

# 6 Explore

## Paper Clip Patterns

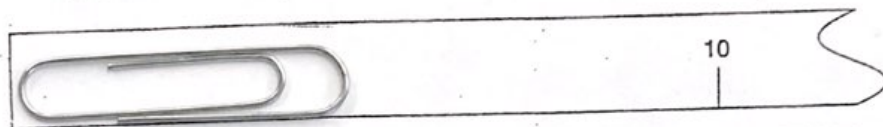
In this activity you will explore why measurements involve a degree of uncertainty.

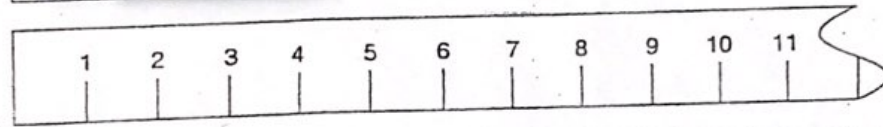
### Materials (per student)

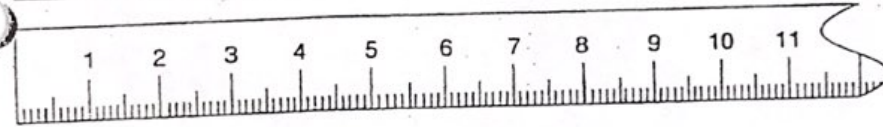
paper clip

### Procedure

1. Measure the length of a paper clip on each ruler pictured below. The measurements will not be identical. Write your answers in the space provided.

 length of paper clip  
\_\_\_\_\_ cm

 length of paper clip  
\_\_\_\_\_ cm

 length of paper clip  
\_\_\_\_\_ cm

### Questions

1. Were all of your measurements identical? Explain.  
\_\_\_\_\_  
\_\_\_\_\_
2. Which measurement required the greatest amount of estimation? Explain.  
\_\_\_\_\_  
\_\_\_\_\_
3. How do your measurements indicate this difference in the degree of estimation needed?  
\_\_\_\_\_  
\_\_\_\_\_

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# 6-6 Explore

## Paper Clip Patterns

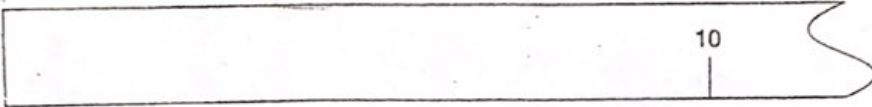
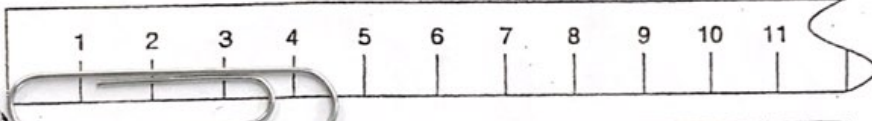
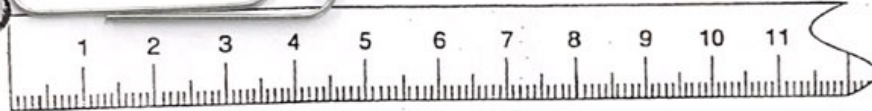
In this activity you will explore why measurements involve a degree of uncertainty.

### Materials (per student)

paper clip

### Procedure

1. Measure the length of a paper clip on each ruler pictured below. The measurements will not be identical. Write your answers in the space provided.

	length of paper clip _____ cm
	length of paper clip _____ cm
	length of paper clip _____ cm

### Questions

1. Were all of your measurements identical? Explain.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Which measurement required the greatest amount of estimation? Explain.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. How do your measurements indicate this difference in the degree of estimation needed?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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# 6 Explore

## Paper Clip Patterns

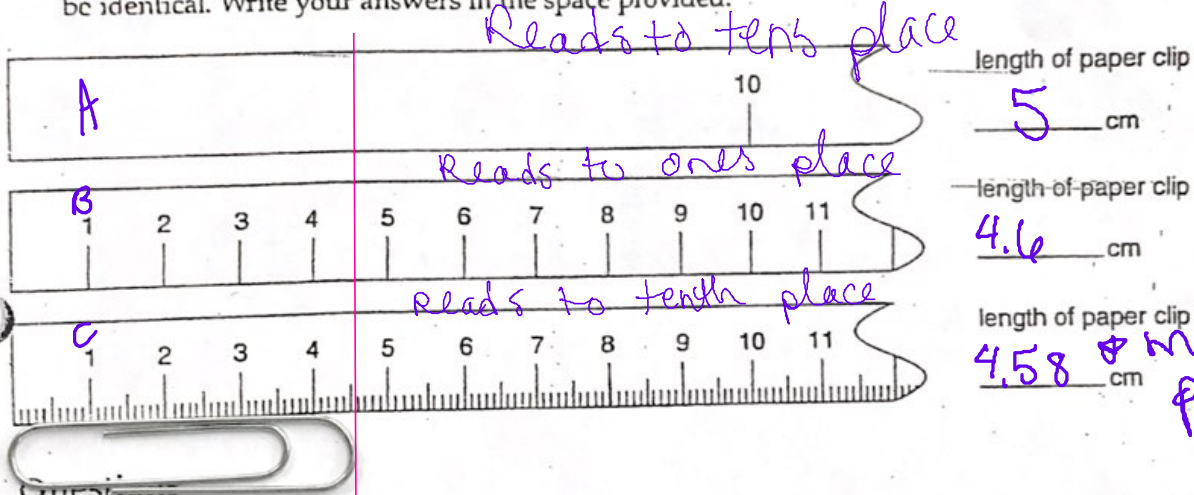
In this activity you will explore why measurements involve a degree of uncertainty.

### Materials (per student)

paper clip

### Procedure

1. Measure the length of a paper clip on each ruler pictured below. The measurements will not be identical. Write your answers in the space provided.



1. Were all of your measurements identical? Explain.

No, b/c each ruler had different precisions for measurement (readable lines)

2. Which measurement required the greatest amount of estimation? Explain.

First ruler b/c it is least precise

3. How do your measurements indicate this difference in the degree of estimation needed?

The more precise the <sup>instrument</sup> more accurate the measurement (more precise values have more certain digits after the decimal place).