



The Price of Beauty

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This curriculum unit is recommended for:
(Literacy, Science, Math, 2nd Grade)

Keywords: Relaxer, Hair, Press, Braids, Lye, chemicals, weave, extensions, crown, wigs, flat iron.

Teaching Standards: See [Appendix 1](#) for teaching standards addressed in this unit. (Insert a hyperlink to Appendix 1 where you've stated your unit's main standards.)

Synopsis: Hair represents many things in communities. It is used as a snapshot of hereditary, economic status and sometimes political ideology. We take great pride in our appearance, as it is our calling card to the world. How much of our health are we willing to sacrifice to look good? Are we aware of the long-term damage we are doing to our hair? This unit intends to briefly explore relaxing, pressing, and braiding hair treatments. These three hair treatments are used mostly by Black women for fashion and convenience. The question I want to address is how much damage are we doing to our hair with these hair treatments?

I plan to teach this unit during the coming year to seventeen 2nd Grade students in 2022 school year.

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Student Background/ Demographics

My school is one of 164 that make up the Charlotte Mecklenburg Schools district. My school has approximately 567 students with 37 teachers and support staff. The school population is 67% African American, 6% White, 17% Hispanic, 4% Asian, and 1% Indian. We also have an EL (English Language Learner) population of 6.5% and an AG (Academically Gifted) population of .7%. We are a Title One school which means we receive Federal Funding

Rational

Appearance has always been an important aspect of society. What and how you wear things says something about who you are, and the values you deem important. This has been amplified in the era of social media. Sites like Instagram and Facebook thrive on followers and likes. The main way to increase your likes and followers is to have a visual appearance that appeals to your audience. This can mean enhancing parts of your body, possessing the latest designer clothes, or engaging in reckless behavior.

My students include children between the ages of 7 and 8 who are in the beginning stages of understanding who they are. Social media plays a big part of their lives. It often displays popular actions and ideas as socially acceptable behavior; however, these same ideas and actions can cause long term even permanent damage to young impressionable bodies and minds. According to the American Academics of Pediatrics, adolescence who spend a significant time on social media can begin to show symptoms of “Facebook depression”.¹ This depression is a result of the intense pressure to have a desirable number of likes, status updates, and pictures of friends living extravagant lives. This pressure can make young impressionable kids feel they do not measure up to their peers perpetuating a negative self-image.

As a Black female teacher, I see and hear the effects of image and self-worth when my students talk about hair. For boys, it is all about making sure their hair line is in proportioned with their forehead, and their hair looks neat and shaped up around the sides. For girls, it’s about the texture, length, and style of their hair. The girls will compare texture and refer to it as “good” or “bad” hair. Often times I hear the girls talking about famous actors and musicians wanting to know how they can get their hair to look like theirs. Sometimes equating beauty with an unreal standard perpetuated by advertisers in the media. Now, I must admit advertising has come a long way. We now see many natural and cultural represented styles making their ways on magazine covers and fashion runways. Although this is a step in the right direction, how much are these styles damaging our hair?

¹ (Impact of Social Media on Youth Mental Health: Statistics, Tips & Resources 2018)

Introduction

Hair is made up of 10% water and 90% proteins like keratins proteins. The keratins proteins are held together by strong covalent bonds that make hair durable. Hair on a human head grows about ½ inch per month and has a life span of about four to seven years. The most rapid hair growth occurs between the ages of fifteen and thirty.

Culturally the amount and texture of hair varies. For example, descent from Europe with red hair have the fewest number of hairs followed by blondes then brunettes. Human follicles act independently not as a collected bunch. For example, large portions of hair do not shed all at once unless disease or illness is detected. Hair usually stays in the growing phase which produces keratin and melanin. Melanin is what gives hair its color.

In prehistoric times hair covered much of the human body. Hair protected us from extreme temperatures, rough terrain, injuries, and provided camouflage. Over time the loss of hair gave way to more sweat glands that provided a better and natural cooling system. As we evolved the less, we needed so much body hair. We clothed ourselves with animal skins and warmed our bodies with heat from fire. Since hair continues to grow it has become a symbol of life and renewal, and a way to express our personality. Traditionally women wore long hairstyles and were encouraged to keep it covered especially after marriage. According to author Rose Weitz women's hair binding was influenced by pre-modern Christian theologians. They believed that women were more susceptible to pleasures of the flesh and the devil's seduction. Women were a constant threat to men's soul with the power to tempt them into evil as Eve did to Adam. Since women's long hair was thought to be the most powerful tool of temptation it inspired laws to require women to cover and bind their hair in public. Some laws went as far as casting women who revealed their hair in public as adulterers. Colonial laws clearly stated that a woman's hair belonged to her husband and permission had to be granted if it was to be cut or altered.²

The multi-billion-dollar hair care industry has given us specific ideas of what healthy and beautiful hair should look like. Unfortunately, attaining these ideas end up damaging the hair. It is no coincidence that 90% of the hair products sold target repairing and restoring hair from daily and long-term damage.³

Relaxers

In 1877 Garrett Augustus Morgan, a Paris, Kentucky inventor, discovered that chemical used to clean sewing machines can relax curly, kinky hair. The experiment was first

² (Roach n.d.)

³ (Jennifer Marsh 2015)

conducted on his dog, then he decided to try it on his hair. With much success he found the chemicals uncurled both their hair. In 1913 Morgan founded the G.A. Morgan Hair Refining Company. The company made hair relaxing products that used alkaline chemicals as its base. The success of his relaxers made it possible for him to create other hair products like dying ointments, and a special pressing combs that helped prevent hair loss during the relaxing process. During the early 20th Century soap contained the chemical lye. To ensure the alkaline relaxer was straightening the hair, it needed to be thoroughly combed through and washed out of the hair to minimize hair loss and damage. The curved shape pressing comb was sturdy enough to separate and withstand to two alkaline chemicals washing through and out of the hair.⁴

Lye vs. No-Lye Relaxers

The smoothness of the hair treated by the chemicals in the relaxer and the lye soap created a desired effect for many Black women and Men. Lye became the main ingredient in most relaxers but was not commercially produced until 1971. About a decade later Black women began to notice the damage lye relaxers were creating on their hair. The harsh chemicals were stripping their hair of its needed protein, causing thinning and breakage. Johnson Products Company created the first no-lye relaxer called Gentle Treatment. Instead of lye other less harsh alkaline chemicals, like potassium hydroxide and lithium hydroxide, are used to create the desired straightening effect.

Phyto or Plant based relaxers

As demand calls for more natural products, suppliers are finding ways to creating herbal and botanical based relaxers. But are they really natural? Phyto specific relaxer contain egg and soy in their ingredients. This technically allows the manufactures to market these products as plant based. According to manufacturers like Soft and Beautiful, the extract of the egg and soy are the active ingredient that relaxes the hair. The truth is these plant-based relaxer contains guanidine carbonate, or carbonic acid with guanidine, which is an organic salt. These two substances are needed to make the relaxer work properly and are truly the active main ingredients. The PH levels of a Phyto based hair relaxer is between 11.5 and 12.5. Compare that to the levels of lye relaxers, which are between 12 to 14, still put Phyto based relaxer quite high on the PH scale. Phyto based relaxers are not recommended for all types of hair. Hair that is frequently dyed, highlighted, and bleached may experience additional hair damage and diminished straightening effects.⁵

Pressing Hair

The history of the pressing comb varies depending on who you speak to. According to the article “Sizzle” for the Smithsonian National Museum of African American History and

⁴ (RICHARD 2017)

⁵ (Thibodeaux 2013)

Culture, the hot comb was referred to using many different names and can claim several inventors. It is noted that in the late 1800s a Frenchman named Marcel Gateau held a patent for a “hair-waving iron” and a curling iron rather than a hot comb. Other people credited for its invention are Walter Sammons in 1920, and Clara Grant in 1925.

Pressing combs, or Hot Combs, work much like an iron. The metal comb is heated on the stove or in a ceramic heater. The comb is heated, and teeth are run through the strands of hair to straighten it. This is because the heat causes the disulphide bonds to break. This break allows the keratin chains to move around positioning itself linear assuming a straightening appearance.⁶ The process varies depending on the texture and amount of hair to straighten. The process requires a steady hand, as the comb is coming in close contact to the face and neck. Hair pressing results in a physical change to the hair and is not permanent. Moisture can reverse the effects causing the hair follicle to return to their natural state. It is this fact that makes pressing a popular alternative for relaxing Black girls' hair.⁷

Braids

Braids have been a traditional way Black men and women have worn their hair. Dating back to ancient Egypt braiding styles showcase culture, regions, and creativity. Braids were used to recognize marital status, age, religion, wealth, and rank in the community. Nigerian women in polygamous relationships created styles called *kohin-sorogun*. These styles had intricate braid designs and patterns on the back of their heads. This symbolized turning their backs to rival wives to torment and spark jealousy.⁸ Braids were also worn by men and boys and were a symbol of war preparation and eventually death. There are many braiding styles, but most recently trends seem to favor cornrows and box braids.

Cornrows are a traditional type of braids that dates back to 3000 BC. The style is a representation of agriculture, order, and a civilized way of life. The style has many purposes, but the most common was convenience and protection of the hair while enduring slave labor. Box braids are said to originate from the *eembuvi* braids of the Mbalantu women in Namibia. The preparation begins when the women are young girls and their hair is treated with ground tree bark and natural oils. This treatment is put in as the hair is braided to help the hair to grow to very long lengths. The braids were adorned with cowrie shells, jewels, beads, and other meaningful items. Since box braids took many hours to braid and adorn it was thought that women who wore this style were wealthy.⁹

What are we doing to our hair?

⁶ (Vaidya 2009)

⁷ (Moriah James 2019)

⁸ (Horne 2019)

⁹ (Muhammad 2021)

One of the questions we wanted to answer in our Seminar was how our hair reacts when it is exposed to heat. Our seminar leader, Dr. Brown, brought us into her lab with equipment that shows the behavior of hair when it is heated up to high temperatures. We first had to collect sample of our own hair. Some samples included hair that was chemically treated with color or relaxer. Most samples were and taken from natural hair in protected styles like braids, and dreadlocks. First, we had to collect samples of our hair and place it in a small metal container. Once in the container it was weighed it was placed in the machine for the process to start. While the machine was running, we needed to find out the temperature at which hair begins to burn. According to Fundamentals of Ethnic Hair: The Dermatologist's Perspective, healthy hair burns at 451.4 degrees Fahrenheit.¹⁰

As we analyzed the results, we noticed that most of the hair was burning at a lower temperature. Hair was burning at the 200 to 300 degrees Fahrenheit range, which is far below the healthy range. This is an indication of hair previously damaged. We also noticed as the hair was being heated it was giving off something before it reached its burning stage. We determined it was a Thermal, or a heat energy. Not sure why this was happening further research would suggest this maybe the bubble hair effect. This effect happens when the hair shaft is exposed to elevated temperatures. Expulsions of water, in the form of vapors, burst out of the cortex and cuticle leaving microscopic holes in the cuticle. These holes make the hair fragile and more susceptible to breakage.¹¹

In our experiment we found four out of six participants' hair gave off these thermals early in the heating process. One of the participant's hair thermals were given off later in the heating process, while the last participant's hair did not burn at the 300-degree temperature.

If we use this experiment as a litmus to the state of our hair, we can hypothesis most of hair would fall into the unhealthy category. This does not stop up from using chemicals, heating products and other styles that cause our hair short- and long-term damage.

Priced out of Beauty

It is no secret that Black Hair Care products can be found in about every Black neighborhood, but these businesses are not owned by Black people. Less than 1% of store owners are Black. Although Black ownership is on the rise, Korean Americans control three-quarters of this market.

According to a Nielsen reports on Black buying power in 2018 Black consumers spent nearly 1.2 trillion dollars annually on various products. This number is predicted to increase to nearly 2 trillion by 2021. Even though Blacks represent 14% of the population they account for 85% of the ethnic and beauty care aids.¹²

¹⁰ (Alessandra Haskin 2017)

¹¹ (Alessandra Haskin 2017)

¹² (Yewande O. Addie 2020)

Black women are a driving force in the cosmetic industry, but have a difficult time being represented in marketing campaigns, and academic discussions. But when major cosmetic companies look to brand products they tend to rely on input from the Black community. Shea Moisture, a Black founded product still thought to be Black owned was the preferred hair care brand to the Pantene Gold collection. Neither product is Black owned, but marketing researchers found if products appealed to Black women's sense of ethnocentric it would sell better. It is no accident that we are seeing more branding that caters toward Black women and there needs.

Before we give up the notion of Black owned beauty shops two major things seem to be happening. First, more black women are supporting natural hair styles and more Korean Americans are leaving the business. According to the Black Owned Beauty Supply Association there are now 3,000 Black -owned beauty supply stores in the country. This is an increase of 150 stores than last year. Black owners still face some obstacles. Store owner Temika Morris admits she does not have the ability to buy products in bulk to have competitive pricing but relies on experience instead.¹³

Instructional Implementation

Although there is not a specific 2nd Grade Science unit that addresses hair, the two units I have chosen closely related are states of matter and genetics. Since my unit discusses reaction hair has to chemical and physical change, it would be difficult to conduct activities exposing my students to harmful substances. My hope is that students appreciate the beauty of their natural hair and how it can bond families and communities. This will be evident in the Literacy lesson. Students will analyze feeling around hair and family from the perspective of a young girl and a young man. It is also relevant to examine the increasing cost to groom and maintain natural hair. Students will solve two math problems in which they can see the daily and yearly cost of maintain popular hair styles. I have designed three lessons to fit 2nd Grade Literacy, Science and Math standards. Each lesson can be done independently, or as a theme highlighting how important our hair is to us.

Literacy Lesson

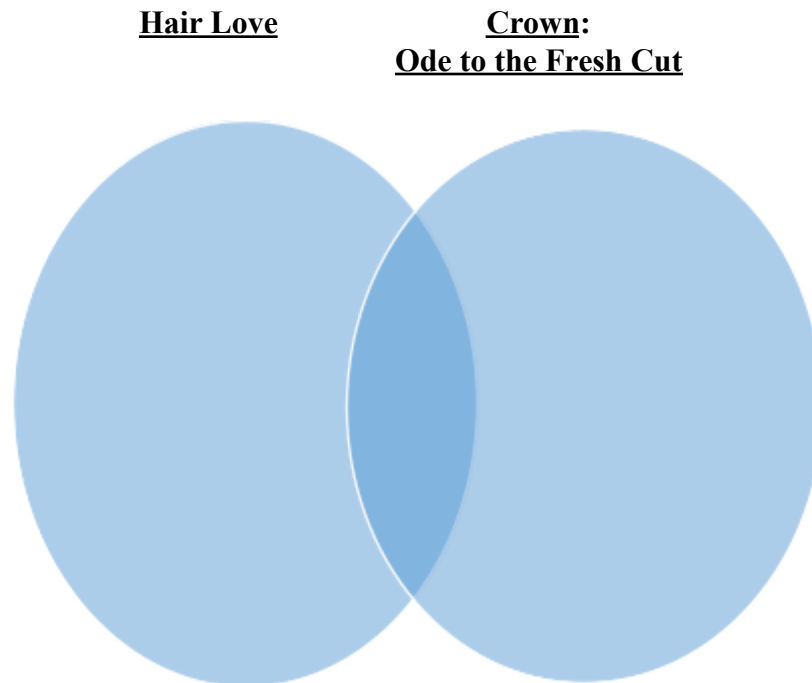
Standards: RL2.3, RL2.9

Objective: Students will compare and contrast the characters in each book using a Venn diagram. Students will analyze the different perspectives of hair from a girl and boy point of view.

¹³ (Namigadde 2018)

Materials: Text: “Hair Love” and “Crown: Ode to the Fresh Cut”.

Activity: Create a Venn Diagram fill the outer parts of the circle with the unique features about each story. Fill the inner portion of the circle with the similarities of both stories.



Additional Activity: Students can make inferences and predictions as you read the Hair Love picture book or watch and pause the short film. What can you infer when the main character is trying to figure out how to style her hair by herself? What can you infer by the heart on the calendar? How do you predict her hair will turn out?

Exit Ticket: Have students use three describing words to express how they feel after they get a fresh haircut, or a new hair style.

Science Lesson

Standards: 2.L.2.1 , 2.L.2.2

Objective: To determine the strength of various types of hair.

Materials:

At least one hair strand (at least 5 centimeters long). This can be collected from a brush or comb or elsewhere.

Pencil

Two stacks of books or two same-sized boxes
Paper clip
Tape
Small plastic bag
Small items to use as weights (such as pennies, marbles, etcetera)
Scale
Optional: additional strands of hair from a wig , or synthetic pack.

Prep:

Tie one end of a hair strand securely around the middle of the pencil. If making a knot is too difficult, you can tape the hair to the pencil.

Attach the other end of the hair strand to a paperclip (using a knot or tape).

Hook the paperclip through the top of one side of the small plastic bag.

Test whether the hair holds on to the pencil and bag by pulling on both ends slightly. If the hair comes loose, use more tape to secure the hair.

Stack two piles of books or boxes to the same height—tall enough to accommodate the length of the hair and plastic bag. Place the stacks next to each other leave a gap between them that is the right size so the pencil balances across them and the bag hangs freely.

Activity:

Take one of your weights (pennies or marbles) and carefully place it into the plastic bag.

If the hair is still intact, gently add another penny or marble to the bag.

Continue to add weight to the bag. Inspect the hair carefully after adding each weight.

Once the hair breaks, place the plastic bag, including the pennies or marbles that are inside, on the scale.

Reflection:

How much weight was your strand of hair able to carry? Did your results surprise you?

Although a single strand of hair looks very thin and fragile, it can carry a weight of up to 100 grams. This is due to the three-layered structure of the hair shaft and to the strong keratin fibers that make up the middle layer, or the cortex, of the hair strand. How many grams would you estimate all of a person's hair could hold?

Additional Variables: You can soak the hair in water and see if it makes the hair stronger or weaker.

Math Lesson:

Standards: NC.2.OA.1

Object: To calculate the cost of hair grooming with word problems.

Materials:

Assorted hair decorations (See Appendix II)

Picture of the Hair style (See Appendix III)

Activity:

Problem #1

Jada's Mom wanted to braid her daughter's hair for her Birthday. Mom is trying to decide whether to go to the salon or buy the material and braid it herself.

If she goes to the salon the Cornrow Box braid style her daughter wants cost \$130.

If mom decides to do it herself here is what she will need:

One pack of Kanekalon hair @ \$17.99 each (Mom will need 6 packs)

Hair Accessories @ 12.99 (over 100 pieces)

Styling oil @ 5.99

Will mom save money doing Jada's hair herself? If so, what is the difference between her cost and the salon price?

Answer:

$$17.99 \times 6 = 107.94$$

$$12.99 + 107.94 = 120.93$$

$$120.93 + 5.99 = 126.92$$

The cost for mom to do the style herself will be \$126.92. This is a \$3.08 saving from going to the salon.

Problem #2

If Jada wants to keep her braids, how much will her mother spend keep her hair in braids for one year? (Remember, braiding styles only last on average about six weeks)

Answer:

$$6 \text{ weeks} = 44 \text{ days}$$

$$365 / 44 = 8.29 \text{ (approx. 8)}$$

$$\$126.92 \times 8 = 1,015.36$$

Jada's mom would have to spend about \$1,015.36 to keep her hair in braids for 1 year.

Appendix 1: Teaching Standards

Science

2.P.2.3 Understand that heating and cooling water changes its state. Students will see and feel the difference between water in its natural state and when heat is applied.

2.L.2.1 Identify ways in which many plants and animals closely resemble their parents in

observed appearance and ways they are different. Students can compare their hair color and texture to their parents and siblings.

2.L.2.2 Recognize that there is variation among individuals that are related. Students can compare their hair color and texture to their parents and siblings.

Social Studies

2.E.1 Understand how the availability of resources impacts economic decisions. Student will understand how affordable made it possible to create various hairstyles at home versus in a salon.

Math

NC.2.NBT.5 Demonstrate fluency with addition and subtraction, within 100. Students will use their math skills figuring out cost of creating and wearing different hair styles.

NC.2.MD.3 Estimate lengths in using standard units of inches, feet, yards, centimeters, and meters. Students will see the various lengths and price for synthetic hair.

NC.2.MD.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard-length unit. Students will see how length varies based on the texture of the hair.

Literacy

RI.2.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. Students will answer various questions from the short story “Hair Love”.

RI.2.3 Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text. Student will recall this information to answer questions from the short story “Hair Love”.

RI.2.4 Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area. Students will focus on spelling patterns and words that describe hair texture.

RL2.3- Describe how characters in a story respond to major events and challenges. Students will analyze how each character deals with a change to the family as Mom battles with an illness.

RL2.9- Compare and contrast two or more versions of the same story by different authors or from different cultures. Student will compare the girl and boy characters’ reaction to hair grooming in Hair Love and Ode to the Fresh Cut.

Student Resource

iPads- Students may use the iPads to access the Read aloud books on YouTube if the Teacher does not have them in the class library.

Yarn- Students will simulate braiding hair.

Crown: An Ode to the Fresh Cut- This book is featured on Netflix Bookmark about how a fresh cut at the barbershop makes a boy feel good.

I am Enough- This book is featured on Netflix Bookmark about how loving yourself and the ones around you can help you face anything.

I Love My Hair- A book about how a young girl feels about her different hair styles.

My Big Natural Hair- A book about the different natural hair styles a young girl wears during the week.

Teacher Resource

SMART Board- Some of the activities require student to access websites that have been hyperlinked to the lesson. Students may use the iPads to read the stories linked in this lesson.

Yarn- You may choose to use various colors and lengths to simulate hair braiding, and the variety of colors one may choose to have in their hair.

Hair Accessories- Some students may choose to decorate their braids with accessories. Students can choose from the styles and price to determine what they like and can afford.

[Hair Love](#)- This story is about a father learning how to style his daughter's hair while his wife, her mom, is in the hospital suffering from hair loss due to cancer.

[Crown: An Ode to the Fresh Cut](#)- This book is featured on Netflix Bookmark about how a fresh cut at the barbershop makes a boy feel good.

[I am Enough](#)- This book is featured on Netflix Bookmark about how loving yourself and the ones around you can help you face anything.

[I Love My Hair](#)- A book about how a young girl feels about her different hair styles.

[My Big Natural Hair](#)- A book about the different natural hair styles a young girl wears during the week.

Appendix II

Hair Accessories \$12.99



Appendix III

Hair Style



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Endnotes