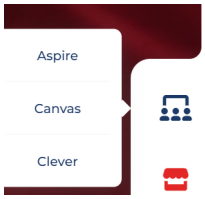
Dear Parents,

Here is the work for our Virtual Learning Day. Please help your student complete assignments.

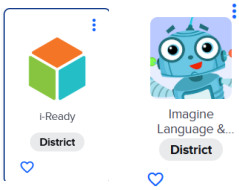
Instructions for Logging in to Canvas



1. Go to hawthornacademy.org
2. Hover over the Clever icon (it looks like this:
3. Click Clever
4. Select “Login with Google”
5. Click

6. Enter your student’s username:
   firstname.lastname (no spaces) followed by @hawthornstudent.org
   Example: *emily.smith@hawthornstudent.org*
   Password: they created their own password

Accessing iready and imagine learning



1. Once logged in, locate and click the iready icon.
2. This will take them to their lessons they need to work for 15 minutes
3. Once they finish that they will click on the Imagine Learning icon.
4. They will work on this for 20 minutes.

Assignments for the day

1. The assignments are attached, scroll down to see the assignments for today.
2. You can either print the assignments or students can write their answers on a separate piece of paper and turn that in to their teacher when we return to school. Or you can email a picture to the teacher.

Thank you for your support in helping your student succeed on our virtual learning day!

Adding and Subtracting Two Mixed Fractions (A)

Name: _____ Date: _____ Score: _____

Calculate each result.

1. $4\frac{4}{8} - 2\frac{16}{19} =$

2. $1\frac{5}{6} + 3\frac{7}{13} =$

3. $5\frac{1}{3} - 3\frac{1}{4} =$

4. $4\frac{1}{3} + 1\frac{1}{13} =$

5. $4\frac{6}{8} + 1\frac{2}{5} =$

6. $4\frac{2}{6} + 1\frac{3}{5} =$

7. $3\frac{2}{3} + 2\frac{3}{16} =$

8. $2\frac{2}{5} - 1\frac{1}{2} =$

9. $4\frac{2}{4} - 2\frac{5}{9} =$

10. $4\frac{2}{5} - 1\frac{5}{9} =$

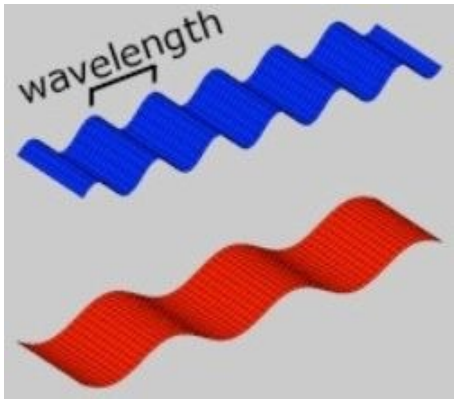
Write a short fictional story. It can be about whatever you want as long as it is school appropriate and is at least three paragraphs long.

How Are Rainbows Formed?

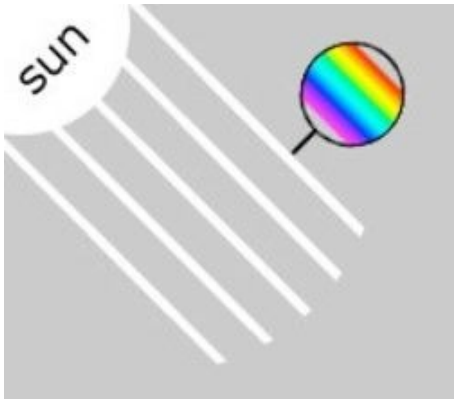
by Dr. Hany Farid

Sunlight is **composed** of light of varying wavelengths. Short wavelength light appears blue, violet and indigo, and long wavelength light appears red, orange and yellow. When sunlight enters a raindrop in the air, the light splits into a multitude of colors. This light then reflects off the back of the raindrop and re-emerges in the direction in which the light first entered. The light emerging from many raindrops creates a rainbow. Read on for a more detailed explanation.

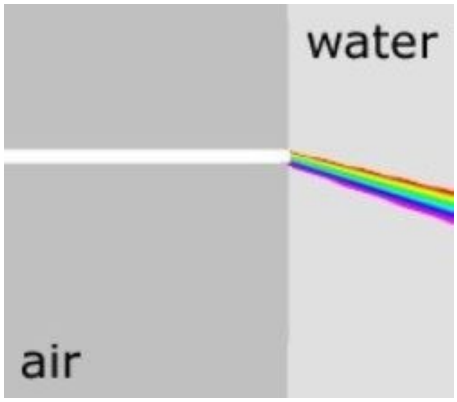
Fact 1. Light travels in waves. The light's wavelength determines its perceived color. Short wavelength light, for example, appears blue, and long wavelength light appears red.



Fact 2. Sunlight is **composed** of light of many wavelengths. In the range that we can see, this includes the colors of the rainbow.

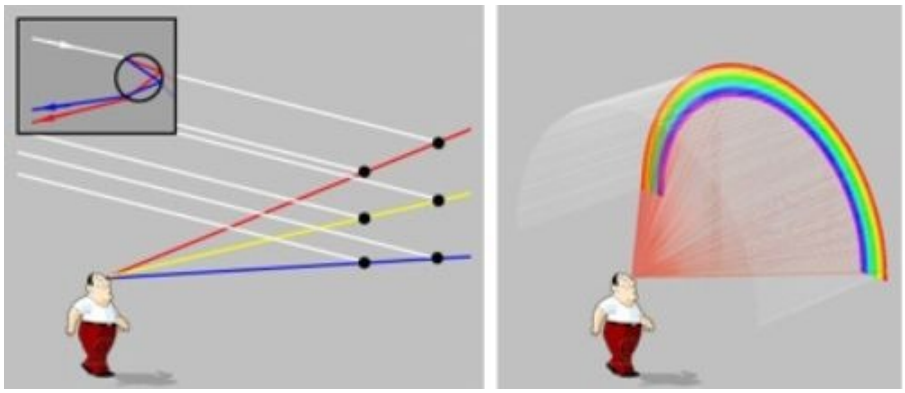


Fact 3. When light enters water it bends (**refracts**). The amount of bending depends on the wavelength of light. As a result, the light splits into its **component** colors.



When a ray of sunlight enters a raindrop it bends (**refracts**). The light then strikes the back of the raindrop, where some of the light passes through and some is reflected. As the light exits the raindrop, it is **refracted** again. The**angle** at which the light emerges depends on the wavelength of light. This path is illustrated in the small box below, where only the bending of two wavelengths (blue and red) are shown.

Consider now the diagram on the left. The sun is behind you (white rays) and there is rain in front of you (black dots). As the sunlight enters each raindrop, the light is **refracted** and reflected as described above. Because the sun is so far away, the rays of sunlight are nearly **parallel** to one another. As a result, the **angle** between the red line and each ray of sunlight striking a raindrop on that line will be the same. So, the light that reaches your eye along this ray will be of the same wavelength (color). The same is true for the yellow, blue and intermediate lines corresponding to each color of the rainbow.



Consider now the diagram on the right which explains why the colors of a rainbow form an arc. The **angle** between the incoming rays of sunlight (white) and all of the red lines, forming a circular cone, have the same angle. As a result, the light that reaches your eye along these lines have the same wavelength (color). The same is true for each band of the rainbow.

The reason that rainbows are somewhat rare is that you will only see them when there is rain in front of you and somewhat in the distance, and the sun is behind you and fairly low on the horizon.

Vocabulary

angle

noun

definition: the space between such lines measured in degrees.
Each angle in a square measures 90 degrees.

Spanish: ángulo

component

noun

definition: a part of something.
One of the components of the engine is missing.
Vegetables are a component of a healthy diet.

Spanish: componente, pieza

compose

verb

definition: to be the parts of; make up.
These twenty people compose the class.

Spanish: componer

forms: composed, composes, composing

parallel

adjective

definition: When two lines are parallel, it means that they are going in the same direction and are the same distance apart at every point on the lines. Parallel lines never meet.
My notebook paper has parallel lines.

Spanish: paralelo

refract

transitive verb

definition: to bend (rays or waves of light, heat, sound, or the like) in passing (them) obliquely from one medium into another which transmits them at a different speed.
The rays of light are refracted by the prism.

forms: refracted, refracting, refracts

1. Before you start reading...

Here are the vocabulary words that will be in this reading. Let's see how well you already know them.

Check the box that shows how well you know each word. It's ok if you don't know them yet (this is not graded)!

	Don't know it	Have heard of it but not sure of its meaning	Know something about its meaning	Know it well
component				
compose				
parallel				

---

2. Word Matcher

Every word has other words that have similar meanings or even the exact same meaning (these are called synonyms!). Draw a line from each similar word or synonym to the vocabulary word that it matches!

part division element form

component **compose** **parallel**

constitute make up even side by side

---

3. After reading and exploring the words through some activities...

Do you know these words better? Check the box that shows how well you know each word. It's ok if you don't know them yet (this is not graded)!

	Don't know it	Have heard of it but not sure of its meaning	Know something about its meaning	Know it well
component				
compose				
parallel				

Name: _____ **Date:** _____

1. What is sunlight composed of?

A. light of varying intensity

B. light of varying wavelengths

C. light traveling at different speeds

D. light of a single color

2. What does the author explain in the first paragraph of the text?

A. why rain causes light to split into separate colors

B. how a rainbow is formed

C. how light travels

D. why rainbows are shaped like an arc

3. Please read these sentences from the text.

"Sunlight is composed of light of varying wavelengths. [...] When light enters water, it bends (refracts). The amount of bending depends on the wavelength of light. As a result, the light splits into its component colors."

What can you conclude based on this evidence?

A. Each wavelength of light bends the same amount when it enters water.

B. When light enters water, its wavelength is altered.

C. Each component color of light has a different wavelength.

D. The component colors of light all have the same wavelength.

4. When would you be most likely to see a rainbow?

A. in the evening on a cloudy, rainy day

B. at noon on a partly cloudy day

C. in the morning on a bright, sunny day

D. in the evening on a partly rainy, partly sunny day

5. What is the main idea of this text?

A. The colors of a rainbow form an arc because of the angles at which light of different wavelengths reaches your eye.

B. Rainbows form when sunlight enters raindrops, splits into different color components, and then re-emerges from the raindrops.

C. You will only see rainbows when there is rain in front of you and somewhat in the distance, and the sun is behind you and fairly low on the horizon.

D. Sunlight is composed of light of varying wavelengths. Short wavelength light appears blue, and long wavelength light appears red.

6. Why might the author have chosen to list Facts 1, 2, and 3 separately instead of describing them in one paragraph?

A. to make the explanation of how rainbows form seem more complicated

B. to indicate that these facts do not affect the way rainbows form

C. to show that these facts are not related to each other in any way

D. to emphasize the importance of these facts to the way rainbows form

7. Choose the answer that best completes the sentence below.

Light's wavelength determines its perceived color; _____, short wavelength light appears blue.

A. however

B. similarly

C. initially

D. for instance

8. When light enters water, it bends. What does the amount of bending depend on?

9. For a rainbow to form, sunlight needs to enter and then re-emerge from raindrops. Describe what happens to the light between when it first enters a raindrop and when it comes out of the raindrop. Support your answer with evidence from the text.

10. Why might you only see a rainbow when rain is in front of you? Support your answer with evidence from the text and images.