Lesson 1: Blanket Project background— who, what, when, where, why, how

**Introduction/hook:**
I would like to invite you to join me in a project. This will combine math skills, real life skills with a sewing machine and helping other people—the unhoused. Let’s talk about why first.

**Discussion questions:**
- What do you think I mean when I say “unhoused”?
- Did you know even families can be homeless?
- Why might someone become homeless? Can it happen to anyone?

*Use this time to dispel any misleading statements about it being someone’s fault. The reality is that poverty causes homelessness. Yes, some people have mental illness or substance abuse disorder, but so do plenty of housed people. An illness should be treated, not used as an excuse not to care. It’s poverty that can make housing impossible.*

**Read Aloud:** *Fly Away Home* by Eve Bunting (read alouds found on YouTube)
**Discussion questions:**
- Why were they living in the airport?
- Does this count as being homeless?
- Why don’t they want people in charge to know? What might happen?
- Did this book change any of your earlier thoughts about homelessness?

**Teaching point:** We want to bring attention to this problem because it happens WAY more than we would think. People who are new to the country, people who got sick, people who lost a job or had an emergency, even people who DO work but can’t make enough money to pay for expensive housing all can be homeless. But the one thing they have in common is that they are people. How can we help?

From [memorialblanket.org](https://memorialblanket.org): Show news clips from the 2021 project under the Media: News Stories tab. Explain the 2022 project. Show news clips from the 2022 project to get them excited to participate. Here’s our story: [Maine Students Quilt Together Compassion and Calculations](https://maine-students-quilt-together-compassion-and-calculations) and [Quilting Together Math and Compassion](https://quilting-together-math-and-compassion)

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Next up, quilting! **This is when you tell families and ask for fabric/supplies!** Give them a deadline for bringing stuff in. Using 100% cotton fabric only will make it easier for everyone. I would also consider getting or requesting: 2-3 pairs of good scissors, a rotary tool, a cutting mat, an iron, an ironing mat (I used a cardboard box covered in fabric), a straight edge ruler, lots of thread, a few extra needles in case of breakage.

Lesson 2: Quilting History—traditional designs, purposes, secret meanings, quilts as family records/heirlooms

**Introduction/Hook:**
Today, we are going to try to learn a bit about the history and purpose of quilting. What is quilting? How has it been used in the past?

Take student ideas, prompt them to guess how old it is or why people may have made blankets from small pieces of fabric instead of one giant piece, connect it to any historical discussions/units they know, like how pioneers couldn’t shop and had to make do with what they brought, etc. It is believed certain quilt squares were used as signals in the Underground Railroad, like a Flying Geese quilt hung on a clothesline in order to point the right way to go, or a Log Cabin quilt visible to signal a safe house.

**Teaching Point:** I hope this is getting you interested that you are going to be part of a long tradition. The quilts you make will be functional works of art that send a message of care to someone in need. This quilt will be a piecing together of their creativity and time for the benefit of someone else, and a historical record of the students in this class in this place in this year.

**Read aloud:**
*The Keeping Quilt* by Patricia Pollaco  
Extension: *Quilting History in America* could be good research for grades 5 and up— a bit long but covers a lot!
Lesson 3: Quilting Basics– area, perimeter, seam allowance

**Introduction/hook:**
Have you ever started at the end of a project to figure out what to do? That may sound silly, but it’s actually a strategy used in a lot of big projects, called Backwards Design. Quilts work like that! You know what you want it to look like at the end or how big it needs to be depending on its use, so you know the ending. What you have to do is work backwards to figure out how to get there! And that, my friends, is a job for math!

**Lesson:** At this point, I used the white board to review area and perimeter. I explained the concept of seam allowance, or all of the fabric you WON’T see. We played around with that idea with a quick quiz and white boards. I would give them the dimensions of a piece and then say, what if I had a half inch seam allowance? Now what are the dimensions that you would see? Like it might have been 5” square, but now it’s 4” square because I lose a ½” on each side. We drew this, talked about it and quizzed a few times until they seemed to get it.

Then, we went back to the idea that we are going to work backwards. This quilt needed to be 60” by 80” when it was done. I challenged the students to think of common factors of 60 and 80 or of numbers nearby. The double challenge was to also think about how to fit 35 complete squares in our design. So we needed factors that could work with 35 as well. They came up with 11, 7 and 5 (with some help!) as factors of 35, 55 and 77. If each kid made an 11 inch square, we could place 5 across and 7 down and add a border to reach 60 by 80.

Now we knew what the FINISHED dimensions of each student square, we needed to think about each inside square. We *could* go for 4” squares because 3 x 4 = 12. But that would not allow for enough seam allowance. We then thought of 5” squares. Yes, they would be 15” laid next to each other, but sewn with a half inch allowance, that would leave 12” showing even before cutting some diagonally. Since that would be cutting it close (ha! Get it! Sewing pun!) we opted for 5.5” squares.

To end this mathy lesson, they got to start designing! You can hear me talk about this and show these steps in the next lesson (screencast) They got dot paper to draw on, and then could get precut construction paper to lay out possible designs. Once they settled on something they liked, I asked them to show me (I tried to take a picture), sketch it and put the construction paper they needed to recreate it into their Sewing Folders with their dot paper design work.
Lesson 4: Designing a 9-block—draw, test, match to construction paper, play with design, and SEW!

You can listen and watch me explain this in this screencast

Calling this a lesson is kind of a joke—this is the meat of How to Teach Kids to Sew. I did the design parts (slides 1-6 as an actual lesson, with some neat online design tools and a Teachers Pay Teachers quilting math activity for early finishers, or just catch up time once their block was designed). Slides 7-11 were spread out, 1:1 or 1:2 with me at the table like a center. We used any snippets of time we could to work through all the kids.

ALSO, take time early on for a basic tools lesson like ironing, using the sewing machine, how/when to use a rotary tool (under supervision only!), measuring rulers and the cutting mat.

Lesson 5: Zoom with Pat Lamarche, discuss homelessness, Priscilla books

Read aloud: The Quiltmaker's Gift by Jeff Brumbeau

We set up a good time for having a zoom call with Pat LaMarche. She talked a lot about WHY we were doing the project and the kids had a QA. One thing that came up was why people become homeless and how else we can help. If you are reading any of the Priscilla books to go along with this unit, this is also a great time to ask the author questions about writing.

Shortly after, we read The Quiltmakers Gift by Jeff Brumbeau. This can be found as a Youtube read aloud, but if possible the hard copy version is beautiful and the embedded quilt patterns are a lovely tie-in. I projected the pictures as I read.

This story is about a king who has everything but is never happy. He hears there is an old woman who makes quilts and he wants one. She only gives them to people in need, though, and she says he does not need her quilts. He tries various things to force her to make a quilt, and she tells him to try giving. Out of desperation, he tries giving away his things to earn a quilt and soon realizes the gift is in sharing. By the end, they work together to give quilts to those in need.

It's a wonderful story and I can't recommend it enough—the students clapped after it was over. It's a great magical but heartwarming tale about what makes us truly rich in life.
Lesson 6: Symmetry and more complex designs

For this lesson, we needed to circle back to the math of the quilt designs and cover symmetry in more depth. The students were familiar with basic symmetry, so we reviewed that by each looking at our block design either in fabric or on paper depending on their progress. We practiced folding them in half in various ways to find lines of symmetry. We then talked about other forms, like rotational symmetry, translation and reflection. Almost every quilt square the kids design has at least one of these! We took turns identifying symmetry in completed squares and I challenged them to try a new kind of symmetry in a new design that they drew or created.

I found *Symmetry For Quilters-- Threads* to be really helpful. I projected parts of it and we talked through. Then, kids could work through these steps:

- Color their 9-block quilt square design as accurately as possible. These will be used to “make” out quilt on a bulletin board.
- Play around with quilt design and symmetry with online design tools, like this [Quilt Art Activity](#).
- Try out some worksheets and online interactive designs like [Interactive Slide--Make a Quilt Square](#) found at TeachersPayTeachers

**Challenge or for kids who need independent study projects**: explore more online like [Quilt Geometry](#)

Lesson 7: (towards the end of the project) Homeless school kids

We had been working on the sewing and the creation for a while but hadn’t brought it full circle in a few weeks, so I took a class meeting/social studies lesson block and revisited the reason behind the project. We watched the following video after a heads up: it mentions someone “climbing into bed” with a woman after offering her a place to stay and she states “it’s all about sex with some of these guys but I don’t do that”. Here’s what I said to the fifth graders I had:

*This video shows real people’s stories. It’s being shown to the lawmakers in our country. But we know that homelessness is hard. It can be scary, it can be messy and it is sad. I also need to tell you ahead of time that someone in this video talks about being asked to do things with her body for a place to stay. She doesn’t feel safe there. You should never feel like you have to do anything with someone that you don’t want to do. Unfortunately, that can be an experience for someone who is homeless, and needing shelter away from unsafe relationships is part of this. If this makes you uncomfortable to hear about, I understand. Just know it is a reality and it is not a long part of this video but something that I think is important to say. No one should have to do things they don’t feel safe doing just to have a place to stay.*
This video link is a resource from Hear Us, a group focusing on homelessness in school aged children. Congressional Briefing Video, Nowhere to Go: Family Homelessness in America.

After this video, it helped us to revisit Fly Away Home. We talked about what we can do if we notice someone who may need help. We made this chart of how to help friends going through a tough time, with an emphasis on discussing trusted adults and not sharing someone's personal information with friends or online.

We ended this lesson reading the end of the afterword/epilogue in Priscilla’s Picnic With the President. In this, Pat mentions how much is based on reality and how many people inspired her.

But she ends with a challenge. She says that the lie in the book is the happy ending. No one has solved homelessness. The President hasn’t consulted with Priscilla or someone like her. It’s up to this next generation if they want to see that come true. And that is why this project is essential. We are bringing attention to a current issue and bringing hope and kindness to someone who needs it now.