



# The Art and Science of Felting

Carrie Pace and Gina Pereda 2022

Diane McCullough and **Scottish Partnership for Arts and Education (SPAЕ)**



# Introductions

Diane McCullough

Carrie Pace

Gina Pereda



## Gina Pereda

I have taught for over 30 years, with most of my career spent in the Ferguson Florissant School District as an 8th grade middle school science teacher.

I have a beautiful family and a silly dog - all of whom keep me on my toes.

## Carrie Pace

I have taught art in the Ferguson Florissant School District for 11 years, both at the elementary and middle school level. I'm also an avid knitter, crocheter and (very novice) ukulele player.

When I'm not focusing on my teaching, I'm spending time with my lovely family.



# Our Purpose for today...

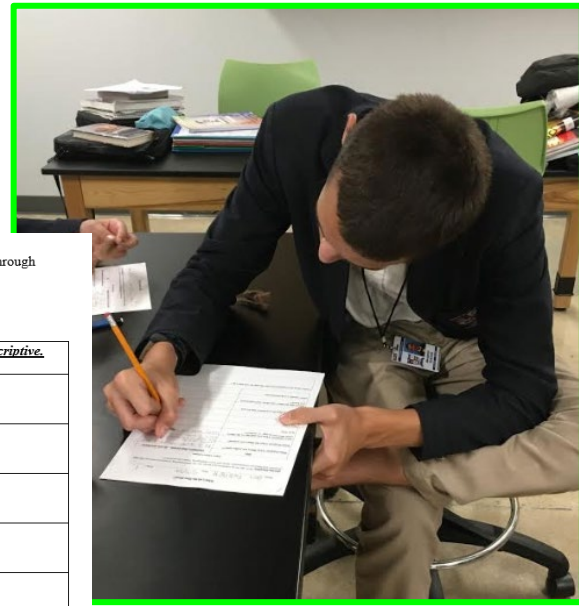
We want to provide a sense of how the sciences and the arts are truly tied together, and how a simple conversation between teachers can turn into so much more for your students' academic growth.



## Driving Question:

How can we as scientists and artists use our understanding of natural resources through structure and function to communicate ideas and solve challenging visual arts problems?

# Students - using the scientific process; learning to felt.

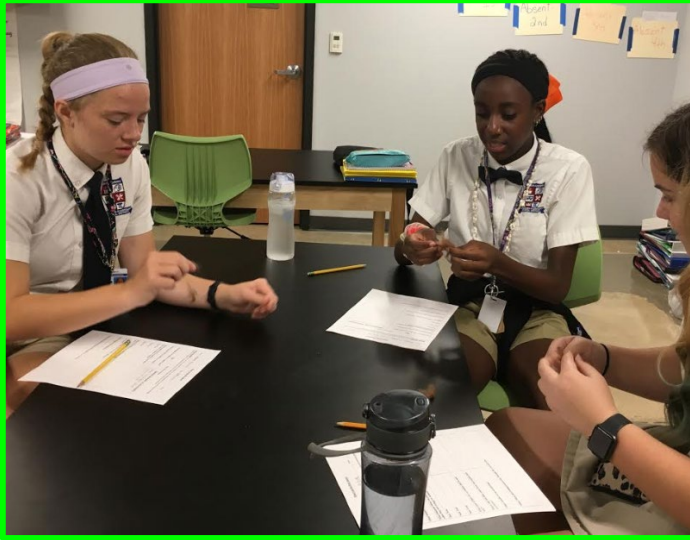


**Driving Question:** How can we as scientists and artists use our understanding of natural resources through structure and function to communicate ideas and solve challenging visual arts problems?

### Fiber Observations:

<u>Idea</u>	<u>Qualitative Data-Details – Be very descriptive.</u>
What happens when fibers are pulled apart?	
What happens when the fibers are twisted?	
What happens when you pull the on the fibers when they are stringy vs. twisted?	
Now You:	
Now You:	
Now You:	
What type of fiber do you believe this to be and why?	
Where did this fiber come from and explain how you know?	
Other details worth mentioning:	

**Video:** Most interesting/noteworthy thought for you and why:

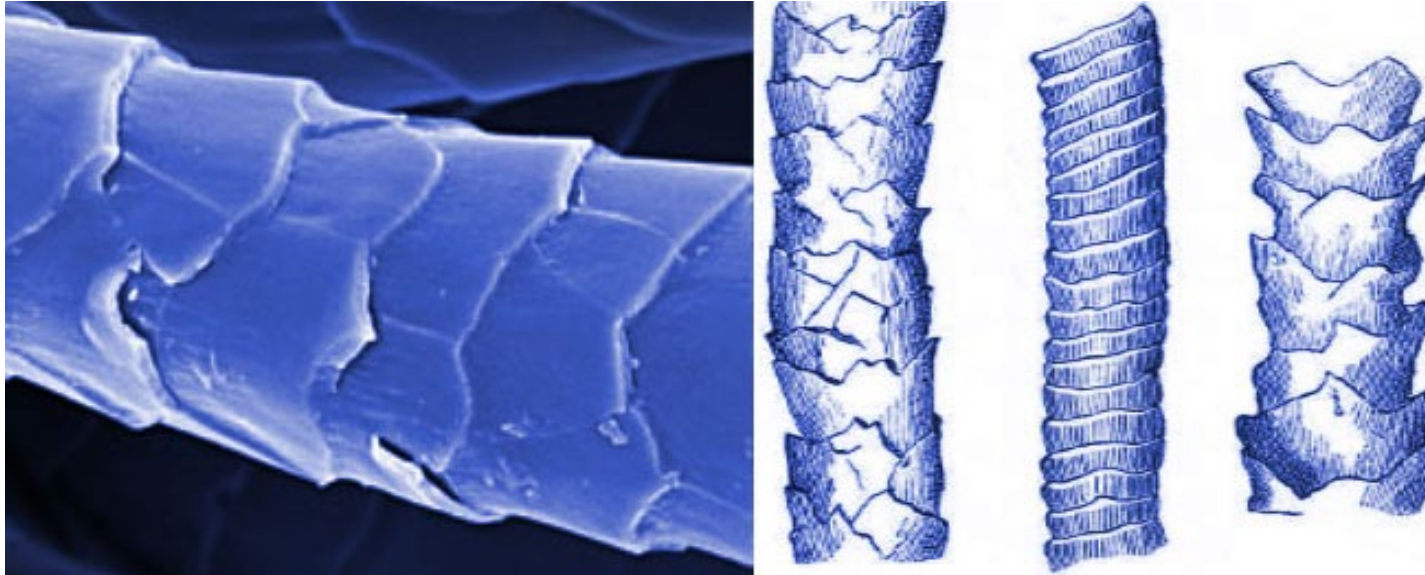


VIDEO



Picture: <https://orientalrugcleaningorlando.com/where-do-your-wool-rug-fibers-come-from/>

# Wool fibers from a microscope - demonstrating serrated surface of epithelial cells/scales.



**Excellent Video: The Anatomy of Wool**



# Bring out the Supplies! Watch Kids Squirm!



**Where science and art will meet:** Felting of wool is the irreversible shrinkage of the length, breadth and thickness of the material. Wool felts because of the serrated surface of its fibers which is formed by the overlapping of epithelial cells or scales. Felting of fiber is enhanced by heat, acid or alkali.

## Process of Felting:

**State the Problem:**

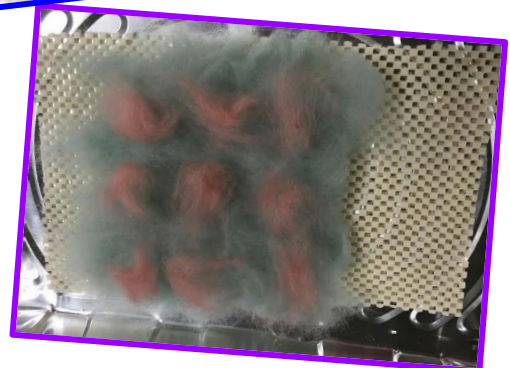
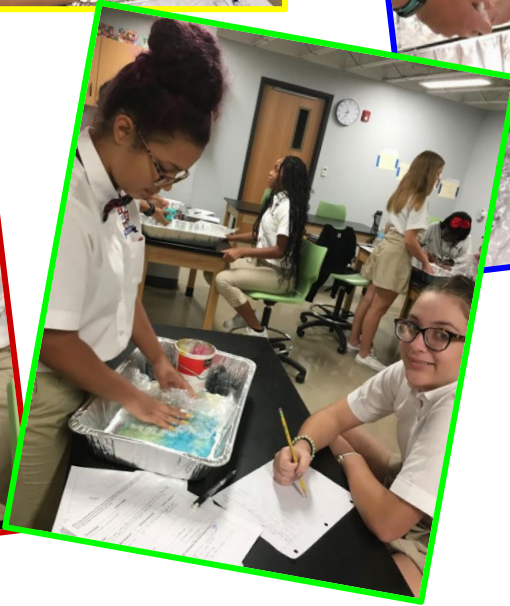
**Hypothesis:**

Independent Variable (IV):	Dependent Variable (DV):	Constants – minimum 3:

**Materials:** bullet point your list

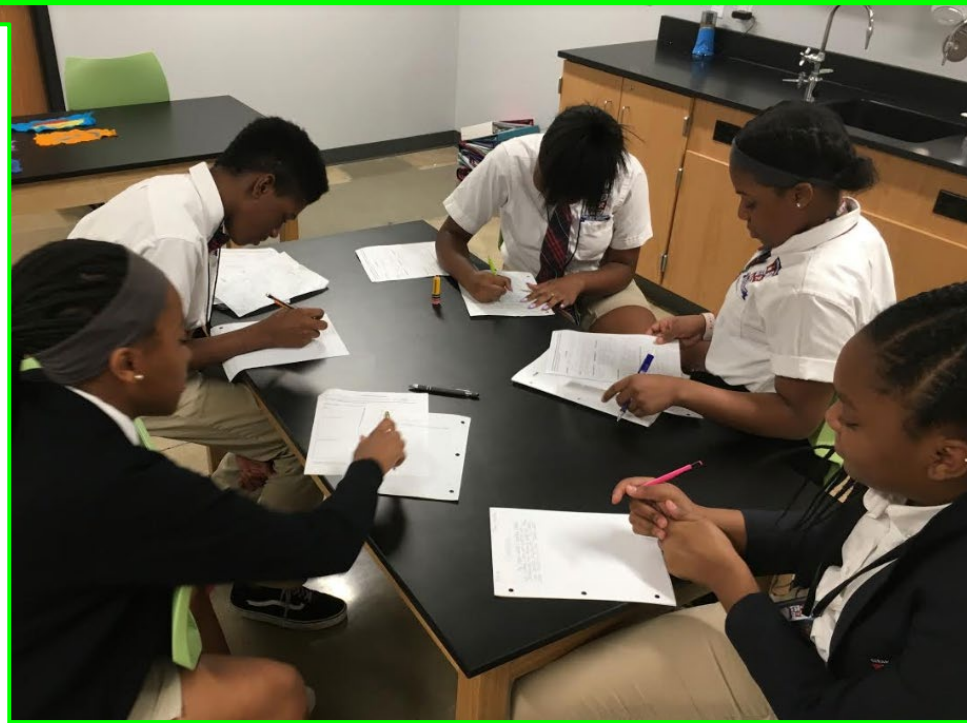

**Experimental Procedure:** Number your Steps – Use own paper if wish. Be sure to staple to this lab.

**Students  
Creating  
their own  
work of  
art in  
science!**



While working on creating art: Gather Data: May bullet point your observations:

Analyze and Conclude: May use own paper if wish; be sure to staple to this lab. Include a restatement of your hypothesis (correct/incorrect) and reasons why. Be sure your reason provides evidence from your Gathering Data. In addition, be able to speak to whether your experimental design was accurate as learned during art class and the process of felting. Write about something you would change if provided the opportunity to try felting again; relate this to the driving question.



**Collaboration  
is key!**

# CER - Claim, Evidence & Reasoning

## CER (Claim, Evidence, Reasoning)

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Hour: \_\_\_\_\_

Directions: Use evidence from both background information provided during class or research conducted on your own, and the process of felting conducted during Art.

Problem: Is felting a chemical or physical change?

Claim:

Evidence: Bullet Points

Reasoning: Bullet Points

9-9-2019

Block 2

## CER of the Process of Felting

The process of felting wool is a physical change. One example from my evidence of felting is a physical change is that the texture of the wool is changed. The wool has a fluffy, soft texture, and the felt has a rougher texture. Since the wool mostly changed in texture, and a change of texture is a physical change (Chemical Change vs. Physical Change). This means that felting is more physical than chemical. The second piece of evidence is that the wool is matted together during felting. Wool felts by tangling its fibers together, since the ends are barbed (The Process of Felting). I observed in our lab that some parts of felt can be ripped off. This means the change is not permanent, which makes it a physical change. My last piece of evidence is that there was no sign of a chemical change. The color, odor, and temperature of the fibers remained the same. Those types of changes are chemical, so that means there was no chemical change. In conclusion, felting is a physical change, because there was a change in texture, there was no sign of a chemical change, and the change is not permanent.

Libretexts. "Chemical Change vs. Physical Change." *Chemistry LibreTexts*, Libretexts, 5 June 2019, [chem.libretexts.org/Bookshelves/Physical\\_and\\_Theoretical\\_Chemistry\\_Textbook\\_Maps/Supplemental\\_Modules\\_\(Physical\\_and\\_Theoretical\\_Chemistry\)/Fundamentals/Chemical\\_Change\\_vs.\\_Physical\\_Change](https://chem.libretexts.org/Bookshelves/Physical_and_Theoretical_Chemistry_Textbook_Maps/Supplemental_Modules_(Physical_and_Theoretical_Chemistry)/Fundamentals/Chemical_Change_vs._Physical_Change).

"The Process of Felting." *Acorns & Twigs*, [www.acornsandtwigs-blog.com/things-to-know-about-felt-the-process-of-felting/](http://www.acornsandtwigs-blog.com/things-to-know-about-felt-the-process-of-felting/).

Students wrote a plan for felting and were very uncomfortable because they were provided the materials, but nothing else. The goal was to write their hypothesis and procedure. As a class we conducted the instructions for wet felting. Students compared their hypothesis and procedure to the actual procedure.

Some students were spot on. All students were in awe of the actual process. And those in art class, took their skill of wet felting and used it to enhance their work when presented with different types of fiber art.

If time and money are not an issue, students should conduct their procedure and then attempt again to find out how to felt on their own; comparing their results to actual instructions.

# Close Reading and Text Evidence

## Aïssa Dione: One woman's fight for traditional Senegal textiles



12 April 2016 Comments (1) Africa, Featured, Leaders 4

By Enu Afolayan

The lady behind internationally renowned textile company Aïssa Dione; artist, designer and entrepreneur.

Dating back to the 15<sup>th</sup> century, Senegal has a tradition of textile weaving and dyeing as rich as the fabrics themselves. However, with a shift towards mass-produced clothing and the ever-changing fashions and trends, this time-honored practice has suffered a huge set back. The name Aïssa Dione has become synonymous with the ancient craft, as she has fought to revive what was a tradition on the brink of distinction. "Spinning and textile industries have nearly all closed and traditional weavers are slowly but surely disappearing," said the designer, a woman who has dedicated her life to reviving Senegal's tradition.

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important function

wow-long time

# Our Creations!





# Fiber Art



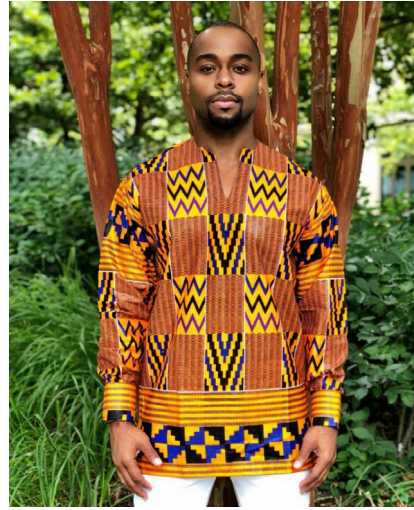
# What is Fiber Art?

Fiber art is a style of fine art which uses textiles such as fabric, yarn, and natural and synthetic fibers. It focuses on the materials and on the process of making.

# Traditional Examples



# Weaving



# Weaving



# Knitting/ Crocheting



# Quilting

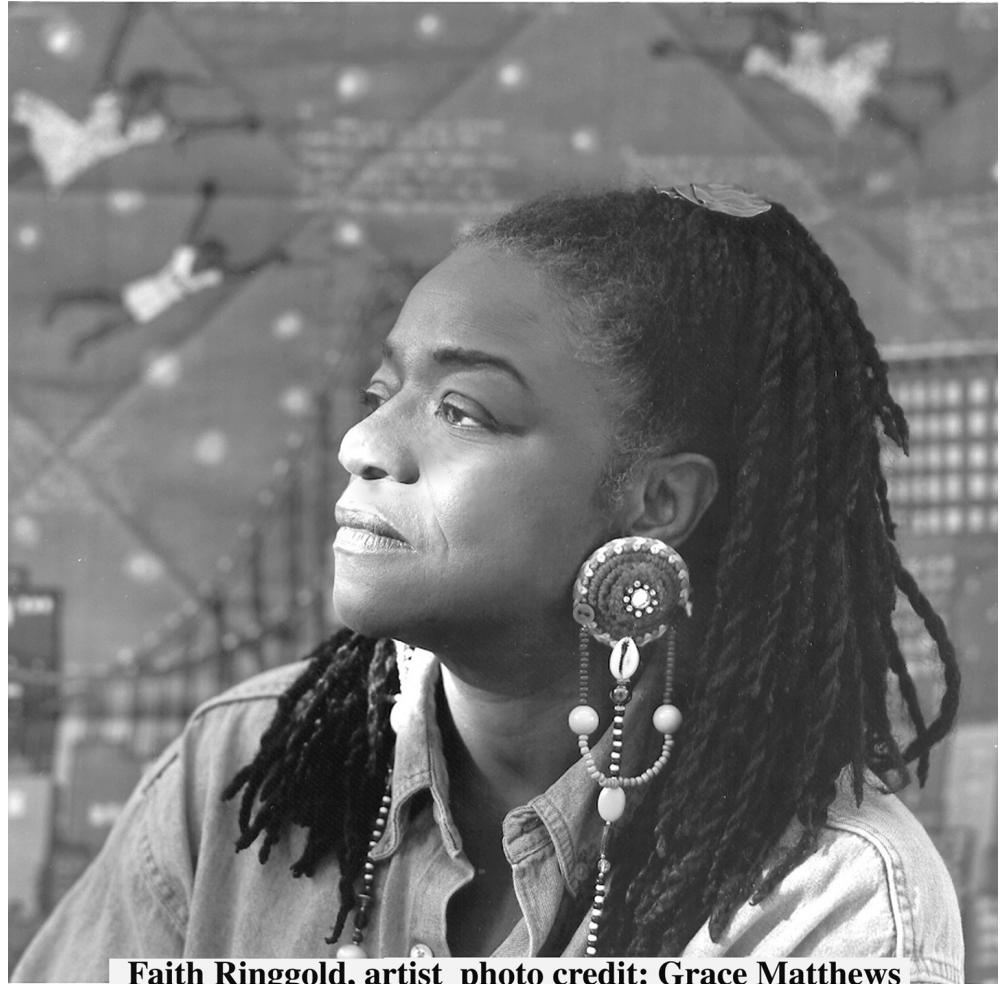


# Contemporary Fiber Art Examples



# Faith Ringgold

Faith Ringgold was born in 1930 in Harlem, New York. She is a painter, writer, civil rights activist, mixed-media sculptor, but is best known for her story quilts. She has used her story quilts to create children's books like "Tar Beach".



**Faith Ringgold, artist photo credit: Grace Matthews**



# Faith Ringgold



# Holman Wang

Holman Wang grew up in Canada and used to be a middle school school teacher. He is currently a lawyer, but he and his twin brother have produced many children's books. He creates miniature scenes out of felt sculptures and other materials to photograph and use as the imagery in his books.



# Holman Wang



# Aissa Dione

Aissa Dione was born in 1952 and grew up in France. She is an artist, designer and entrepreneur. She now lives in Senegal, Africa, where she taps into her Senegalese roots (her father was Senegalese). She creates beautiful woven fabrics made from all natural Senegalese fibers, dyes. She only hires native Senegalese workers to make her fabrics. The traditional weaving technique is the Mandjaque technique.



# Aissa Dione



# Nick Cave

Nick Cave was born in Fulton, Missouri in 1969. He is an artist, dancer and performance artist. He is best known for his *Soundsuits* that combine fashion and sculpture. He often works with recycled and used textiles to create them.



# Nick Cave



# Michael Cummings

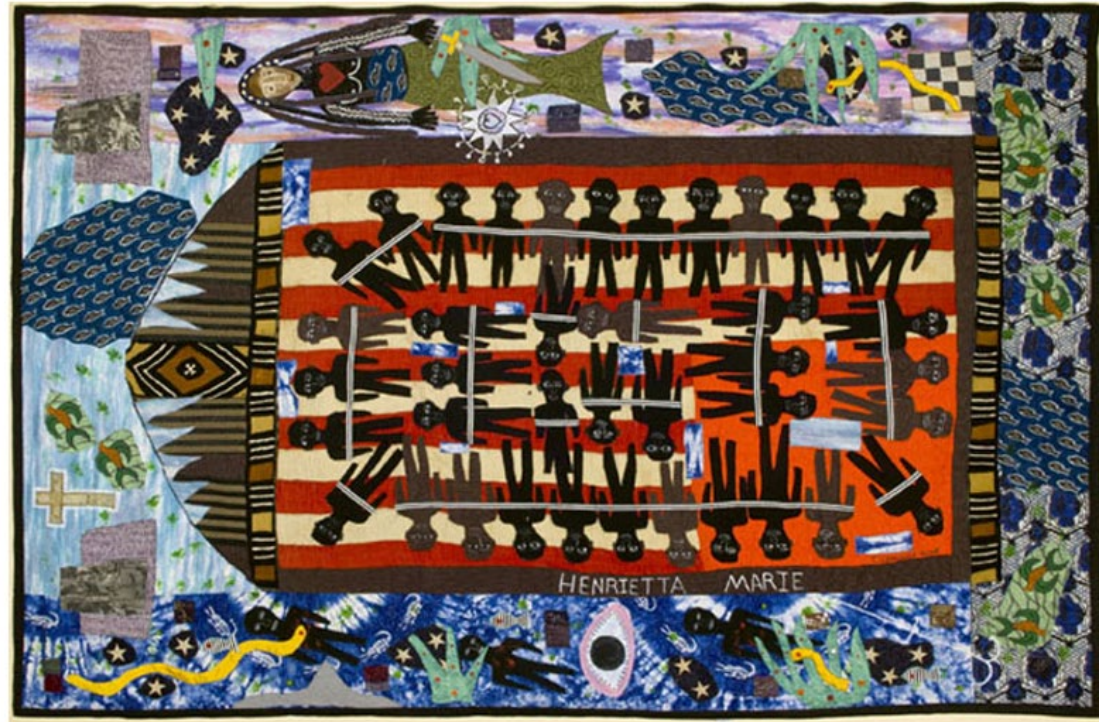
Michael Cummings is a quiltmaker from San Francisco. His technique is inspired by quiltmakers from the South. His imagery often comes from history, music, and the power to shape the future.

<http://www.michaelcummings.com/biography.html>





# Michael Cummings



# Sonya Clark

Sonya Clark was born in 1967 in Washington, DC. She is of Afro-Caribbean heritage. She is a fiber artist known for using a wide variety of materials (including human hair!) to address culture, class, race and history.



# Sonya Clark



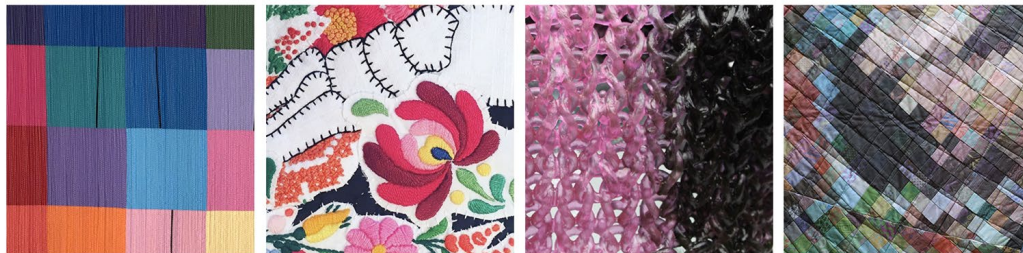
# Some key words to know...

**Fiber:** Long, thin substance, often used to create other materials

**Natural Fibers:** Fibers found in nature such as cotton, jute, silk or wool

**Synthetic Fibers:** Fibers produced by chemical reaction controlled by people. Examples are polyester, nylon and rayon.

**Textile:** A type of cloth or woven fabric



Textile Examples

Cotton



Silk



Wool

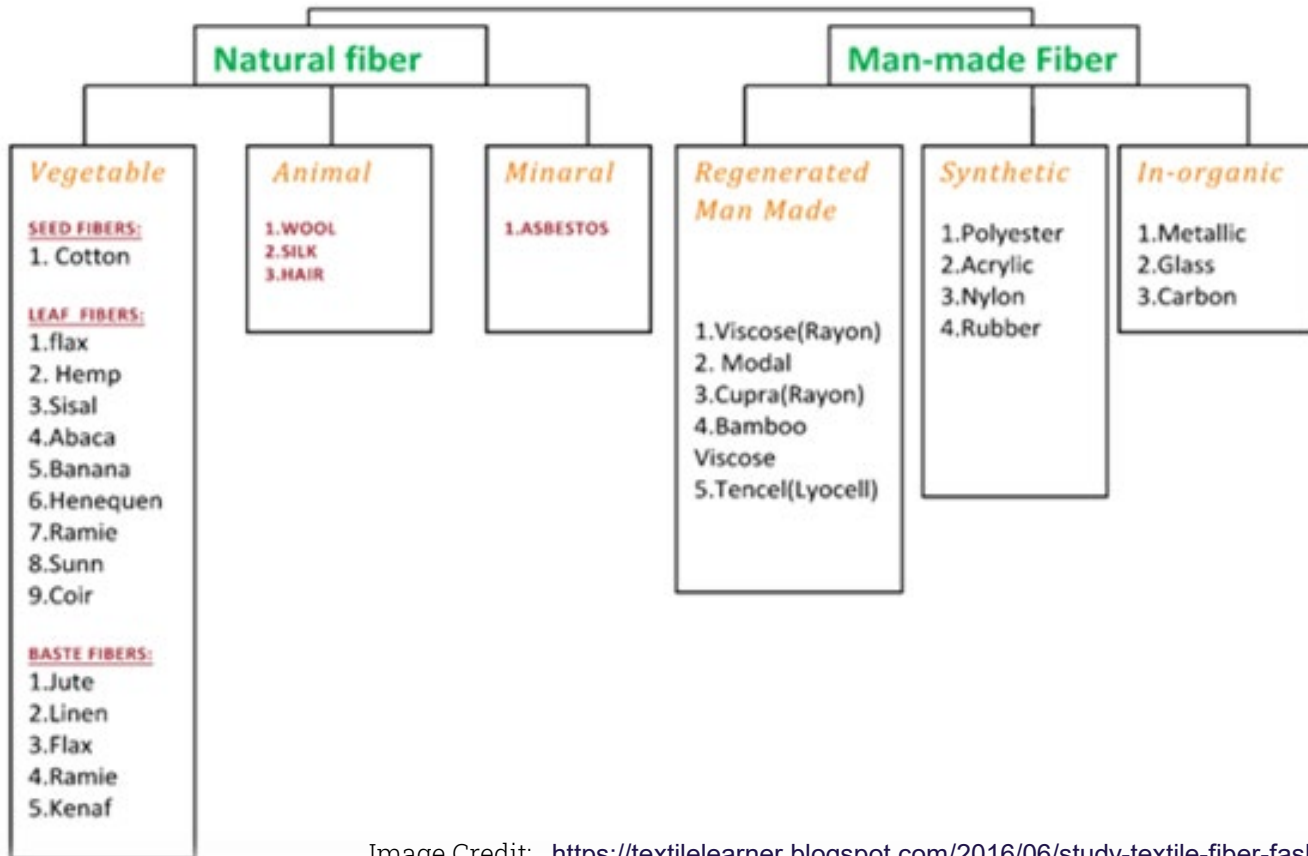


Jute



Close up image of synthetic fibers

# TEXTILE FIBER



# Fiber Focus...

The Art of Felting



# Kerry Souter

“My name is Kerry Souter and I'm a textile artist, born in Dundee and now living in Alloway, South Ayrshire. I studied Textile Design at Gray's School of Art, Aberdeen and have always had a love for textiles.

In 2010, I attended an informal workshop by an artist friend and was introduced to the process of felting. I found an immediate passion for this ancient technique which has continued to grow ever since.”

Quote taken from:

<http://www.kerrysouterart.com/content/about-me>



# Kerry Souter





# Simon Brown

"I am a needle felt artist from a small village on the Northumbrian coast in the UK surrounded by castles, cats and copious amounts of tea. I find old, beaten up, heavily used brushes that nobody would look twice at and bring them back to life with tiny animals stabbed to life with wool, creating whimsical pieces filled with life, curiosity, and danger."

Quote from: [https://www.boredpanda.com/felted-animals-brushes-the-gentleman-felter/?utm\\_source=google&utm\\_medium=organic&utm\\_campaign=organic#post-comments-area](https://www.boredpanda.com/felted-animals-brushes-the-gentleman-felter/?utm_source=google&utm_medium=organic&utm_campaign=organic#post-comments-area)



# Simon Brown



# Simon Brown



# Gladys Paulus

Gladys was born in the Netherlands and now lives in the UK. She works predominantly in felt and creates very elaborate costumes and masks. She also makes sculptures and installation art.



# Gladys Paulus



# Gladys Paulus



# Moy Mackay

In honor of SPAE (Scottish Partnership for Arts & Education) We would like to highlight Moy Mackay was born in Edinburgh, Scotland in 1966. She continues to live and work there today. Her imagery often comes from her surroundings in Tweed Valley and show itself in her work through vibrant colors and rich textures.



# Moy Mackay





An aerial photograph of a valley during autumn. The trees are in various shades of orange, red, and yellow. A winding road or path is visible through the trees. The background shows rolling hills under a hazy sky. The text "The Art Of Moy Mackay" is overlaid in the center of the image.

The Art Of  
Moy Mackay

# Our Turn!!!!

[Video tutorial \*with intro, demo, and outro\*](#)

[Video tutorial \*with just demo\*](#)

# August 2019 PD participants



The background features a vibrant, abstract design with overlapping leaf shapes in shades of purple, magenta, and red. A bright yellow starburst is visible in the upper left corner. The overall aesthetic is modern and organic.

# Q & A