Title of Book: **Counting on Katherine: How Katherine Johnson Saved Apollo 13**
Author/Illustrator: **Helaine Becker/Dow Phumiruk**
Publisher/Year: **Macmillan Children's Books/ 2021**
ISBN: **1529005612**

Grade Levels for Recommended Use: 4th

TEKS:

4.7 Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to:

(C) determine the approximate measures of angles in degrees to the nearest whole number using a protractor

Brief Summary: This book is a biography about Katherine Johnson who is remembered for her contributions to NASA as a mathematician. It begins by describing her love of math and curiosity about the universe as a child. She was a gifted student who yearned to learn as much as she could, specifically about math and science. The book provides details about her journey to become a mathematician for NASA along with the importance of her calculations in aiding space programs such as Mercury and Apollo. Her interests in both math and science, her never-ending curiosity, and her perseverance allowed her to become a well-known contributor to work at NASA.

Materials needed:

- Pencils
- Angles Handout

Suggested Activity:

1. Introduce concept of measuring angles using a protractor
2. Play read aloud of "Counting on Katherine"
3. Create a circle map as a class, listing real-world examples of angles students have seen
4. Explain how to measure angles using a protractor
5. Model how to write angle measurements using degrees
6. Distribute protractor worksheets showing different angles

7. Have students work in partners to practice using protractors to measure and record angle measurements on worksheet
8. Monitor student work and provide guidance as needed
9. Bring class back together to review worksheet and address any remaining questions on measuring angles with protractors

Reference:

Alicea, Mr. (2023). *Counting on Katherine: How Katherine Johnson saved Apollo 13 read aloud* [Video file]. YouTube. https://youtu.be/OyDHAWDI70Q?si=oCxlKmP6t5t8hdcr

Delacour, E. (2023). *The Angles* [Google slides]. Slidesgo. https://slidesgo.com/theme/the-angles#search-angles&position-3&results-33&rs=search

Adapted by: Cassandra Soto (2023)