

Felting REUSE & REnew—

Handelson One

3 GOOD HEALTH AND WELL-BEING



4 QUALITY EDUCATION



8 DECENT WORK AND ECONOMIC GROWTH



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



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Créatifs

What IF...

we could repair clothing creatively? Try Needle Felting Instead of Adding to Landfills

Students will use needle felting to transform old garments into unique, wearable art. By enhancing and customizing clothing pieces, they'll learn the art of needle felting, strengthen their fine motor control, and showcase their creativity. This project emphasizes sustainability, teaching students how repurposing textiles can reduce waste and promote eco-friendly fashion.

The skills gained will help address global challenges related to textile waste, making a positive impact on the environment by reducing the fashion industry's contribution to global waste. Through ideation and problem-solving, students will brainstorm and develop innovative ways to turn old clothes into artistic creations, enhancing both their aesthetic value and the effectiveness of the repurposing process.



Students Will Learn

Basic principles of felting: Learning how to dry felt in 2 dimensions.

Design Thinking:

Ideating, while considering the purpose and audience of the final product.

Sustainable fashion:

Repurposing existing clothing to reduce waste and promote eco-friendly practices.

Topics & Curriculum

Science: Environmental Science, Sustainability

Technology: Textiles

Engineering: Designing, Textile Manipulation

Arts: Sewing, Representing

Mathematics: Patterns, Measurement

Competencies

This project has been designed to support the Council of Ministers of Education, Canada's global competencies:

- Critical Thinking and Problem-Solving
- Innovation, Creativity, and Entrepreneurship
- Learning to Learn / Self-Awareness and Self-Direction
- Collaboration
- Communication
- Global Citizenship and Sustainability

Badges

- 2D Design Thinking
- Felting
- Wearables
- Sewing/Textile Manipulation



UN SDGs Connection

This felting project directly supports several UN Sustainable Development Goals (SDGs), integrating creativity, sustainability, and real-world problem-solving into the classroom. Students engage in activities that foster personal growth while addressing global challenges through these key SDGs:

- Good Health and Well-Being (SDG 3): Promotes mental well-being through creative expression and mindfulness, helping students manage stress and build resilience.
- Quality Education (SDG 4): Encourages critical thinking and empowers students to make informed decisions. Through hands-on learning and interdisciplinary exploration, students develop lifelong learning opportunities.
- Decent Work and Economic Growth (SDG 8): Cultivates entrepreneurial skills, equipping students to create sustainable solutions and explore future business opportunities in eco-friendly fashion.
- Responsible Consumption and Production (SDG 12): Reduces textile waste by supporting sustainable consumption practices and promoting ethical and sustainable production. Students also learn about environmental stewardship.
- Climate Action (SDG 13): Mitigates climate change by addressing the environmental impacts of textile waste, promoting actionable solutions for reducing the fashion industry's footprint.

By connecting these global goals to creative activities, students develop a deeper understanding of how their actions contribute to sustainable development, while fostering innovation, problem-solving, and collaboration. This project inspires students to become active participants in creating a more sustainable future.



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Activity

Customised Learning for Every Skill Level

This felting project offers a range of activities designed to cater to students of varying skill levels. Whether they are beginners or advanced learners, each activity encourages creativity and skill-building while enhancing their understanding of textile art and sustainability.

Activity Levels:

- Hello World: Create a simple patch to enhance clothing.
- Intermediate: Design a felted image on a piece of fabric or clothing.
- Advanced:
 - Dye the wool.
 - Rove the wool.
- Brilliant: Create a fully felted garment.

Suggested Grade Levels: 4-12

These activities provide opportunities for students to explore their creativity while progressively mastering the art of felting.





Kit

Materials, Resources, and Timeframe

This felting activity is designed to provide students with everything they need to get started while encouraging them to source and add their own creative touches. With a variety of tools and resources, students will have the flexibility to customize their projects and explore new techniques. The activity is suitable for a 2-4 hour timeframe, making it perfect for classroom settings or workshops.



Materials and Resources

In the Kit:

- Felt squares
- Pre-cut felt shapes
- Felting wool
- Conductive thread
- Large-eyed needles for conductive thread

Not in the Kit (to be sourced):

- Clothing or textiles to be modified
- Beads, buttons, and other embellishments
- Dish detergent
- Sewing thread
- Sewing needle
- Scissors

Useful Resources:

- [2D Felting Cards](#)
- [Ideation Cards](#)
- [Idea Cards](#)

Timeframe: 2-4 hours

- These materials and resources provide the foundation for students to develop creative and innovative designs while learning valuable skills.

Sustainable

Habits, Empathy, and Critical Thinking

This felting project not only teaches students a creative skill but also fosters awareness about sustainability, responsible consumption, and the environmental impact of textile waste. The following steps outline how the project can be introduced and developed in a classroom setting:

Introduce the Project

- Discuss the environmental impact of textile waste and the importance of sustainability.
- Pose thought-provoking questions:
 - How much waste does the fashion industry generate each year?
 - What do you do with old clothing that no longer fits, is stained, stretched, or worn?
- Engage students in understanding how creative solutions can combat textile waste.

Discuss the Impact of Consumption Choices

- Encourage students to reflect on the environmental and social consequences of their actions.
- Explore questions like:
 - What does it mean to practice responsible consumption?
 - How can repurposing clothing minimize waste?
- Foster empathy by asking students to imagine the lifecycle of clothing, from production to disposal.

Overview of Needle Felting

- Explain the goal of the project: to repurpose and revitalize clothing through needle felting.
- Introduce the technique:
 - Needle felting involves manipulating wool fibers with a barbed needle to create cohesive patches or designs.
 - It transforms old garments into new, unique, and wearable art.

This step-by-step approach helps students connect creativity with real-world issues, fostering critical thinking, empathy, and sustainable habits.



Let's

FELT!

Prepare and Design



Creating The Project

Preparation:

- Choose the textile you will be working with.
- If there is a large hole that you are repairing, you may need to sew the hole first before felting. You may also consider cutting a felt patch to put underneath so the felting wool has something to connect with.

Design:

- Ideate and sketch your design
- Place the area to be felted face up on the sponge.
- Smooth out any wrinkles or folds in the fabric.

Begin Needle Felting:

- Take a small amount of wool roving and position it where you want to start.
- Hold the wool in place with one hand and use the felting needle to poke the wool into the fabric. Poke continuously, starting from the edge of the roving and working towards the center.
- Continue felting until the wool is firmly attached to the fabric.
- Repeat this step with more small pieces of wool until the design is complete. Roving can be layered one on top of the other to create a solid image.
- If desired add repurposed embellishments like buttons or beads for an extra flair.



Secure Loose Fibres:

Carefully felt any loose fibers or excess wool from the surface of the patch

Finish and Reflect:

Hand wash the newly felted part of the clothing with hot water and dish soap. This will shrink the fibers and help make it stronger and more long lasting. Clothing can be machine washed on gentle.

Encourage students to reflect on their needle felting experience, discussing what they learned, what they enjoyed, and what they would do differently next time.

How did their projects contribute to reducing textile waste and promoting sustainability?

Possible Problems

Wool Not Sticking!

- Felt it more
- Use more wool and apply firmer pressure with the felting needle
- Try roughing up the surface of the fabric slightly with sandpaper or a needle to create more texture for the wool to grip onto
- Add a piece of felt fabric on the inside
- Wool can be rolled up between the fingers to give more for the needle to poke through



Uneven or Lumpy Patches!

- Distribute the wool evenly over the surface of the fabric
- Use fingers to smooth out any uneven areas before felting
- Needle felt in small, controlled motions

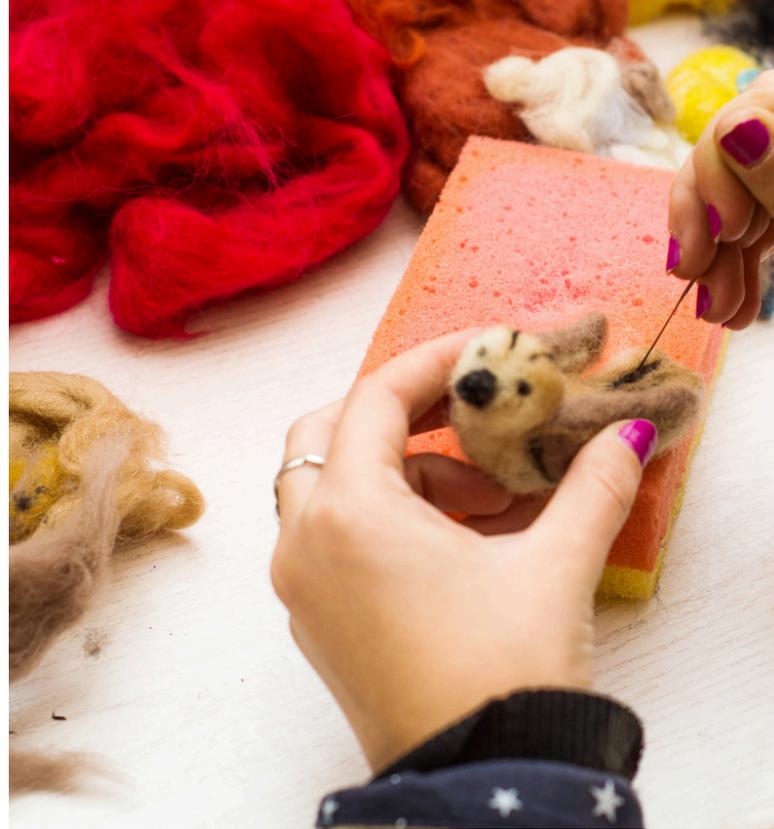
Puckering or Distortion of Fabric!

- Needle felt gently and evenly
- Avoid excessive pressure that could stretch or distort the fabric
- Periodically stretch or iron the fabric to help maintain its shape

When ironing a needle-felting project, it is important to use caution due to the sensitivity of the wool and the fabric.

Here are some guidelines:

- **Heat Setting:** Use a low to medium heat setting on the iron. Avoid high heat, as wool can scorch or shrink under excessive temperatures.
- **Protective Layer:** Place a pressing cloth, parchment paper, or a cotton fabric between the iron and the project to protect the wool and fabric.
- **Avoid Steam:** Steam may cause wool to felt further or distort the fibers. Use a dry iron instead.
- **Test First:** If possible, test the ironing process on a small, inconspicuous area or a scrap piece of felted fabric.
- **Gentle Pressure:** Apply light, even pressure rather than dragging the iron, which can distort the wool design or the fabric.





Provide Demonstration & Safe Practices

Demonstrate needle felting techniques step by step, emphasizing proper needle handling, wool placement, and felting motions. Show samples of other felting projects to inspire ideas.

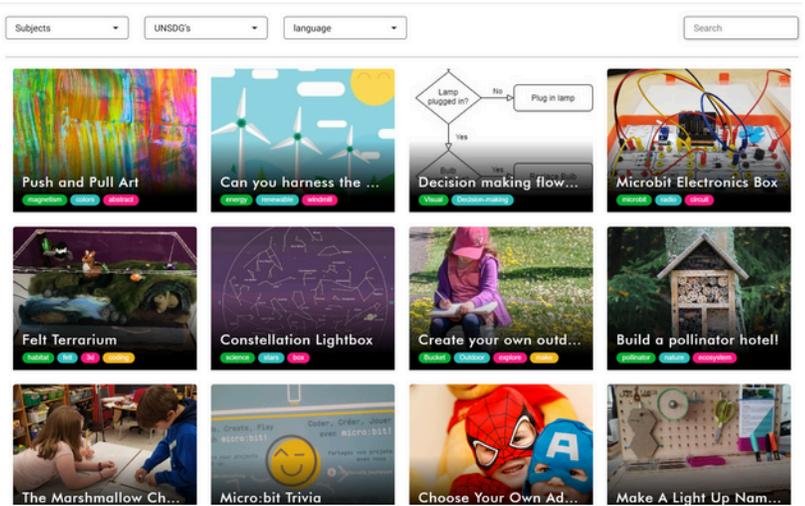
Safety is a priority when working with felting needles, as they are very sharp. Students should be reminded to handle needles carefully and avoid touching the sharp tip. Encourage them to keep their fingers away from the needle's path during felting to prevent accidental pricks. If a needle breaks during use, ensure the broken pieces are disposed of properly to avoid injury.

To enhance safety, students can use personal protective equipment such as a thimble or finger guard to protect their hands while working. These tools help minimize the risk of injury and make the process more comfortable. By following these precautions, students can focus on enjoying the creative process safely and confidently



Felting Project Ideas

Get hundreds of ideas from the Brilliant Labs Project Portal. Find everything from robotics to felting! Check it out at Projects.brilliantlabs.ca



Felt Terrarium

Starting with a small ball of felt with a single NeoPixel glowing from within, there were a series of 'what if' collaborations that amounted to...a full-size felted terrarium with coded creatures that narrated their own stories.

This project can be scaled to fit your needs and abilities, from the size of a spice jars to the full-scale model seen here, anything is possible! Have your own 'what if' session and see what additions you can make to your own habitats. [Find it here](#)

Light up Felt Pin

Find a design you love and create your very own light up felt pin. The first thing that you will need to do is a paper pattern of your choice and cut it out. Trace the pattern onto the felt and cut out the shapes in your material. [Learn more here](#)

Felted Night Light

Everything you need to know on circuitry and needle felting to make a brilliant night light! [Get started here](#)





Felting Project

Glossary

This glossary provides clear definitions of key terms and tools to assist students in exploring upcycling, fiber art, and needle felting techniques. It serves as a resource for clarifying terms, introducing concepts, and promoting discussions on sustainability and creativity in the classroom.

Needle Felting

A process that uses wool fibers and barbed needles to create 3-dimensional shapes or embellish textiles.

Upcycling

The process of transforming old or discarded materials into new products of higher value or quality, such as revitalizing clothing with needle felting.

Embellishment

Decorative elements added to designs or patches to enhance their appearance.

Fiber Art

Artwork created using fibers such as wool, fabric, yarn, or thread, often incorporating techniques such as weaving, knitting, crochet, or felting.

Wool Roving (or Felting Wool)

Wool fibers that have been cleaned, carded, and prepared for spinning or felting.

Felting Needle

A specialized needle with barbs or notches along its shaft, used for tangling and matting fibers together during the felting process.

Innovative

Fashion

Challenge

Are you ready to take your felting skills to the next level? Join the Brilliant Labs Innovative Fashion Challenge and turn your creativity into action! Imagine combining the art of needle felting with cutting-edge technologies like e-textiles, biofabrication, and hybrid-body craft to create garments and accessories that change form and redefine sustainability.

This is your chance to rethink the fashion industry —making it more ethical, innovative, and conscious. Whether you're upcycling old textiles or designing actuated, tech-infused garments, the possibilities are endless. Let your imagination lead the way and show the world what's possible when craft meets innovation!

The Innovative Fashion Innovation Challenge will give Teachers & Students hands-on learning tools, Brilliant Labs' Project Specialist support, synchronous/asynchronous about, how to & design thinking workshops with kits. Register today!

