

Explain why measuring units must be identical

NAME	DATE	SCORE / 10
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1 Cleo measures a bench with 2 big clips and 3 small clips. Cleo says the bench is 5 clips long. Why is Cleo wrong?

- ☐ You cannot measure with clips ☐ The clips are not all the same size
☐ The bench is too long to measure ☐ Cleo used too many clips

2 Noah measures a book with 4 big clips and 4 small clips. Noah says the book is 8 clips long. Why is that not the right length?

FOR THE ADULT

- Put 4 big clips and 4 small clips end to end along a book. No clips? Use 4 long and 4 short strips of paper.
- Say: "Noah says the book is 8 clips long. Why is that not the right length?"
- Listen, then write down what the child says. Do not give the reason.

☐ Did it ☐ Not yet The child said: _____

3 Ben measures a mat with 2 big sticks and 5 small sticks. Ben says the mat is 7 sticks long. Why is Ben wrong?

- ☐ The mat is too long to measure ☐ Ben used too many sticks
☐ The sticks are not all the same size ☐ You cannot measure with sticks

- 4** Ivy measures a book with 2 big sticks and 2 small sticks. Ivy says the book is 4 sticks long. Why is that not the right length?

FOR THE ADULT

1. Put 2 big sticks and 2 small sticks end to end along a book. No sticks? Use 2 long and 2 short strips of paper.
2. Say: "Ivy says the book is 4 sticks long. Why is that not the right length?"
3. Listen, then write down what the child says. Do not give the reason.

☐ Did it ☐ Not yet The child said: _____

- 5** Dev measures a table with 4 big cubes and 5 small cubes. Dev says the table is 9 cubes long. Why is Dev wrong?

- ☐ The table is too long to measure ☐ You cannot measure with cubes
☐ Dev used too many cubes ☐ The cubes are not all the same size

- 6** Noah measures a book with 5 big cubes and 4 small cubes. Noah says the book is 9 cubes long. Why is that not the right length?

FOR THE ADULT

1. Put 5 big cubes and 4 small cubes end to end along a book. No cubes? Use 5 long and 4 short strips of paper.
2. Say: "Noah says the book is 9 cubes long. Why is that not the right length?"
3. Listen, then write down what the child says. Do not give the reason.

☐ Did it ☐ Not yet The child said: _____

- 7** Dev measures a table with 2 big blocks and 5 small blocks. Dev says the table is 7 blocks long. Why is Dev wrong?

- ☐ The table is too long to measure ☐ You cannot measure with blocks
☐ Dev used too many blocks ☐ The blocks are not all the same size

- 8** Dev measures a book with 3 big blocks and 4 small blocks. Dev says the book is 7 blocks long. Why is that not the right length?

FOR THE ADULT

1. Put 3 big blocks and 4 small blocks end to end along a book. No blocks? Use 3 long and 4 short strips of paper.
2. Say: "Dev says the book is 7 blocks long. Why is that not the right length?"
3. Listen, then write down what the child says. Do not give the reason.

☐ Did it ☐ Not yet The child said: _____

- 9** Noah measures a mat with 3 big cubes and 5 small cubes. Noah says the mat is 8 cubes long. Why is Noah wrong?

- ☐ The cubes are not all the same size ☐ Noah used too many cubes
☐ The mat is too long to measure ☐ You cannot measure with cubes

- 10** Ivy measures a book with 2 big cubes and 3 small cubes. Ivy says the book is 5 cubes long. Why is that not the right length?

FOR THE ADULT

1. Put 2 big cubes and 3 small cubes end to end along a book. No cubes? Use 2 long and 3 short strips of paper.
2. Say: "Ivy says the book is 5 cubes long. Why is that not the right length?"
3. Listen, then write down what the child says. Do not give the reason.

☐ Did it ☐ Not yet The child said: _____

Explain why measuring units must be identical

1 The clips are not all the same size

3 The sticks are not all the same size

5 The cubes are not all the same size

7 The blocks are not all the same size

9 The cubes are not all the same size

2 Watched by the adult

What counts as right: Says the clips are not all the same size, so counting them does not tell how long the book is: every clip has to be the same size. Any words that say this count (“some are big and some are small”). A reason about using too many clips, or the book being too long, is Not yet.

4 Watched by the adult

What counts as right: Says the sticks are not all the same size, so counting them does not tell how long the book is: every stick has to be the same size. Any words that say this count (“some are big and some are small”). A reason about using too many sticks, or the book being too long, is Not yet.

6

Watched by the adult

What counts as right: Says the cubes are not all the same size, so counting them does not tell how long the book is: every cube has to be the same size. Any words that say this count ("some are big and some are small"). A reason about using too many cubes, or the book being too long, is Not yet.

8

Watched by the adult

What counts as right: Says the blocks are not all the same size, so counting them does not tell how long the book is: every block has to be the same size. Any words that say this count ("some are big and some are small"). A reason about using too many blocks, or the book being too long, is Not yet.

10

Watched by the adult

What counts as right: Says the cubes are not all the same size, so counting them does not tell how long the book is: every cube has to be the same size. Any words that say this count ("some are big and some are small"). A reason about using too many cubes, or the book being too long, is Not yet.
