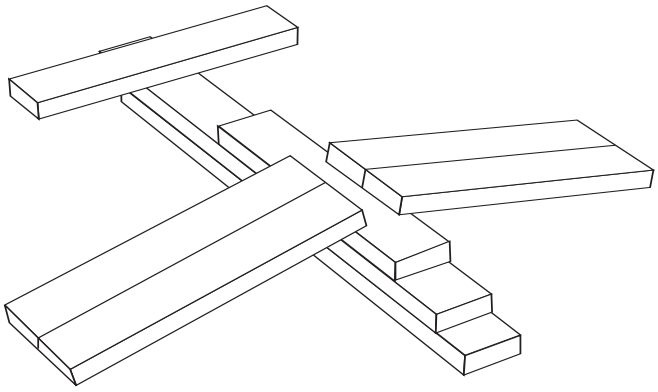

Mathematics and Science

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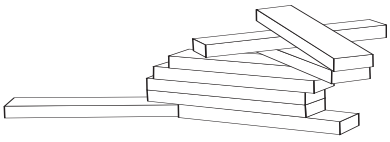

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COUNTING WITH KEVA

OBJECTIVES: Students will count forward from 1 through 30 and backward from 10.

MATERIALS: 30 KEVA Planks per student or small group
Small containers for each student (shoeboxes or paper bags)

PROCEDURE:

1. Have each student come to the KEVA box and count out 30 planks into a container. Several students can do this at a time as the entire class counts aloud with them, or small groups could come to the box and count quietly together. Dividing your planks into several large piles will speed up this process.
2. Allow the children to each build a structure with their planks. You could have an open theme for building or require a certain type of structure (for example: towers, houses, animals or vehicles).
3. Allow time to observe each structure.
4. Tell the class that it is time to collapse their structures and that we will do this all together. Remind them that this needs to be done gently.
5. As a group, count down to destruction time. 10, 9, 8, 7, 6, 5, 4, 3, 2, 1 !
6. Have everyone count aloud as they return their pieces to their boxes. If time permits, repeat with another building project.

NUMBER RECOGNITION

OBJECTIVES: Students will identify the number of objects in a set and the correct corresponding numeral.

MATERIALS: 55 KEVA Planks per student or small group
10 sheets of paper with numbers 1-10 written in each corner

PROCEDURE:

1. Have each student count out and place the appropriate amount of planks in each square.
2. Students may form patterns or towers with the planks in each of the appropriate boxes.

BUILDING EXTENSION: Make a mat or squares as above but leave the numbers off of the squares. Have the students build towers on each of the squares with varying amounts of KEVA Planks. Another student can then identify the correct number of planks. Have the student write the amount on a small piece of paper and place it on the corresponding squares. The builder can then check the answers.

REASONABLE GUESS OF MAGNITUDE

OBJECTIVES: Students will construct structures involving varying quantities in the ones, tens and hundreds places.

MATERIALS: 1,000 KEVA Planks per student or small group
Index cards

PROCEDURE:

1. On index cards write the three numbers to be used. One card should have 1, 10 and 100; the next card should read 2, 20 and 200; and so on.
2. Have the students choose one card and count out the appropriate number of planks for each of their three structures. Students can build anything they would like with the correct number of planks in each structure.
3. Students can now label their structures by folding an index card in half and writing the correct number on the card. The label should be placed in front of each structure so that throughout the day classmates can view the structures along with the labels.
4. Another option would be for the three structures to remain unlabeled, and the classmates could guess which is made of ones, which is made of tens, and which is make of hundreds of KEVA Planks.
5. The next group to build can put away the planks for the first group before they begin step number two.

BULLETIN BOARD IDEA: Take pictures of the constructions and post them on a bulletin board. Divide your bulletin board into three sections labeled ones, tens and hundreds.

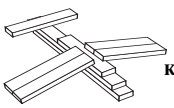
ADDING WITH KEVA

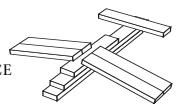
OBJECTIVE: Students will use KEVA Planks as a manipulative to illustrate addition problems.

MATERIALS: 20 KEVA Planks per child
Addition Sheet for each child *(see Appendix A)*

PROCEDURE:

1. Demonstrate the concept of pulling out one handful of planks, counting your planks and writing the numeric value on your paper in the first column. One handful will ensure a value of less than 10. Make a small stack with your handful of planks.
2. Make an addition symbol (+) out of planks to the right of your stack.
3. Grab another handful of planks. Count out its numeric value and write this on your paper. Place this handful of planks on the other side of your + sign.
4. Make an equal sign (=) out of planks and place it to the right of this second stack.
5. Count all your planks together. Write this number on your paper. Count out that many planks and place this stack on the other side of your equal sign.
6. Repeat steps 1-5 above with varying numbers of planks added together.





SUBTRACTING WITH KEVA

(or "The KEVA Bandit")

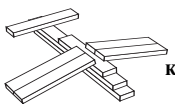
OBJECTIVE: Students will use KEVA Planks as a manipulative to illustrate subtraction problems.

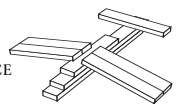
MATERIALS: Up to 20 KEVA Planks per child
Subtraction Sheet for each child *(see Appendix B)*

PROCEDURE:

1. Have each student grab a large handful of planks from the bin. If you wish to use larger numbers, have them grab two handfuls. Your goal is to distribute random amounts between 10 and 20 planks per child.
2. Have each student fill in the numeric value of their planks on their paper in the first column.
3. Now tell the class that you are the KEVA Bandit (or the KEVA Taxman, or the KEVA Gobbling Monster). You will be coming around and collecting a certain number of planks. Show the class how many planks you will be collecting. Have them write this amount on their paper after the minus sign and place that amount of planks on their desk so that you can grab it. You may assign KEVA Bandit helpers to help you collect.
4. Now tell the class to count the amount they have left. Have them write the numeral in the answer place on their worksheet.
5. Repeat steps 1-4 above with a new KEVA collection amount.

BUILDING EXTENSION: The KEVA Bandit and his helpers can build a tower with the planks they steal.





COMPARING WITH KEVA

OBJECTIVES: Students will use one to one correspondence to determine "more," "fewer" and "same."

MATERIALS: 15+ KEVA Planks per child

PROCEDURE:

1. Prior to class distribute a handful of planks into each student's container. Be sure that the number of planks in each container varies. The amount you place in the containers depends on how high you want your class to count.
2. Pass out containers and have each student count out their planks.
3. Explain to the class that today you will be comparing KEVA Plank numbers to determine who has more, fewer or an equal amount. Give the class examples of more, fewer, and equal amounts. Be sure that the class understands that this is not a contest and having more does not mean that you win.
4. Have each student find a partner and stack his planks side by side, being sure to keep each child's planks separate. Ask the students with less to stand, then those with more, then those with equal amounts.
5. Each child should return his planks to his container and repeat the exercise with a new partner. Repeat as often as time allows

MATH EXTENSION: Introduce greater than, less than, and equal signs. Have each child make the three signs on blank cards. The sign, along with the words "less than" and "greater than," will help the students not to confuse the two. As the students stand they can hold up the appropriate sign.

BUILDING EXTENSION:

1. Have each student keep his planks in his container. Divide the class into two or three small groups.
2. Demonstrate to the class how to build a simple square tower using the side construction. Begin with two parallel planks. The next rows should be two more planks perpendicular to the first row.
3. Call the students one at a time to add their planks to each of the towers. Towers can be built simultaneously.
4. Compare the towers by measuring with a metric stick, yardstick, or a KEVA stick *(see Measuring Length with KEVA page 10)*. You may also compare the towers by holding a straight edge from one tower to the other. Discuss which tower has more, fewer, or equal amounts.

ESTIMATING WITH KEVA

OBJECTIVE: Students will make uninformed and informed estimations.

MATERIALS: 100 KEVA Planks per student or small group
Index cards
Envelopes
Shoeboxes or paper bags
One Data Sheet per student *(see Appendix C)*

PROCEDURE:

A. Uninformed Estimation:

1. Divide the class into groups of two or three students. Have each group fill a shoe box with 50 to 100 KEVA planks.
2. Do not tell the class that you will be estimating or that the number of planks is of any significance. Have each group build a tower.
3. Label each of the towers A, B, C … An index card folded in half makes a good label to place in front of each tower.
4. Have each student estimate the number of planks in each tower and record their answers in the "Estimate" column of the data sheet.
5. Have each group go back and count the planks in their own tower. This number should be recorded on the back of each label. Have the class gather this data from each tower and record it in the "Actual" column of their data sheet.
6. Calculate the difference between the estimates and the actual amount. Subtract the smaller number from the larger. You may also want to graph the class results.
7. The class can now quietly collapse their tower and return the planks to the bin.

(continued on next page)

B. Informed Estimation:

1. On the next day or later the same day, have the groups scoop out a new pile of KEVA Planks. (You can do this ahead of time and insure more diversity in the amount of planks in each pile.) They should count their planks, being careful to keep this information to themselves. The amount of planks should be written on an index card and placed inside an envelope with the group letter on the outside.
2. Have each group build a tower with their planks. They should place their envelope containing their amount of planks in front of their tower.
3. Tell the class that they now have a frame of reference to begin to make estimations. They know the amount of planks in their own towers. They should use this knowledge to help them make good estimations. This time, as they make estimations, they will be able to open the envelopes and see the actual amount of planks. In this way they will be gaining more and more information and, hopefully, becoming better at estimating the amount of planks in each successive tower.
4. Have the class take their data sheets and visit each tower. Students should record their estimates of the number of planks in the first tower they visit, then open the envelope and record the actual amount. Have students do this for each tower they visit, until they have estimated the planks in each tower. Students can remain in their groups as they do this but each student should be able to make their estimations individually.
5. Be sure that you do not give the students enough time to count the planks before they are required to move on.
6. Calculate the difference between the estimates and the actual number of planks in each tower. Subtract the smaller number from the larger. You may want to graph the results.

MATH EXTENSION: Collect the data from the class and have each group determine the average differences for the class. Graph these results to see if improvement was made during the estimating process.

GRAPHING WITH KEVA

OBJECTIVE: Using KEVA Planks as counting pieces, students will collect data and construct simple graphs.

MATERIALS: Up to 15 KEVA Planks per child
Data Sheet for each child *(see Appendix D)*
Bar Graph for each child *(see Appendix E)*
Graph paper for each child

PROCEDURE:

1. Have each student grab a handful (using both hands) of planks from the bin (anything between 1–15 per child — you want random amounts distributed to each child.)
2. Provide each child with a data sheet. Have each child count out the number of planks in his handful and write the number on his data sheet.
3. Have each child ask five other children to write their name and number of planks on his sheet.
4. Next, have students transfer their data to a bar graph.
5. Make a classroom chart with each child's name and number of planks. Discuss the highest amount, the lowest amount and the amount seen most often.

MEASURING PERIMETER WITH KEVA

OBJECTIVE: Students will determine perimeters with a non-standard unit of measurement.

MATERIALS: 25 KEVA Planks per child
KEVA yardsticks *(see Appendix F)*
(several yardsticks per classroom can be shared among students)

PROCEDURE:

1. Discuss the concept of perimeter being the distance around an object.
2. "Today we will be measuring with a unit of measurement that is uniform but not the standard, such as an inch or centimeter would be. We will be using a KEVA length as our unit."
3. Show the class the KEVA yardstick. Show how you could tell how tall a table is with the KEVA yardstick.
4. Have the students construct a triangle using three KEVA Planks. What is the perimeter measured with the KEVA yardstick? *[3]*
5. Have the students construct a square with a perimeter of 4; with a perimeter of 8. Have the students construct a rectangle with a perimeter of 12; a perimeter of 24. Ask if all the rectangles look the same. Is there more than one way to make a rectangle with a perimeter of 20? *[Yes.]*
6. Write the formula for the perimeter of a rectangle on the board:
   P = S + S + S + S or P = (2 x S1) + (2 x S2) or P = 2 x (S1 + S2)
7. Have the students construct rectangles for their neighbors to determine the perimeters.
8. Have students in small groups construct as many different rectangles as they can with perimeters = 16; perimeters = 20; perimeters = 24. (Remind them that a square is a type of rectangle.)

AREA (OR KEVA²)

OBJECTIVE: Students will calculate the areas of rectangles with KEVA Planks.

MATERIALS: 25 KEVA Planks per child
One KEVA² per child *(see Appendix G)*

PROCEDURE:

1. Discuss the concept of area being the space inside a two-dimensional figure.
2. "Today we will be measuring with a unit of measurement that is uniform but not the standard, such as a cubic inch or square centimeter. We will be using a KEVA square as our unit for measuring area."
3. Show the class a KEVA square. Show how you could measure the area of a table with the KEVA².
4. Have the students construct a square using planks that will have an area of one KEVA². Constructed on the flat or side edges, the KEVA² will be the space enclosed inside the planks. Always measure the area on the inside of the KEVA figure.
5. Have the students construct a rectangle with an area of 4 KEVA². How many planks were used? ***[8 or 10]*** Did everyone's look the same? ***[No]*** Explain that rectangles can have different perimeters but equal areas or equal perimeters and different areas.
6. Write the formula for area on the board:
   S x S = A
7. As a class, construct rectangles with areas of 2 KEVA², 3 KEVA² and 4 KEVA².
8. Have the students form small groups to construct as many rectangles as they can with areas of 6 KEVA², 8 KEVA², 12 KEVA², 24 KEVA².

MATH EXTENSION: Students could also calculate the perimeter of each rectangle and try to see how many different perimeters they can form for each area.

VOLUME (OR KEVA^3)

OBJECTIVE Students will calculate the volumes of objects constructed with KEVA Planks.

MATERIALS: 50 KEVA Planks per child
One KEVA^3 per student or small group *(see Appendix H)*

PROCEDURE:

1. Discuss the concept of volume being the amount of space inside an object (e.g., how much sand would fill it up?)
2. "Today we will be measuring with a unit of measurement that is uniform but not the standard, such as a pint or liter. We will be using a KEVA length as our unit. A cube which is one KEVA length on each side would be one cubic KEVA."
3. Have the students construct a cube out of KEVA Planks having a volume of one KEVA^3. Note that five KEVA stacked on edge = one KEVA length and that three KEVA thicknesses = one KEVA width. Consequently, the cube can be constructed in a number of ways.
4. Next, have the students construct a KEVA figure having a volume of 2 KEVA^3. Note that there are many ways to accomplish this. Some structures can be very tall; some can be low and long.
5. Write the formula for the volume of a rectangular box on the board:
   V = Length x Width x Height
6. Have the students construct rectangular boxes for their neighbors to calculate the volume.

KEVA AS A NON-STANDARD UNIT OF MEASUREMENT

OBJECTIVE: Students will use KEVA Planks as a non-standard unit of measurement to measure various items.

MATERIALS: 10-20 KEVA Planks per student

PROCEDURE:

1. Talk with students about why they would need to measure length. ***[Buying material, putting up a fence, measuring rope for a swing, noting your growth through the years.]***
2. What if we had no instruments with which to measure length? How could you tell someone how tall you were? ***[Taller than Susie, shorter that Joe, use you hands to show, find a stick which is your same height, mark your height on the wall.]*** What if you wanted to tell someone who lived far away how tall you were? What could you do?
3. We must be able to say "I am as tall as *something*." We must be able to fill in that blank with something so that the person would know what we meant. Could I say I am as tall as four pumpkins stacked on top of each other? ***[No, because not all pumpkins are the same size — no uniformity.]***
4. We need to find something we can use to stack or lay end to end that will always be the same size. ***[Children may suggest books, pencils, coins, etc.]***
5. We will need a large quantity of these if we are going to measure the entire class. ***[Children can be led to suggest KEVA Planks.]***
6. Use KEVA planks to measure a child lying on the floor, being sure to lay the planks exactly end to end. Have the students measure one another and several things in the classroom and record their measurements. ***[As a class, decide how "less than one" plank will be counted.]*** This can be done over several days. Each time refer to the objects as "so many KEVA wide" or "so many KEVA high." Have students check one another's measurements to see if they get the same results with their planks. Students can also begin to estimate how many KEVA long something is, before they take a measurement.
7. After the class has had several chances to measure with their planks, talk to the class about the need for a standard unit of measurement. What are the difficulties of using KEVA? ***[Not everyone has KEVA, and many lengths cannot be measured exactly by KEVA lengths.]***
8. Introduce the English and metric rulers.

MEASURING WITH KEVA FOR OLDER STUDENTS

OBJECTIVE: Students will use the length to width ratios of KEVA planks to determine the heights of their towers.

MATERIALS: 50 to 100 KEVA Planks per child or small group

SPECIAL NOTE: KEVA planks are constructed so that 3 KEVA thicknesses equal the width of 1 KEVA, and 5 KEVA widths equal the length of 1 KEVA.

PROCEDURE:

1. Have the students attempt to determine the above mentioned relationship between KEVA planks for themselves.
2. Have the class build towers of varying heights.
3. Using what they have discovered about the ratio relationship of the KEVA planks, the students should now be able to determine the exact height of their towers expressed in KEVA units of height. You may want to determine as a class whether you will record your answers in KEVA heights, thicknesses, or widths; or, you may want to allow the students to chose any of these three options.
4. After the height of the towers has been calculated in terms of KEVA, the class can convert their measurements to English or metric units by measuring the dimensions of 1 KEVA plank and multiplying.

MATH EXTENSION: You can extend this to an estimation activity by having students estimate the height of their classmates' towers.

GEOMETRIC SHAPES WITH KEVA

OBJECTIVES: Students will use KEVA Planks to construct regular triangles, squares, pentagons, hexagons and octagons.

MATERIALS: 10 KEVA Planks per child
Geometric Shapes handout *(see Appendix I)*

PROCEDURE:

1. Discuss the concept of a KEVA Plank being a uniform unit.
2. Discuss the concept of a closed figure.
3. As a class, have each student construct closed figures using KEVA Planks. Build on the flat sides or the edges; the figure will be the space enclosed inside the KEVA Planks. As you call out the name of each closed figure and the number of sides, draw a picture on the board and write the name beside it to reinforce the concept, or provide a handout with figure names and pictures. As you call out each figure, have the students construct that figure using their planks.
4. Have the students write the name of each figure on a slip of paper which has a " ? " written on the back.
5. Have each student select a closed figure to build using their planks and place its name on their desks, " ? " side up. Next, have each student go to another student's desk and make a guess about the name of the figure. Turn the slip over to see if they are correct. Repeat. Allow students to use the chart on the board or their answer sheets to check themselves.

BUILDING EXTENSION: For a fun closing activity, have each student build a tower with its base being one of the closed figures.

KEVA POLYGONS

OBJECTIVES: Students will construct ten different regular polygons and will demonstrate that the size of interior angles of regular polygons increases as the number of sides increases.

MATERIALS: 100 KEVA Planks per student or small group

PROCEDURE:

1. Have students work individually or in small groups. Tell the students that the interior angles of a regular polygon are all equal. Have each student or group of students construct the following regular polygons out of KEVA planks, laying blocks flat or on their sides.

Figure	Number of sides
Triangle	3
Square	4
Pentagon	5
Hexagon	6
Heptagon	7
Octagon	8
Nonagon	9
Decagon	10
Undecagon	11
Dodecagon	12

2. Students can label each polygon by writing the name and number of sides on a card.
3. Ask the students to notice what happens to the polygon as the number of sides increases. (Students will easily see that the overall size of the polygon increases. This is true in this activity because the KEVA Planks are all the same size. This is a good observation but not the one we are after for this lesson.) Students should be able to see that as the number of sides increases the size of each interior angle also increases. Younger students may express this by noticing that the figures are becoming more and more round.

KEVA CANTILEVERS

OBJECTIVE: Students will conduct a scientific experiment to determine the weight required to support different lengths of cantilevers.

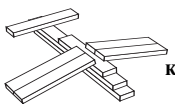
MATERIALS: 100 KEVA Planks per group
One KEVA yardstick per group *(see Appendix F)*
One Data Sheet per group *(see Appendix J)*
One Classroom Data Chart per group *(see Appendix K)*

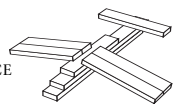
PROCEDURE:

1. Introduce the class to the principle of cantilevers: a cantilever is a projecting beam supported at only one end by a counter-weight. Demonstrate a cantilever by laying a ruler or yardstick so that it extends over the edge of a table.
2. Before conducting this exercise, discuss with the class the importance of controls in experimental procedures. The edge of the table should be the starting point for each measurement; KEVA Planks should be stacked along the end of the yardstick, even with the edge.
3. Divide the class into small groups and ask them to use KEVA to measure how many planks are necessary at one end of a yardstick to support a stack of 2 KEVA Planks at the other end of the yardstick when it is hanging over the edge of a table by 6 inches; 12 inches; 18 inches; 24 inches. ***[The stack of 2 planks can be taped to the end of the yardstick using a 6" length of tape (control) to cut down on clatter in the classroom.]***
4. Have each group complete a data sheet, then graph their results.
5. You can compile the data from the groups. Explain to the students that this can be done because of the controls used in the experiment. Have the students take an average of the classroom data.
6. Discuss the results with the students. What conclusions can they draw? ***[The longer the length of yardstick hanging over the table, the more weight is required to stabilize the cantilever.]***

SCIENCE EXTENSION: You can modify this experiment by fixing the length of yardstick hanging over the edge of the table and varying the number of planks added to each end of the yardstick. What conclusions can the students draw from the results of this modification?

BUILDING EXTENSION: Have students build structures with cantilever designs.





WHY DOES THE EARTH LOOK FLAT?

OBJECTIVES: Students will demonstrate that, by increasing the number of sides of a regular polygon, they will approximate a circle. Students will demonstrate that segments (arcs) of a very large circle can appear straight.

MATERIALS: 50+ KEVA Planks per group

PROCEDURE:

1. Divide the class into small groups. Ask each group to form a closed figure approximating a circular shape with 8 planks (flat construction).
2. Next, form a circular shape with 12 planks. Then with 16 planks. Ask, "What do you notice?" ***[The shapes are looking more and more like a circle.]***
3. Form a circle with 40 planks. This will be a circle approximately five feet in diameter. Students will probably reach the right size by trial and error.
4. Ask the students to imagine that they were a ladybug or ant crawling on one of the KEVA Planks. How would a bug describe the shape of the perimeter from its perspective? ***[Close to flat.]*** What is the actual shape? ***[Curved.]***
5. Ask the class to imagine a circle made of 100 planks. How big would it be? ***[About 12 feet in diameter.]*** Students should be able to note that the curve of the circle would not be as sharp. Imagine a circle built with 1000 planks. How big would it be? ***[About 120 feet in diameter.]***
6. You can reinforce this principle by drawing a 12" diameter circle on the blackboard, then a larger and larger circle, until only a part of the circle will fit on your board. As the circles continue to get larger, the portion of the circle you draw on the board will become straighter and straighter.
7. Now imagine a circle as large as the earth. ***[This would require 341 million KEVA Planks.]*** From where we are standing, the circle would appear to be flat, but the earth is round.

KEVA CHALLENGE: Construct a circle with a perimeter of 200 planks on a gym floor. ***[Almost 24 feet in diameter.]***

Appendices

A. Addition Sheet

B. Subtraction Sheet

C. Estimating with KEVA

D. Graphing with KEVA Data Sheet

E. Graphing with KEVA Bar Graph

F. KEVA Yardstick

G. KEVA^2 Template

H. KEVA^3 Template

I. Geometric Shapes

J. Cantilevers Data Sheet

K. Cantilevers Classroom Data Chart

L. Habitat Cards

M. Character Description

N. KEVA People

Adding with KEVA

Addition sheet

Name: _____ Date: _____

1.		+		=	
2.		+		=	
3.		+		=	
4.		+		=	
5.		+		=	
6.		+		=	
7.		+		=	
8.		+		=	
9.		+		=	
10.		+		=	

Subtracting with KEVA

Subtraction sheet

Name: _____ Date: _____

1.		-		=	
2.		-		=	
3.		-		=	
4.		-		=	
5.		-		=	
6.		-		=	
7.		-		=	
8.		-		=	
9.		-		=	
10.		-		=	

Estimating with KEVA

Data Sheet

Name: _____ Date: _____

	Estimate	Actual	Difference
A			
B			
C			
D			
E			
F			
G			
H			
I			
J			

GRAPHING WITH KEVA

Data Sheet

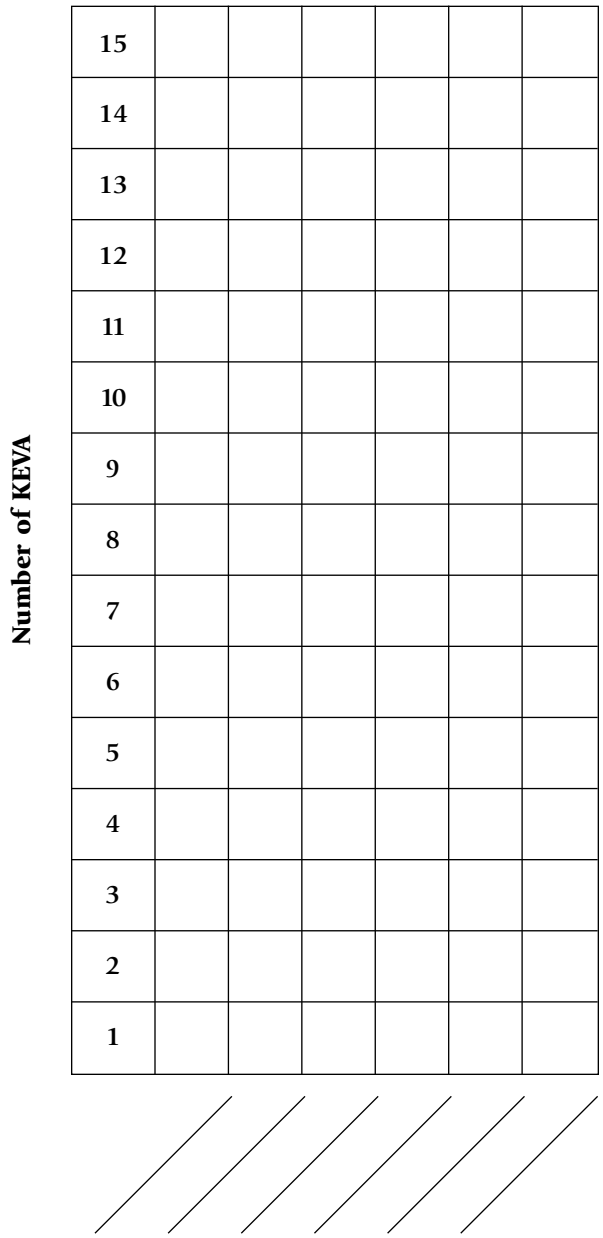
Name: _____ Date: _____

Names of students:	**Number of KEVA:**
Your Name:	

GRAPHING WITH KEVA

Bar Graph

Name: _____ Date: _____



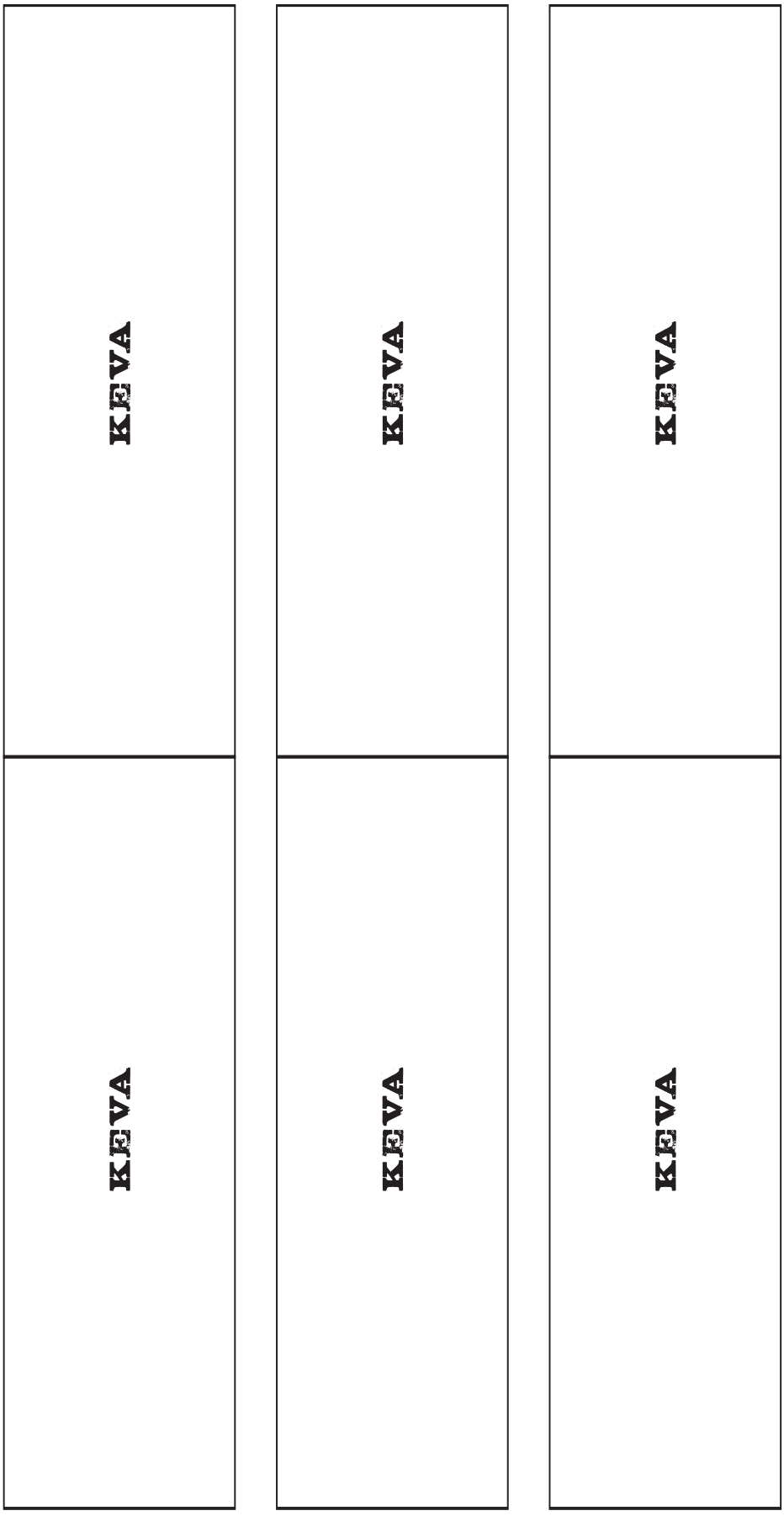
KEVA yardstick

Directions for KEVA Length

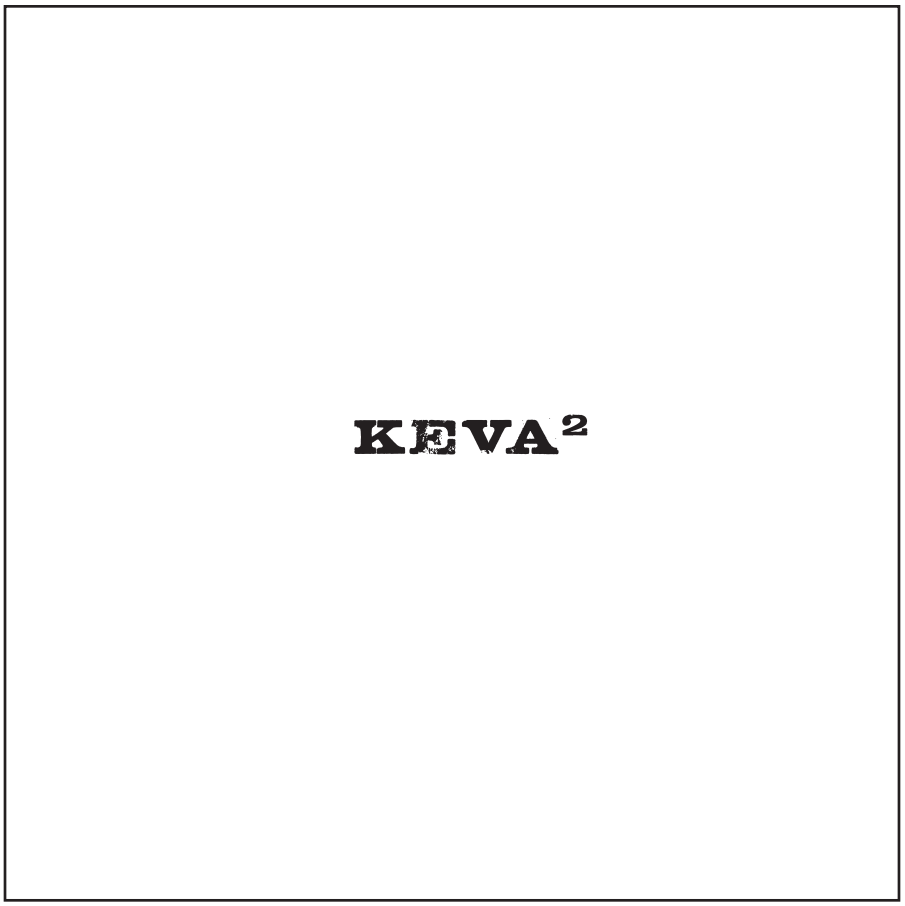
You can make numerous KEVA measuring strips by photocopying the strip template and have your the students follow these directions:

1. Cut out each of the three strips.
2. Tape each of the pieces end to end.

Optional: Laminate your strip or cover with clear contact paper.



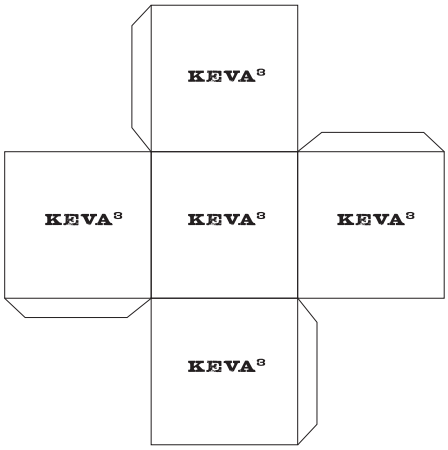
KEVA² template

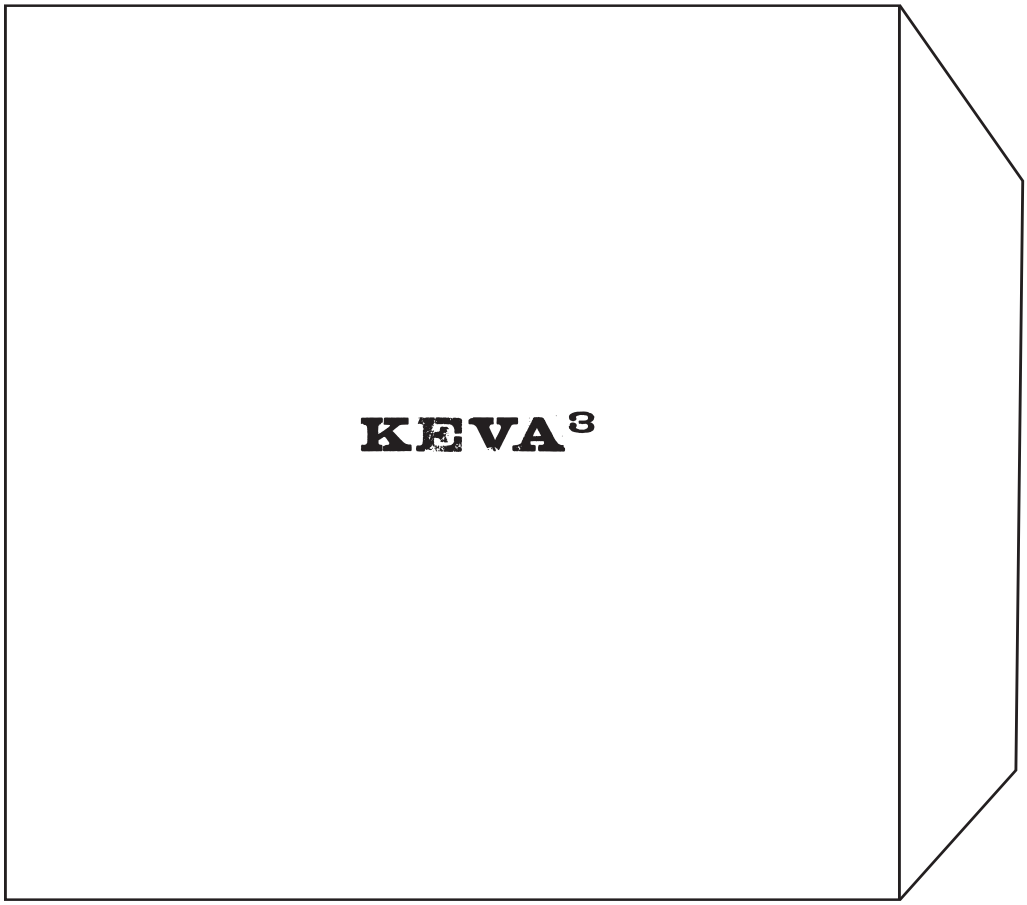


KEVA³ template

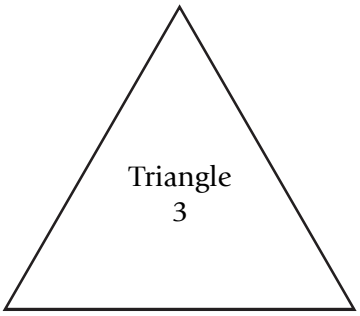
Directions

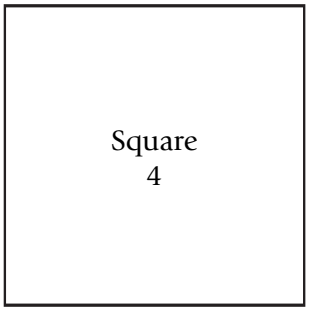
1. Place the KEVA² template on a 15 inch by 15 inch sheet of paper.
2. Trace around the template.
3. Trace around each of the KEVA³ templates as shown.
4. Cut out the cross-shaped figure.
5. Fold along every line.
6. Glue each of the tabs to the inside of the box.

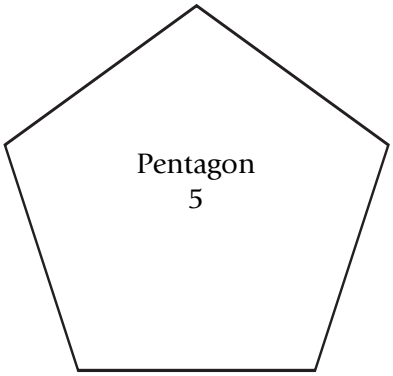


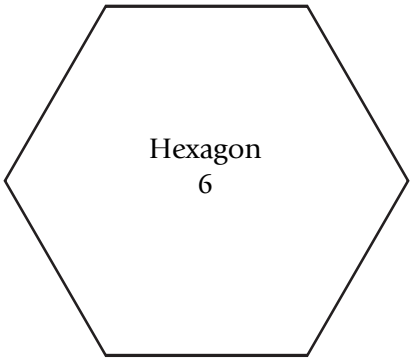


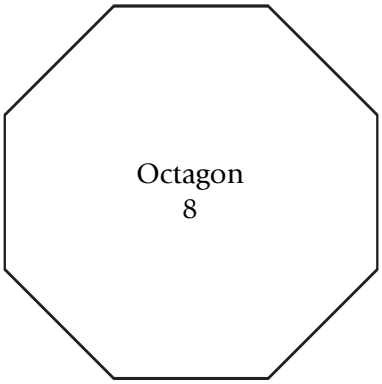
GEOMETRIC SHAPES











KEVA CANTILEVERS

Data Sheet

Name: _____ Date: _____

Using single measurements:

Length of yardstick extending past the edge of the table	Number of KEVA required for balance
inches	
inches	
inches	
inches	
inches	

Using replicate measurements:

Length of yardstick extending past the edge of the table	Number of KEVA required for balance		Average of two trials
	Trial #1	Trial #2	
inches			
inches			
inches			
inches			
inches			

KEVA CANTILEVERS

Classroom Data Chart

Name: _____ Date: _____

Length of yardstick extending past the edge of the table	Results Group 1	Results Group 2	Results Group 3	Results Group 4	Results Group 5	Results Group 6	Average
inches							
inches							
inches							
inches							
inches							