

# Geometry/Measurement

Teacher notes

Grade 9

Many of these stations have been designed as an assessment tool for the objectives of the new curriculum. However, teachers may choose to use these as introductory activities, practise activities or centre activities.

These stations lend themselves well to the adaptive dimension of the Core Curriculum. See The Adaptive Dimension in the Core Curriculum available in all schools. The document can be ordered from the Book Bureau (#1655). Changes can be made to the context or to the level of difficulty to adapt to the individual needs in your classroom. Similar stations can be created by using activities from textbooks and other resources. Binders that accompany manipulatives are an excellent source of ready-made activities.

<i>Name</i>	<i>Distributor</i>	<i>Where to Order</i>	<i>Order #</i>	<i>Cost</i>
Pattern Blocks Activities for the Intermediate Grades (Active Learning Series)	Exclusive	Book Bureau	7191	\$32.60
The Geoboard Collection 7-9 (Active Learning Series)	Exclusive	Exclusive	0089	\$31.00
The Complete Book of Cube-A-Link 5-8 (Active Learning Series)	Exclusive	Book Bureau	1667	\$37.20
The Puzzling World of Tangrams and Pentominoes	Exclusive	Exclusive	0047	\$34.95
Mira Math Activities Elementary Book	Exclusive	Book Bureau	7195	\$8.35
Connections Grade 8 (Creative Publications)	Addison-Wesley Publishers	Addison-Wesley Publishers	SC5-0-56107-058-0	\$30.75
Pentominoes Activities Lessons and Puzzles (Creative Publications)	Addison-Wesley Publishers	Addison-Wesley Publishers	SC5-0-88488-374-4	\$44.80

NOTE: Check Addison-Wesley catalogues for ready-made job cards for many of the manipulatives including geoblocks. Exclusive also produces new binders every year. The *Book Bureau* will soon stock many of these resources. They are often cheaper there and there are no shipping charges.

## Getting ready . . .

**Please note:**

**To save on the cost of photocopying, the grid paper and the triangulation paper for the following stations is provided at the end of these teacher notes. Add the station number on your master before photocopying.**

**STATIONS: 15, 17, 19, 20, 21, 22, 23, 24, 25**

**Station #1** Students should have their own geometry sets. Encourage them to purchase good instruments. It is important that compasses screw or lock into place because they get frustrated when their compasses constantly open as they use them. For classroom management: have a few geometry sets available to use at stations. This limits the walking around and students having to borrow from others. You also ensure that good instruments are used for the assessment. Where students cannot purchase their own set slowly purchase a few from year to year until you have a class set or at least one for every pair of students.

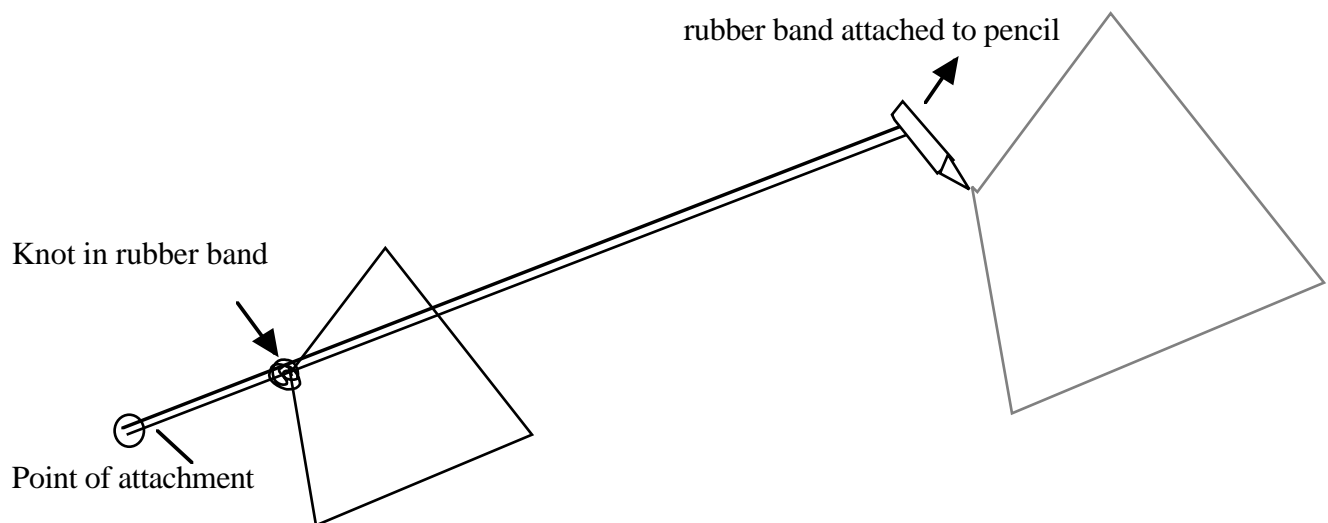
**Station #3** Circular protractors are recommended to develop the concept of “360°”; however, the semi circles also work if teachers assist students in determining which of the dual scales to use. Students should use the 90° angle as a benchmark.

You can “make” protractors by photocopying an original one, cut and paste it several times on sheet of paper and then making an overhead transparency. Individual protractors can then be cut out for use. You may have to experiment with the first copy until the numbers are clear by adjusting the lighter to darker feature on your photocopier. A very inexpensive way to make protractors!!!

**Miras can be purchased from the Book Bureau. For these stations you will need about 6; however, it is one manipulative that should be available to all students. I recommend a class set even if students work in pairs or in groups because students do not want to waste time waiting for the Miras. Class sets can be shared among two to three teachers.**

**Station #15** Plastic pentominoes are available from *Addison-Wesley* and *Exclusive*. You may want to start by purchasing a few sets per year until you have a class set. The binder from *Addison-Wesley* listed in the resources (first page) has many activities for grade 9.

**Station #19** A pantograph is an instrument constructed of pins and rods in the form of a collapsible parallelogram. Drafting engineers or designers use the instrument to enlarge or reduce a diagram. A simple model of a pantograph is a collapsible gate. To make a pantograph, use pins and rubber bands. *Graph paper is provided after the teacher notes.*

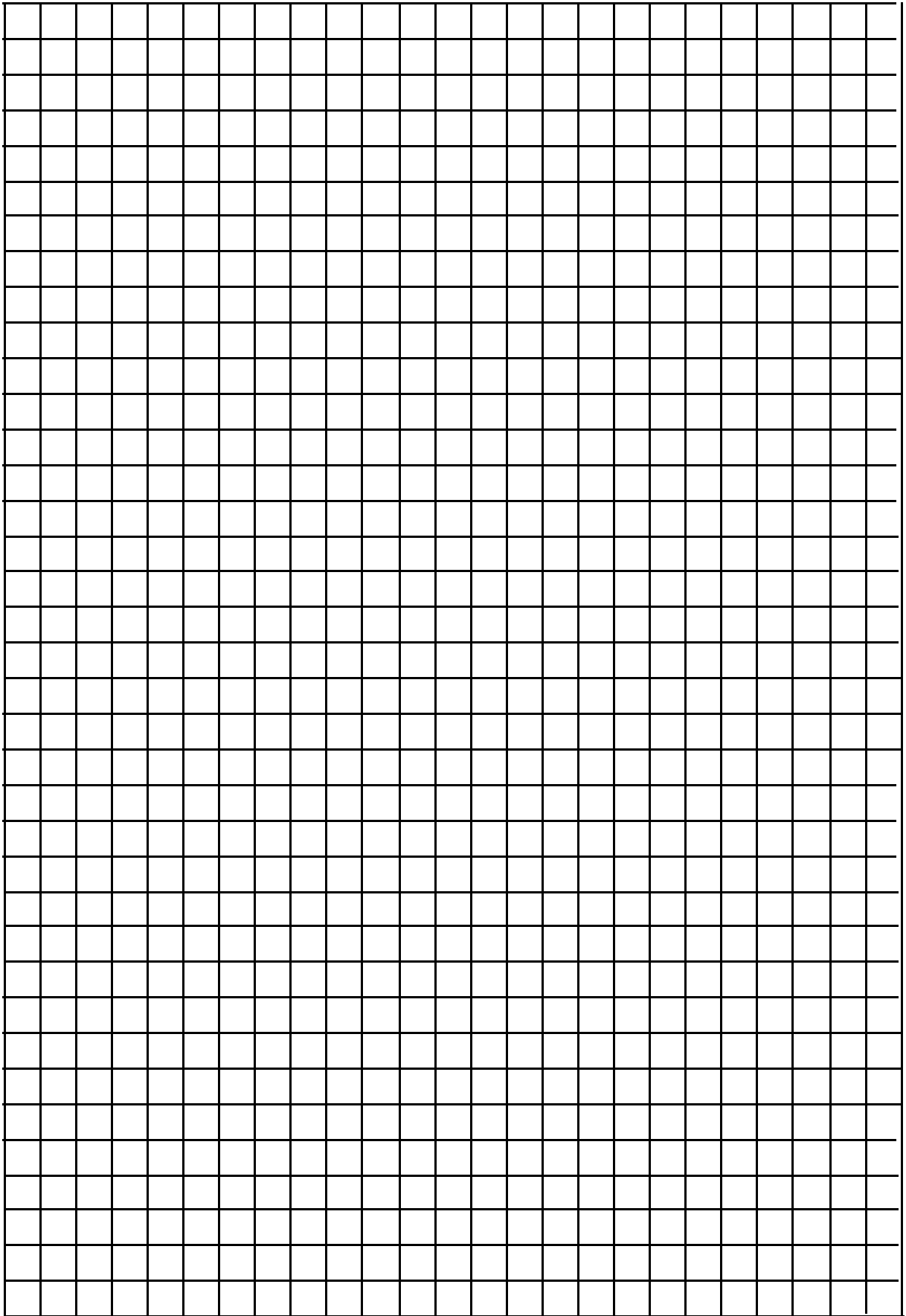


*Trace the figure in a new area by sliding the knot on the rubber band along the original figure.*

**Station #34** Make sure that you provide a variety of sizes so students have plenty of data to draw a conclusion.

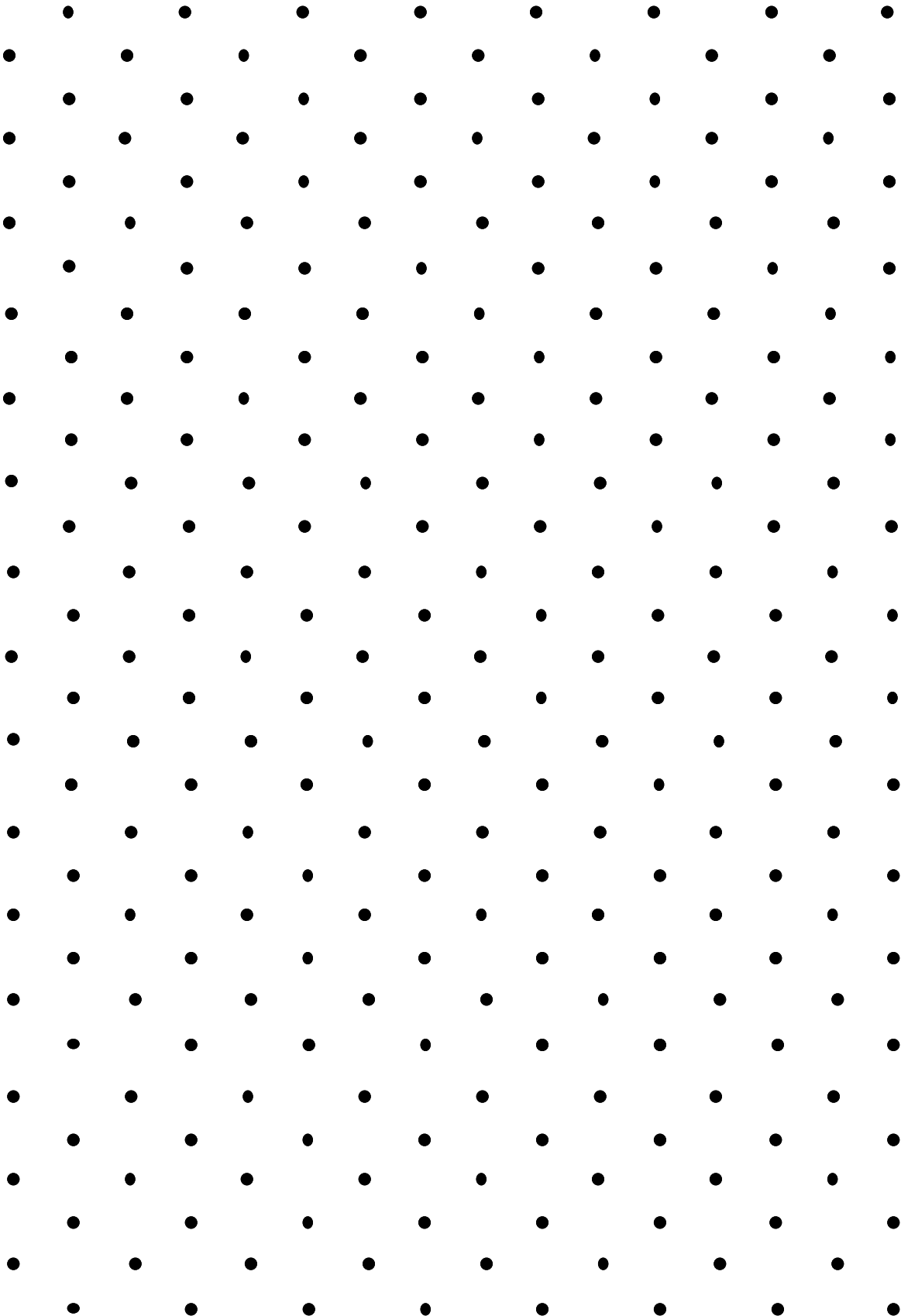
# Geometry/Measurement

Station #



**Geometry/Measurement**

**Station #**



**Station 15**

