Exemplars K–12 We Set the Standards!

Standards-Based Assessment + Instruction

Preliminary Planning Sheet

Grade 5 – Crab Walk Relay Race

Domain(s)

Number and Operations in Base Ten

Standard(s)

5.NBT.A.3b

Mathematical Practices

MP.1 MP.2 MP.3 MP.4 MP.6

Major Underlying Mathematical Concepts

- Compare decimals
- Decimal notation
- Inequality/Equality symbols
- Addition/Subtraction of decimals

Problem Solving Strategies

- Chart
- Guess and check
- Number line

Formal Mathematical Language and Symbolic Notation

- Chart
- Number line
- Time (second, minute)
- Decimals (8.7, 12.2 ...)
- Place value (ones, tenths)
- Equivalent/Equal to
- Greater than (>)/Less than (<)
- Combination
- Total/Sum
- Range

Possible Solution(s)

See the charts below for three suggested teams. Team 1's time > Team 2's time. Team 2's time = Team 3's time. Team 1's time > Team 3's time.

Team 1

Student	Time in Seconds
Amy	8.7
Josh	11.4
Brooke	10.9
Travis	11.1
	42.1 sec

Team 2

Student	Time in Seconds
Harry	12.2
Sally	10.3
Joseph	8.9
Meredith	10.5
	41.9 sec

Team 3

Student	Time in Seconds
Ryan	9.9
Anna	9.1
Greg	11.9
Emily	11.0
	41.9 sec

Team	Total Time in Seconds
1	42.1
2	41.9
3	41.9

Team 1's > Team 2's in speed.
Team 2's = Team 3's in speed.
Team 1's > Team 3's in speed.

Possible Connections

Below are some examples of mathematical connections. Your students may discover some that are not on this list.

- Find a new combination of 3 relay teams.
- Harry is the slowest crab walker – 12.2 seconds.
- Amy is the fastest crab walker – 8.7 seconds.
- The range is 12.2 – 8.7 = 3.5 seconds.
- Emily's time < Travis' time by 0.1 second.
- Ryan's time is < Greg's time by 2.0 seconds.
- All seconds are recorded to the tenths place.
- 42.1 seconds is 17.9 seconds from 1 minute.
- 41.9 seconds is 18.1 seconds from 1 minute.
- The girls' combined total time is 60.5 seconds.
- The boys' combined total time is 65.4 seconds.
- 60.5 < 65.4 so the girls' total time is faster than the boys' total time.
- Relate to a similar task and state a math link.
- The combined total time of all the students is 125.9 seconds, so there cannot be 3 exactly equal times.