ACTIVITY 5.1

Developing Concepts

Investigating Perpendicular Bisectors

GROUP ACTIVITY
Work with a partner.

MATERIALS
• paper
• pencils
• ruler
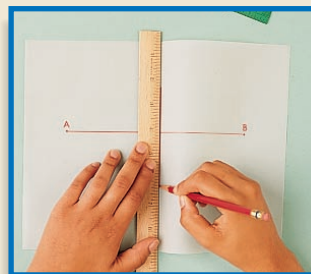• protractor

▶ **QUESTION** What is true about any point on the perpendicular bisector of a segment?
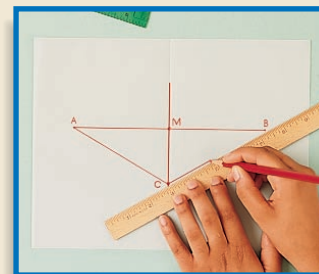
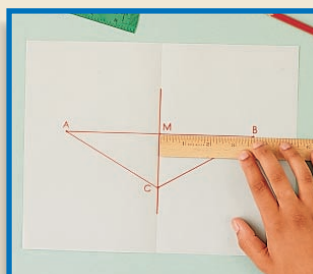▶ **EXPLORING THE CONCEPT**
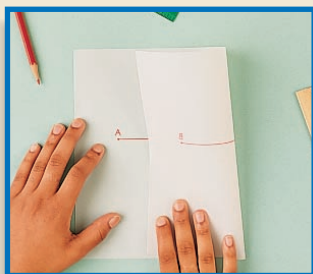
1 On a piece of paper, draw $\overline{AB}$. Fold the paper so that point B lies directly on point A.
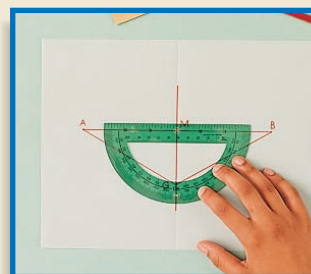

2 Draw a line along the crease in the paper. Label the point where the line intersects $\overline{AB}$ as point M.
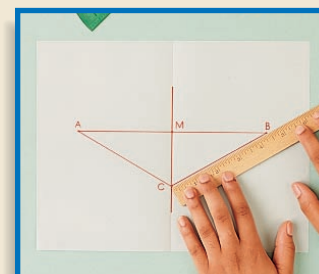

3 Label another point on the line as point C. Draw $\overline{CA}$ and $\overline{CB}$.

4 Measure $\overline{MA}$ and $\overline{MB}$.

5 Measure $\angle CMA$.

6 Measure $\overline{CA}$ and $\overline{CB}$.

▶ **DRAWING CONCLUSIONS**

1. $\overleftrightarrow{CM}$ is called the *perpendicular bisector* of $\overline{AB}$. Explain why.

2. Choose four other points on $\overleftrightarrow{CM}$. Label the points as D, E, F, and G.

3. Copy and complete the table by measuring the length of each segment. What do you notice?

Point D	Point E	Point F	Point G
$DA = $ __?__	$EA = $ __?__	$FA = $ __?__	$GA = $ __?__
$DB = $ __?__	$EB = $ __?__	$FB = $ __?__	$GB = $ __?__

4. **CRITICAL THINKING** What is true about any point on the perpendicular bisector of a segment?