

Subject: Mathematic

Level: S.2

Topic: Estimation in measurement

Learning objectives:

1. Content:

Students should be able to evaluate estimated values to show their understanding of precision and its effect on measured values.

2. Language:

Students should be able to write sentences to describe estimated values and to comment on others' estimation.

S.2 Mathematics
Estimation in measurement
Worksheet for Student A

Name : _____ No.: _____ Class: _____ Date: _____



Instruction:

1. Work in pairs of Student A and Student B. You are Student A.
2. Write a description about the degree of precision with the information given in the table in Questions 1 and 2.
3. Read each description to Student B slowly.
4. Student B listens and completes the corresponding table on his/her worksheet when you read.
5. Allow Student B time to write a sentence to comment on the correctness of your description and then read it out to you.
6. When you finish Questions 1 and 2, Student B will read out to you his/her description for Questions 3 and 4.
7. Listen to Student B's description. Complete the table in Questions 3 and 4.
8. Look at the information you have completed in the table in Questions 3 and 4. Write a sentence to comment on the correctness of Student B's description.
9. Read your comment to Student B.

Example

Length of line segment: 3.81 cm; measuring instrument: ruler

Graduation	Measured length
1 cm	4 cm
0.1 cm	3.8 cm

From the information given above, write the following paragraph and then read it to Student B:

When we measure a line segment 3.81 cm long with a ruler with graduation 1cm, we say it is 4 cm long. When we measure it with a ruler with graduation 0.1 cm, we say it is 3.8 cm long.

Student B listens and completes the following table on his/her worksheet:

Question	Actual length	Graduation	Measured length
1	3.81 cm	1 cm	4 cm
		0.1 cm	3.8 cm
Comment: I fully agree with your description in Question 1.			

Then Student B writes the comment on the correctness of your description at the bottom of the table using one of the following comments:

Examples of comment:

1. *I fully agree with your description in Question 1.*
2. *I partly disagree with your description in Question 1. When the graduation is 1 cm, the measured length should be 4 cm.*
3. *I fully disagree with your description in Question 3. When the graduation is 1 cm, the measured length should be 4 cm. When the graduation is 0.1 cm, the measured length should be 3.8 cm.*

Student B reads out his/her comment to you. Then you do Student B's job for Questions 3 and 4.

1. Length of line segment: 4.26 cm; measuring instrument: ruler

Graduation	Measured length
1 cm	4 cm
0.1 cm	4.3 cm

Write and then read to student B:

When we measure with
a . with graduation , we
say . When we measure with with
graduation , we say .

2. Length of line segment: 9.34 cm; measuring instrument: ruler

Graduation	Measured length
0.5 cm	
0.1 cm	

Write and then read to Student B:

Listen to Student B and write down what s/he said. Then write a sentence to comment on the correctness of his/her description. Use one of the three possible comments given above. Then read the comment to Student B.

Question	Actual length	Graduation	Measured length
3			
Comment:			
4			
Comment:			

S.2 Mathematics
Estimation in measurement
Worksheet for Student A

Name : _____ No.: _____ Class: _____ Date: _____



Instruction:

1. Work in pairs of Student A and Student B. You are Student B.
2. Write a description about the degree of precision with the information given in the table in Questions 3 and 4.
3. Listen to Student A reading out his/her description in Questions 1 and 2 to you.
4. Complete the table in Questions 1 and 2 as Student A reads to you.
5. Write a sentence to comment on the correctness of his/her description.
6. Read your comment to him/her.
7. When you finish Questions 1 and 2, read your description for Questions 3 and 4 to Student A.
8. Allow Student A time to complete the table in Questions 3 and 4 and to write a sentence to comment on the correctness of your description.
9. Listen to Student A read his/her comment to you.

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Example

Length of line segment: 3.81 cm; measuring instrument: ruler

Graduation	Measured length
1 cm	4 cm
0.1 cm	3.8 cm

From the information given above, Student A writes and reads the following to you:

When we measure a line segment 3.81 cm long with a ruler with graduation 1cm, we say it is 4 cm long. When we measure it with a ruler with graduation 0.1 cm, we say it is 3.8 cm long.

Listen and complete the following table as shown:

Question	Actual length	Graduation	Measured length
1	3.81 cm	1 cm	4 cm
		0.1 cm	3.8 cm
Comment: I fully agree with your description in Question 1.			

Write a comment on the correctness of Student A's description at the bottom of the table using one of the following comments:

Examples of comment:

- I fully agree with your description in Question 1.*
- I partly disagree with your description in Question 1. When the graduation is 1 cm, the measured length should be 4 cm.*
- I fully disagree with your description in Question 3. When the graduation is 1 cm, the measured length should be 4 cm. When the graduation is 0.1 cm, the measured length should be 3.8 cm.*

Read out your comment to Student A. Then you do Student A's job for Questions 3 and 4.

Listen to Student A and complete the following table:

Question	Actual length	Graduation	Measured length
1			
Comment:			
2			
Comment:			

Write a comment on Student A's description using one of the three comments given above. Then read your comment to Student A.

3. Length of line segment: 6.24 cm; measuring instrument: ruler

Graduation	Measured length
1 cm	6 cm
0.1 cm	6.2 cm

Write and then read to Student A:

When we measure with
a with graduation , we
say . When we measure with with
graduation , we say .

4. Length of line segment: 4.39 cm; measuring instrument: ruler

Graduation	Measured length
0.5 cm	cm
0.1 cm	cm

Write and then read to Student A:
