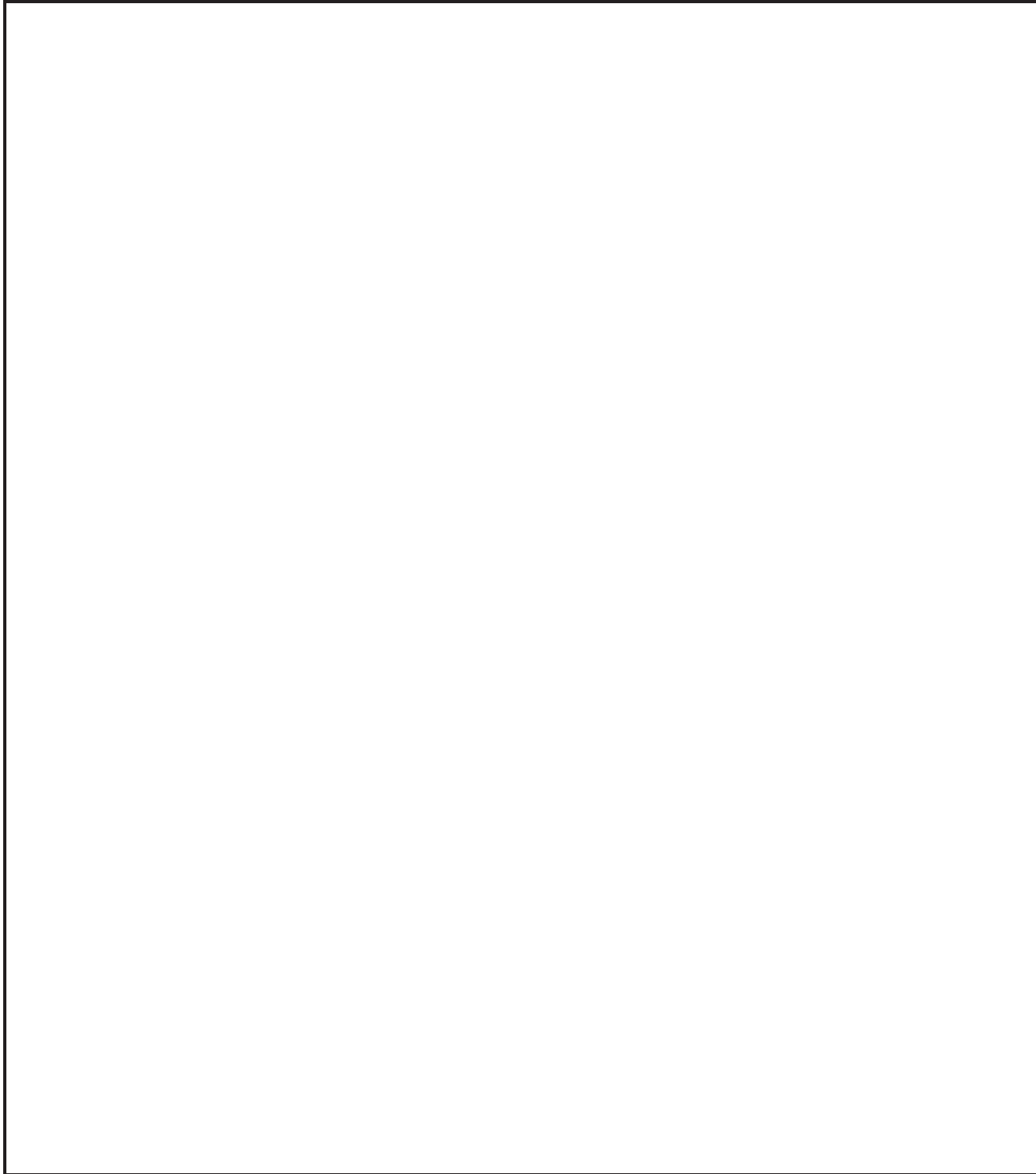
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**Make a chart illustrating the scientific method. Be sure to use each of these steps:**

1. Observing (gathering facts)
2. Hypothesizing (suggesting explanations)
3. Experimenting (testing explanations)

## **THE SCIENTIFIC METHOD**



**DAY 3**

**Write out a short definition for each word.**

Accurate \_\_\_\_\_  
\_\_\_\_\_

Precise \_\_\_\_\_  
\_\_\_\_\_

**DAY 4**

You've probably noticed that your tongue can taste many different flavors. Can you name some?

**Draw pictures to illustrate them.**

**Suggest a hypothesis as to why your tongue can taste different flavors. Write your hypothesis in a complete sentence.**

A complete sentence is a group of words that includes a subject and a verb and expresses a complete thought. For example,

*My tongue can taste different flavors because* (state your hypothesis here).

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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Before doing the following experiment, predict what you think will happen. Write your prediction in a complete sentence.**

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Experiment: [homeschoolingtorah.com/links/science-experiment-tongue-map/](https://homeschoolingtorah.com/links/science-experiment-tongue-map/)



**Analyze your results. Was your hypothesis correct? Did your prediction come true? Were the results repeatable? Why or why not? (Use a complete sentence.)**

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**DAY 5**

**Draw a picture that illustrates something you learned this week about the scientific method.  
Write a summary paragraph at the bottom of the page.**

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## Things I Want to Learn More About

Have you become more curious about anything in Yah's creation this week? On this page, start a list of things you're curious about. When you think of something, be sure to write it down quickly before you forget it!

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Choose one topic to look up online or in a book today. Tell your parents what you learned about that topic.

## WEEK 2. Over the Face of the Waters

### DAY 1

Write out a short definition for each word.

Wave

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Medium

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Crest

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Trough

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Transverse  
Wave

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Longitudinal  
Wave

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Wavelength

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Amplitude

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**Copy Genesis 1:1-2 from your Bible.**

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Draw a wave and label the *crest*, *trough*, and *wavelength*.

**DAY 2**

**Write out a short definition for each word.**

Frequency \_\_\_\_\_  
\_\_\_\_\_

Speed \_\_\_\_\_  
\_\_\_\_\_

Reflection \_\_\_\_\_  
\_\_\_\_\_

Refraction \_\_\_\_\_  
\_\_\_\_\_

Diffraction \_\_\_\_\_  
\_\_\_\_\_

Interference \_\_\_\_\_  
\_\_\_\_\_



Can you explain this mathematical formula?

$$\text{Speed (velocity)} = \text{wavelength} \times \text{frequency}$$

For example, in Problem 1, if you multiple 5 times 60, you will get 300. Label the problem in meters per second (m/s).

Solve the remaining velocity problems:

	Speed (Velocity)	Wavelength	Frequency
Problem 1:	<i>300 m/s</i>	<i>5 meters</i>	<i>60 Hz</i>
Problem 2:		<i>0.25 meters</i>	<i>1 200 Hz</i>
Problem 3:		<i>10 meters</i>	<i>3 Hz</i>
Problem 4:		<i>1.5 meters</i>	<i>200 Hz</i>
Problem 5:		<i>2 meters</i>	<i>500 Hz</i>

Draw a picture illustrating why we can use this mathematical formula to calculate the speed at which waves travel.

**DAY 4**

**What is your hypothesis about why waves form in water?  
Write your hypothesis in a complete sentence.**

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**What do you predict will happen when the fan blows across the water's surface?  
Write your prediction in a complete sentence.**

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Experiment: [homeschoolingtorah.com/links/education-center-activity-lets-make-waves/](https://homeschoolingtorah.com/links/education-center-activity-lets-make-waves/)



**Analyze your results. Was your hypothesis correct? Did your prediction come true? Were the results repeatable? Why or why not? (Use complete sentences.)**

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**Could you design a better experiment? What would make it better? (Use a complete sentences.)**

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**DAY 5**

Make a page for your notebook illustrating what you learned this week. Label parts of waves and try to include most of your vocabulary words. At the bottom, include a paragraph that tells what you learned this week.

*About Waves*

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