

MEASURE UP!



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Objective

Students will learn about scale and magnification while measuring using the metric system.

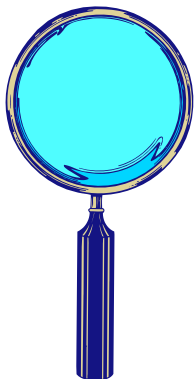
Grade Level: 5th-12th

Materials

- Scope-On-A-Rope
- Television or projection system
- Transparency sheets
- Metric ruler with millimeter markings
- Transparency pen and/or permanent marker

Procedure

1. Scope a millimeter ruler with the 30X lens.
2. Record the image (press REC); and play it back (press PLAY). Be sure to get the ruler as straight as possible either horizontally or vertically across the screen.
3. Tape a transparency sheet to the TV screen.
4. Use a marker to trace the millimeter markings.
5. Rotate the transparency 90°, and trace on the other axis.
6. Remove the sheet and extend the lines across the whole sheet to make a grid in millimeter units.
7. Write the unit used, the lens size (30X), and the TV screen size on the transparency sheet. (You must use both that size lens and TV for the measurements to be correct.)
8. With the transparency grid in place on the TV screen, scope small objects of your choice and use your new overlay to measure the object.
9. Trace small objects onto your grid using a different color transparency marker. Students can compute perimeter and area



TIP: If you are using a projector and white board, trace the ruler markings directly on the board using a dry erase marker or other appropriate pen. You'll need to take two pictures of the ruler—one horizontal and one vertical.

Instructions for the 200X lens

Use a tiny ruler such as a stage micrometer for a microscope and follow the same directions as outlined above. If you do not have access to a micrometer you may use the guides in *Scalar's SOAR How-To Book* to draw your 200X grid. Be sure to use the appropriate markings for your TV size.

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