

Preliminary Planning Sheet Grade 5 – Bamboo and the Botanist

Domain(s)

Number and Operations in Base Ten, Number and Operations in Base Ten

Standard(s)

5.NBT.A.3a, 5.NBT.A.3b

Mathematical Practices

MP.1 MP.2 MP.3 MP.4 MP.5 MP.6

Major Underlying Mathematical Concepts

- Base-10 place value system
- Compare decimals
- Inequality/Equality symbols
- Addition of decimals

Problem Solving Strategies

- Model (manipulatives)
- Diagram/Key
- Table
- Line graph
- Bar graph
- Number line

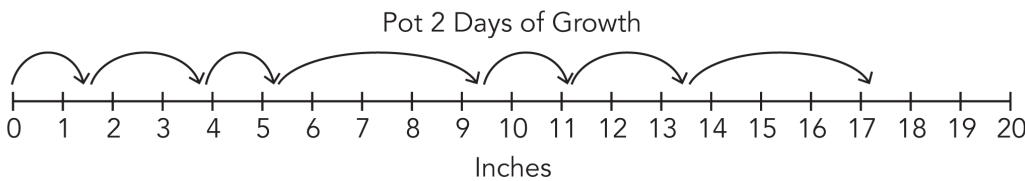
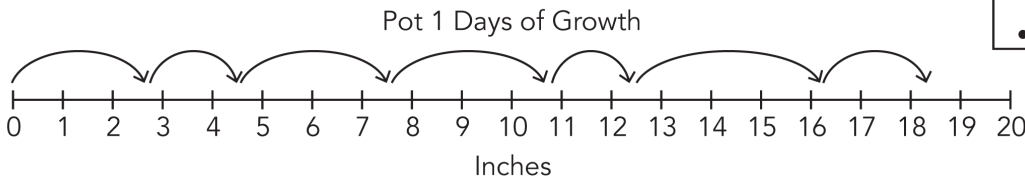
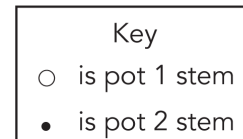
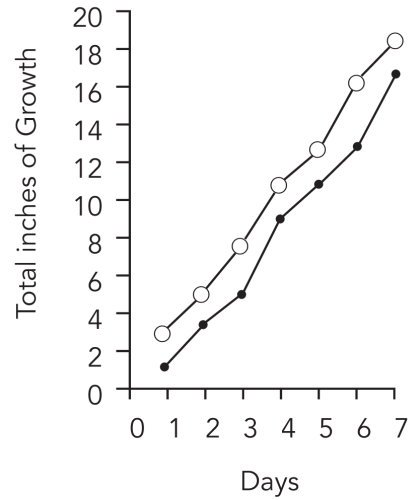
Formal Mathematical Language and Symbolic Notation

- Model
- Diagram/Key
- Table
- Line graph
- Bar graph
- Double bar graph
- Number line
- Decimals (3.745, 3.9 ...)
- Place value (Ones, tenths, hundredths, thousandths)
- Range
- Most/Least
- Greater than (>)/Less than (<)
- Equivalent/Equal to
- Day, week
- Data
- Inch (" , in.), foot (', ft.)
- Addition
- Sum

Possible Solution(s)

The student must make 4 correct observations about the bamboo growing in pot 1 and pot 2 using $>$, $<$, $=$ symbols. Possible solutions include: At the end of 7 days, the bamboo in pot 1 is taller than the bamboo in pot 2, $18.254 > 17.108$; on day 2 the bamboo in pot 1 grew less than the bamboo in pot 2, $1.623 < 2.307$; etc.

Pot 1		Pot 2	
Day	Bamboo Stem Growth per Day	Day	Bamboo Stem Growth per Day
1	2.878 in	1	1.585 in
2	1.623 in	2	2.307 in
3	2.999 in	3	1.296 in
4	3.319 in	4	4.121 in
5	1.537 in	5	1.742 in
6	3.745 in	6	2.418 in
7	2.153 in	7	3.639 in
18.254 total inches in 1 week		17.108 total inches in 1 week	



Possible Connections

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

- More than 4 observations about the botanist's data are made.
- Both of the bamboo stems are a total of 35.362 inches. If the plants grew 0.638 inches more that would be a total growth of 1 yard.
- The bamboo in pot 2 grew 1.146 less than the bamboo in pot 1.
- On day 4, the bamboo in pot 2 grew more than the expected range.
- 18.253 inches is approximately 1 1/2 feet of growth.
- Round all numbers in the task to the nearest whole number and compare the data.
- Relate to a similar task and state a math link.
- Solve more than one way to verify the answer.