STUDENT LEARNING ACTIVITY
FOR
TECHNOLOGY EDUCATION

SYSTEM TITLE: COMMUNICATIONS

COURSE TITLE: COMMUNICATIONS/TRANSPORTATION - POWER & ENERGY

CONCEPT: INTRODUCTION

ACTIVITY TITLE: TECHNICAL EXTENSIONS - MEASURING

REQUIRED NUMBER OF CLASS PERIODS: One

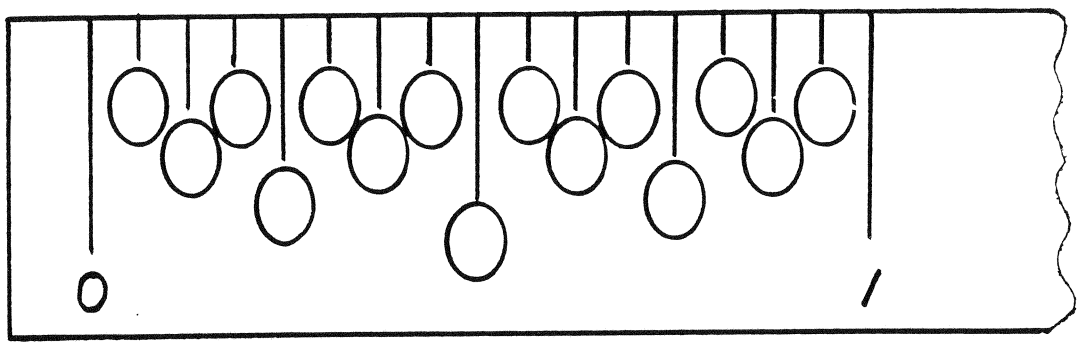
INTRODUCTION: A person must be able to read and use a ruler or scale in order to make accurate drawings or projects. There are two systems by which we can measure. One is the customary system and the other is the SI metric system

OBJECTIVES: THE STUDENT WILL:

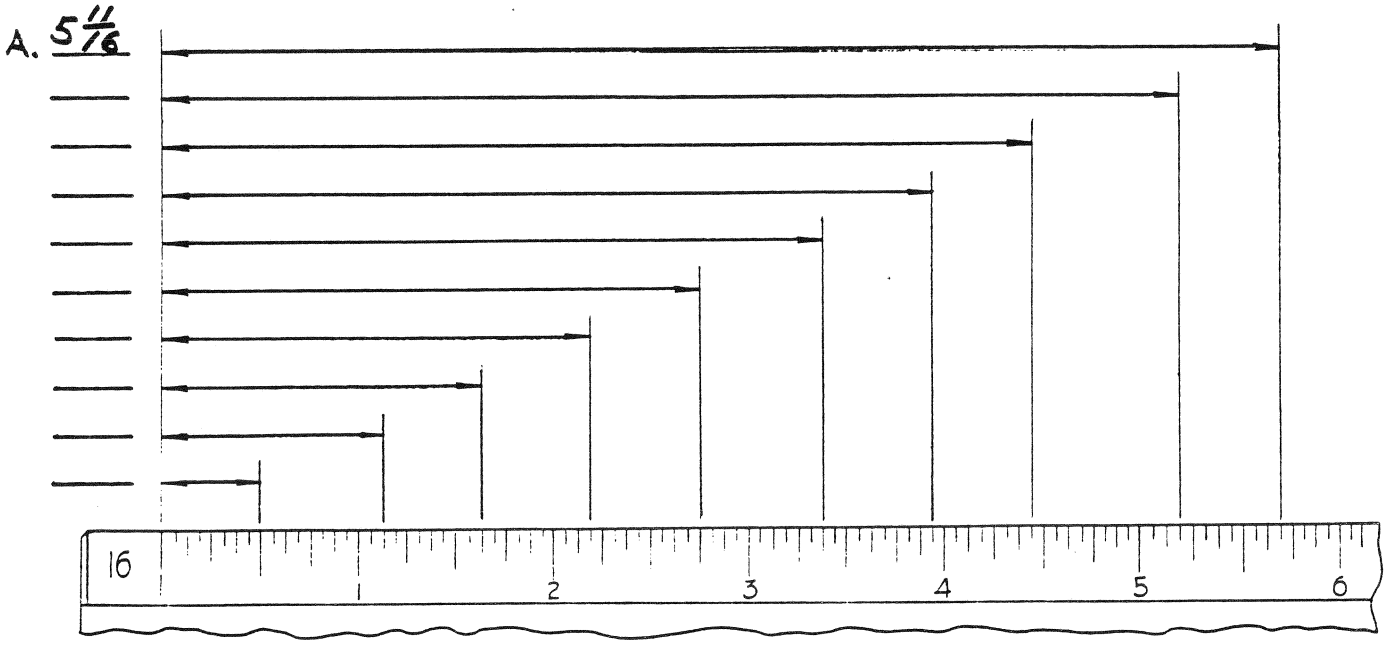
1. Identify the divisions of an inch
2. Measure distances to a required tolerance in the customary system of measurement and in the SI metric system.

PROCEDURE: List steps and include working drawing

1. On the sample ruler below, record the correct parts of an inch in the oval provided:



Fill in the length of each line. Read the size from the scale printed on this page. Look at sample Line "A". Reduce your fractions to lowest terms.



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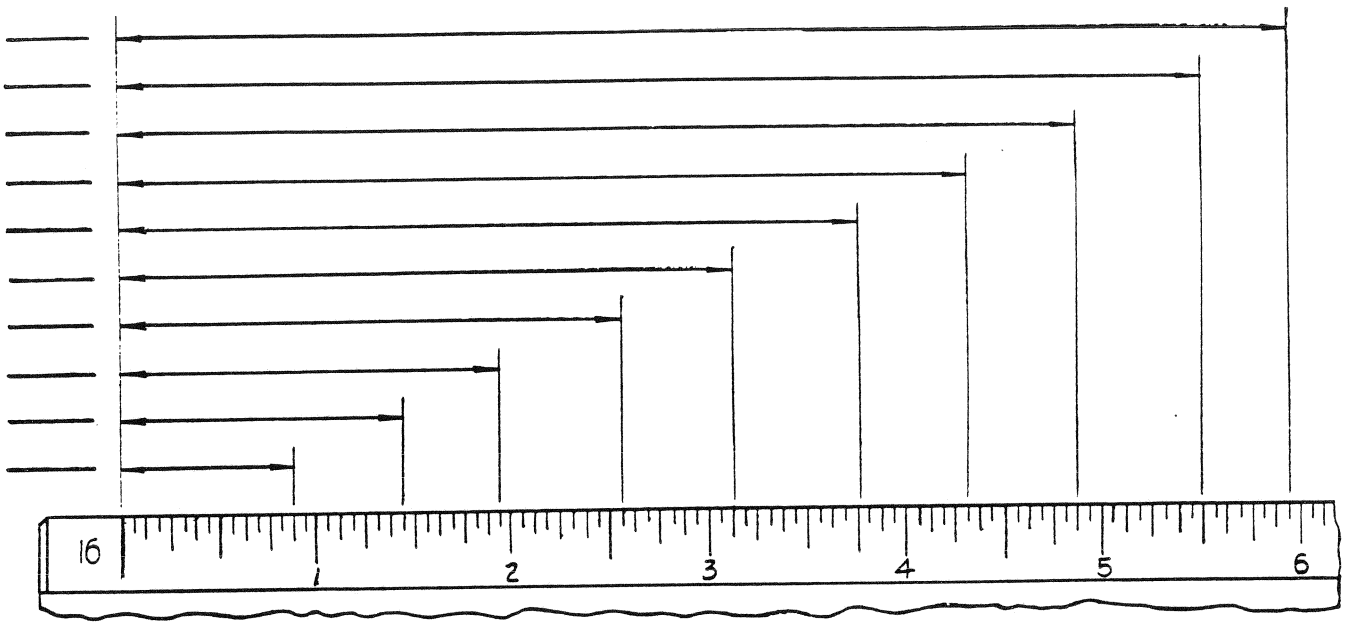
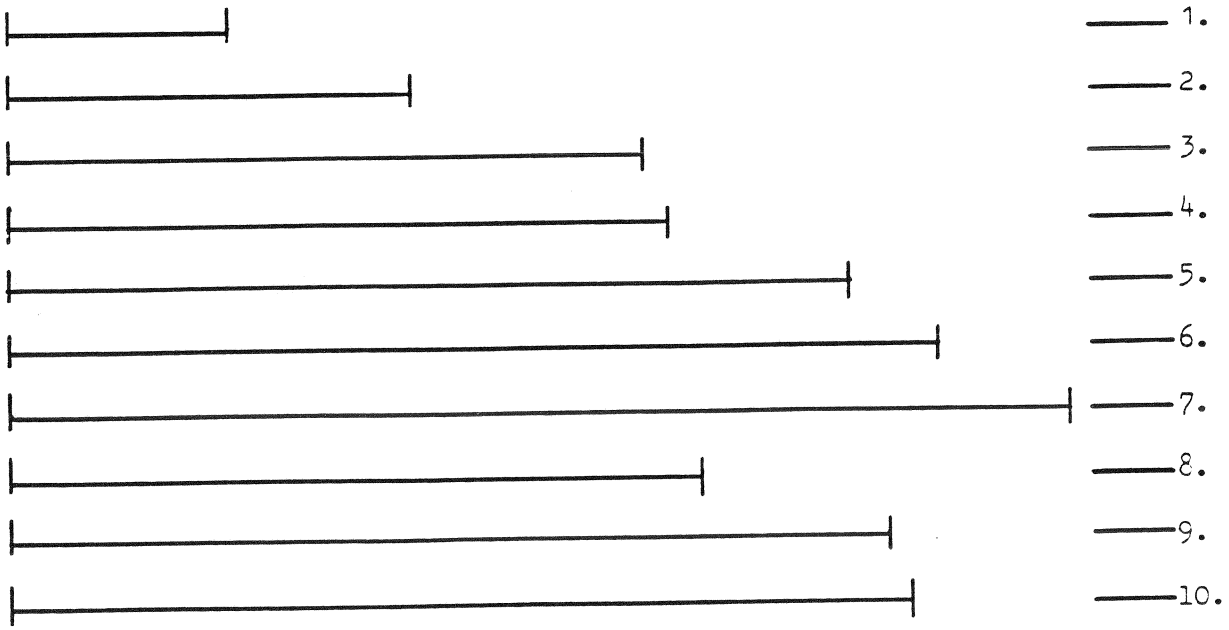
PROCEDURE: Continued

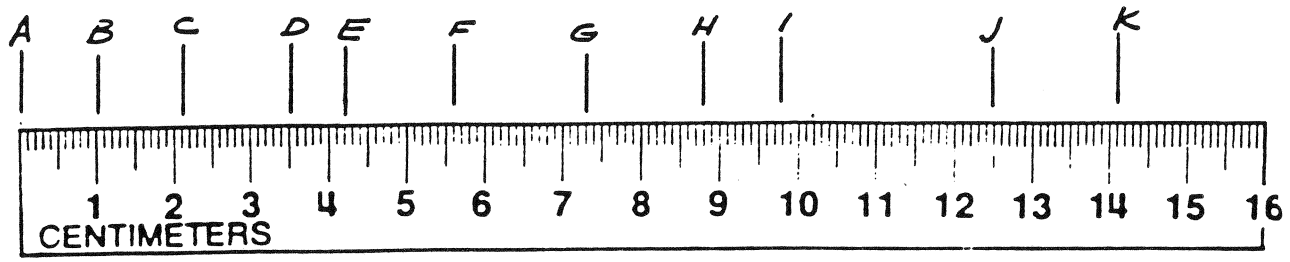


Measure each line and write the length in the blank.
Read the scale to the smaller size.

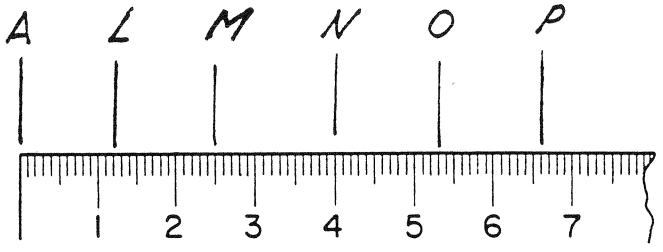


METRIC RULE READING

Read each of the following measurements and place the answer in the space provided. Record your answer in millimeters.



1. A to B is _____
2. A to C is _____
3. A to D is _____
4. A to E is _____
5. A to F is _____
6. A to G is _____
7. A to H is _____
8. A to I is _____
9. A to J is _____
10. A to K is _____



1. A to L is _____
2. A to M is _____
3. A to N is _____
4. A to C is _____
5. A to P is _____

2. Follow the directions on Picture Sheet No. 1 and complete the exercise.

PICTURE SHEET 1

1. Place your scale on Line AB. Measure 3" across from Point A. Make a dash to mark this point. Call it Point E.
2. Place your scale on Line BD. Measure down 5" from Point B. Make a dash to mark this point. Call it Point F.
3. On Line BD, measure down 7" from Point B. Make a dash to mark this point. Call it Point G.
4. On Line BD, measure down 8" from Point B. Make this Point H.
5. Point I is on Line AC, 9" from Point A.
6. Point J is on Line AC, $6\frac{1}{2}$" from Point A.
7. Point K is on Line AC, $4\frac{1}{2}$" from Point A.
8. Draw a line to connect Point J with Point G.
9. Draw a line to connect Point I with Point H.
10. Draw a line to connect Point E with Point F.
11. Draw a line to connect Point E with Point K.
12. Point L is on Line JG, 3" from Point J.
13. Connect Point E with Point L.
14. Point M is on Line EL, $5\frac{1}{2}$" from Point E.
15. Connect Point M with Point F.
16. Point N is on Line EL, 6" from Point E.
17. Connect Point K with Point N.
18. Point O is on Line IH, $1\frac{1}{2}$" from Point I.
19. Connect Points O and J.
20. Point P is on Line IH, $6\frac{1}{2}$" from Point I.
21. Connect Points P and G.

What does your picture show?_____

A

B

C

D

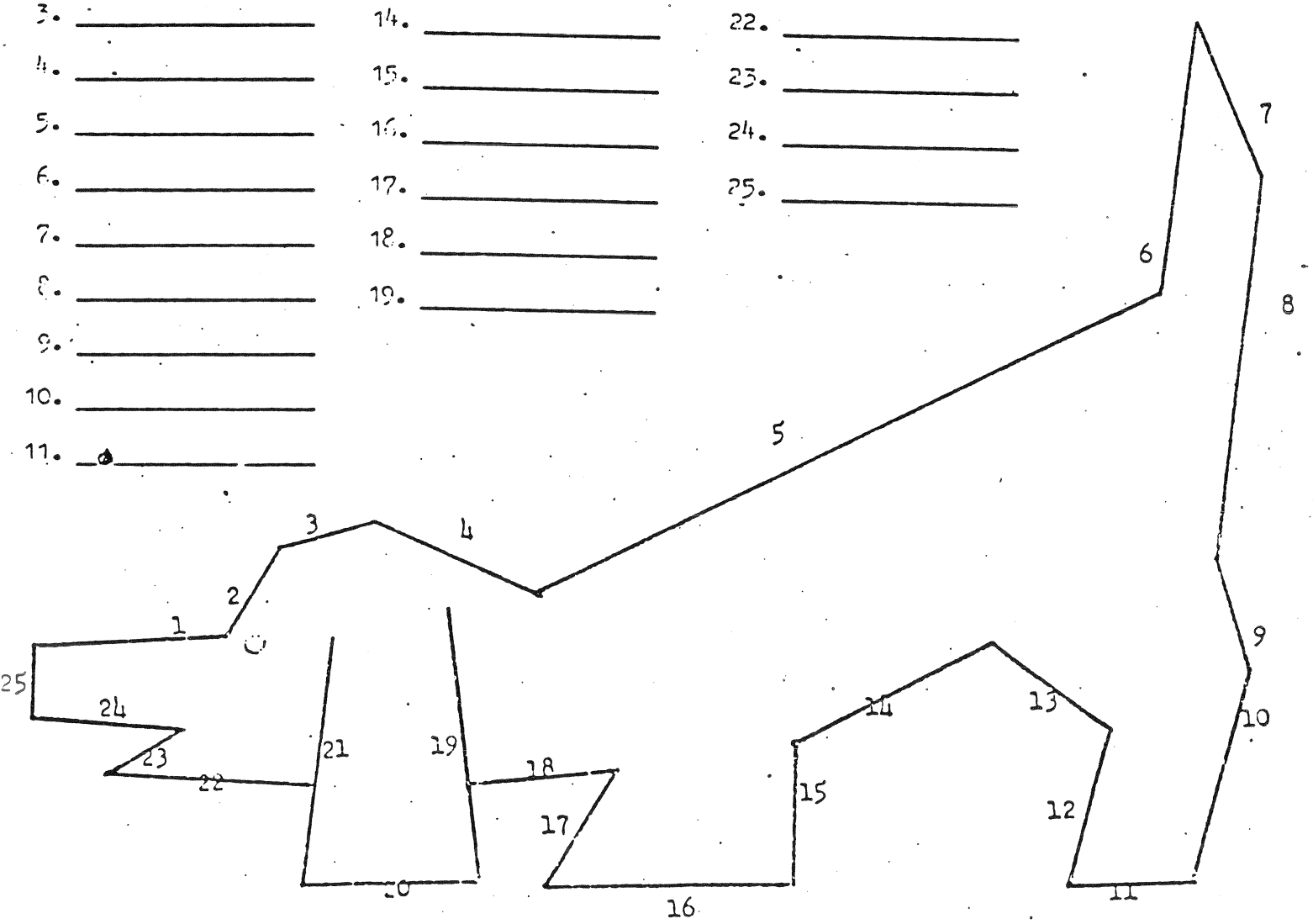
Picture Sheet #1

REFERENCE: INSTRUCTOR ORIGINAL

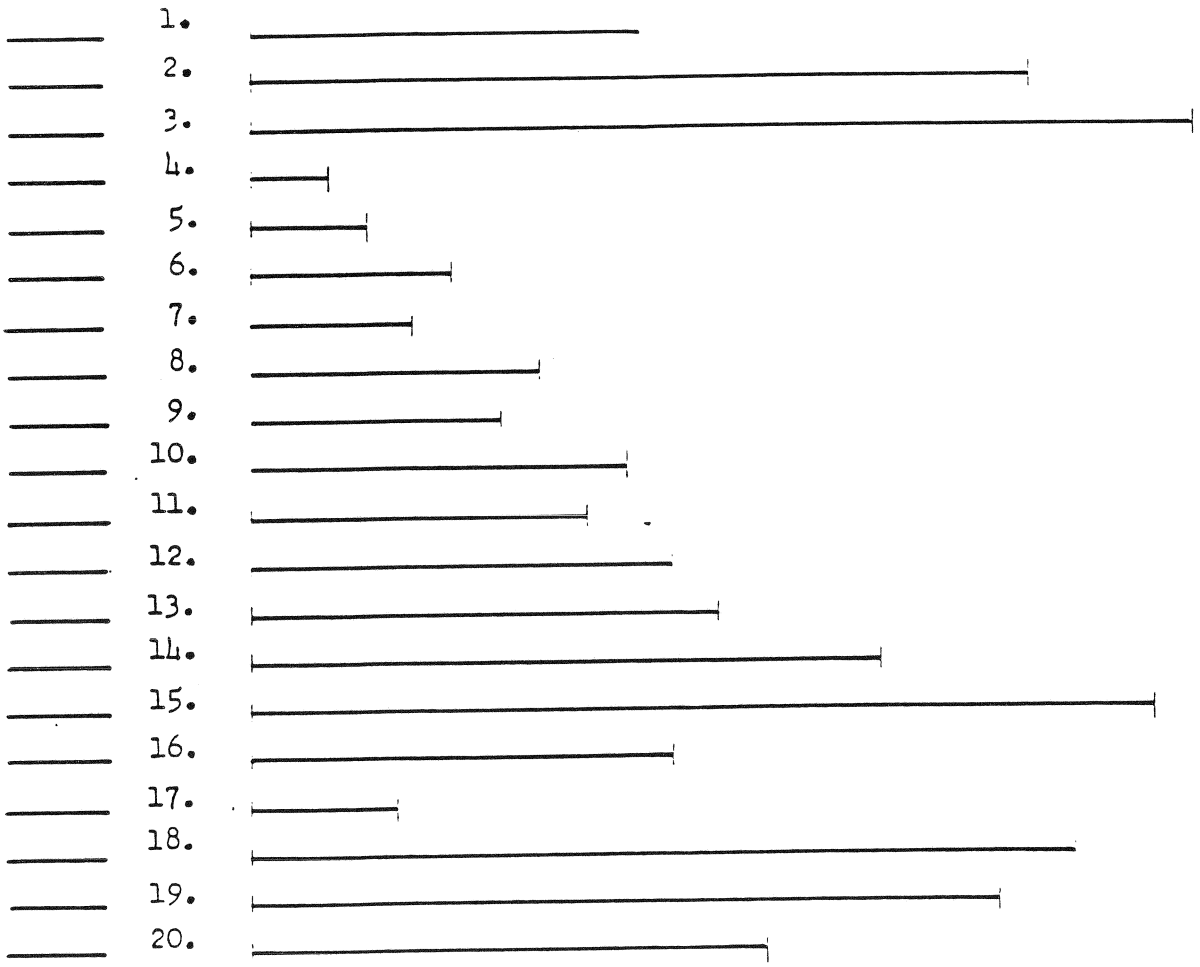
EVALUATION CRITERIA:

Measure each of the lines of the drawing. Record your answer in space provided. State answers in 1/16's

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____
25. _____



Test your accuracy when measuring with a metric scale. Measure the distance between the marks on each line and record the answer. Measure to the lower millimeter.



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INSTRUCTOR INFORMATION

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RESOURCES NEEDED: Ruler graduated in 1/16 of an inch

Metric rule

REFERENCES: INSTRUCTOR ORIGINAL

Green Bay area public schools
Curriculum Department

SPECIAL SAFETY CONSIDERATIONS:

Observe all general safety precautions