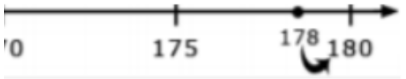
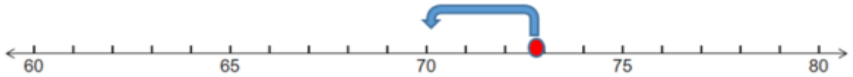
Kentucky Alternate Assessment Instructional Support Document - Math

KAS: KY.3.NBT.1_____

Standards for Mathematical Practice	
MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics.	MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning.

Standard	Clarifications
KY.3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100. ***Alternate Assessment Target:*** *Limit to rounding whole numbers within 100 to the nearest 10.*	On a number line, students determine 178 rounded to nearest 10 is 180.  ***Alternate Assessment Clarification:*** 
Connections to Math Practices	**Coherence/Foundational Understandings**
Engaging the Math Practices and Question Stems **MP.7** Look for and make use of structure. (Simplify problems by using their structure *) Students need to understand the structure of the base ten number system in order to conceptually understand the concept of rounding. **MP.6** Attend to precision. (Communicate precisely.*) Students can draw and label a number line. ***Key Vocabulary:*** Estimate, round, nearest, closest to, place value **Click here to see more about what teachers and students do to build the math practices: Engaging the Math Practices and Question Stems**	**Pre-requisite Skills** • Ordering of numbers • Counting by 10s (on the decade/multiples of 10) • "Closer to" Coherence KY.2.NBT.1→KY.3.NBT.1→ KY.4.NBT.3 Kentucky Academic Standards for Mathematics

*Clarification to the math practices by Robert Kaplinsky.

Instructional Considerations

Possible Areas of Difficulties/Misconceptions
Rounding Rule causes misconceptions- rounding up to the nearest ten means the digit in the tens place will increase by 1 but rounding down may lead students to decrease the tens place by 1 instead of remaining the same. Following the rule can be more complicated - using the number line models and justifying their solutions is recommended.

Suggested Tools/Visual Aids -

- Place Value Blocks
- Number line (Velcro with values)
- Bead String
- Hundred Chart with transparent place markers
- Vertical Number Line
- Open Number Lines
- Thermometer
- KY Alternate Assessment Resource Guide (General terms pps 6-11 ; Math terms pps 22-26)
- Ky Alternate Standards Progression

Students should have concrete experiences that connect to the number line over time.

Reason for estimation (knowing “about how many” or “about how much”)