Congratulations on your purchase of this Really Good Stuff® **Making Graphs Posters and Magnets Set**—an interactive way to create four different types of graphs.

> **This Really Good Stuff® product includes:**
> - *Pictograph and Bar Graph Poster*, Write Again® wipe-off laminate
> - *Line Graph and Circle Graph Poster*, Write Again® wipe-off laminate
> - 30 *Pictograph Star Magnets*
> - 30 *Pictograph Heart Magnets*
> - 60 *Bar Graph Square Magnets*
> - 20 *Line Graph Dot Magnets*
> - 80 *Circle Graph Wedge Magnets*
> - This Really Good Stuff® Activity Guide

Displaying and Assembling the Making Graphs Posters and Magnets Set

Before displaying the **Making Graphs Posters and Magnets Set,** make copies of this Really Good Stuff® Activity Guide and file the pages for future use. Or, download another copy of it from our Web site at www.reallygoodstuff.com. Be sure to use a dry erase marker when writing on any of the *Posters* or *Magnets* to preserve their Write Again® wipe-off laminate surface.

Pop out the *Magnets* and sort them according to with which graph they will be used. Place each sorted group in a zippered plastic bag and label the bag with the graph name. Cut the *Posters* apart, clip each bag to its corresponding *Poster*, and store until needed.

Materials for Creating Pictographs:
- *Pictograph Poster*
- 30 *Pictograph Star Magnets*
- 30 *Pictograph Heart Magnets*
- dry erase marker

Introducing and Using the *Pictograph Poster* and Magnets

The *Pictograph Poster* has five lines to graph information about five different answers to a question. Remind students that people use a graph to show information, (data), and that there are two steps in using a graph: 1. Collect the data, and 2. Record the data on the graph. Write the following question on your classroom whiteboard: *What color do you like the most?*

Below the question, write the possible answers of red, blue, yellow, green, and purple. Collect the data either by having students write their color choice on a slip of paper and dropping it in a small bag at the front of the room, or by taking their responses orally. Record their answers on a tally chart on your classroom whiteboard and, as a class, count the number of tally marks next to each color and write the total number next to each group of tally marks.

Hang the *Pictograph Poster* on your classroom whiteboard where students will be able to see and interact with it easily. Ask students what the title of the graph should be and and guide them to the title *Our Favorite Colors*. Show students the key and tell them it will show them how to read the graph. Place either one of the *Pictograph Heart Magnets* or the *Pictograph Star Magnets* in the key. If your class has less than 30 students, use one *Magnet* for each student and write = one person next to the *Magnet* in the key section.

Label the remainder of the *Poster*: Write *Colors* on the vertical line, *Number of Students* on the horizontal line, and each color choice in one of the horizontal spaces along the left side of the graph. To fill in the graph, either have each student come forward and place one *Magnet* next to his or her favorite color, or place all the *Magnets* yourself according to the tally chart. Once you have placed all the *Magnets*, ask students questions such as how many students like yellow or which color is liked the most.

Daily Pictograph

Incorporate graphing into your morning work on the *Pictograph Poster*: Each morning, write a question in the title section of the *Poster*, fill in the key, and label the spaces in the pictograph with up to five choices for an answer to the question. As each student comes in for the day, he or she places a *Magnet* in the row next to his or her answer. After all students have placed a *Magnet*, discuss what the graph shows about that question.

Graph Along

Copy and distribute the *Pictograph Mini Poster Reproducible* whenever you want students to create their own pictographs or follow along with your lessons on the *Poster*.

All activity guides can be found online:

Name: _____

Pictograph

Title: _____

Key:

Materials for Creating Bar Graphs:
• Bar Graph Poster
• 60 Bar Graph Square Magnets
• dry erase marker

Introducing and Using the Bar Graph Poster and Magnets

Tell students that bar graphs work well when people are comparing different sets of the same type of data. Write the following information on your classroom whiteboard: *The third grade classes at Hill School had a reading contest in May. Each of the five classes read this many books:*

Ms. Wheeler's class: 60 books
Mr. Sanchez's class: 45 books
Ms. Chu's class: 55 books
Mrs. Green's class: 45 books
Mr. Vanderveen's class: 70 books

Hang the *Bar Graph Poster* on your classroom whiteboard where students will be able to see and interact with it easily. Use a dry erase marker to write *How many books the 3rd grade classes read in May* in the title section. Label the vertical line *Number of Books* and the horizontal line *Third Grade Classrooms*. Starting at the bottom of the graph, write numbers in increments by 5s from 5 to 75 on the horizontal label lines, and each teacher's name at the base of a column. Explain to students that each Bar Graph Magnet represents five books. Starting with the first teacher, ask students to count with you to determine how many squares you should put in each column. (Use a different color for each of the first four columns, then repeat a color for the fifth column.)

Once you have filled in the entire graph, erase the information that was written on the whiteboard. Then, ask students the following questions based on the graph:
1) Which class read the most books?
2) Which class read the fewest books?
3) Which classes read the same number of books?
4) How many more books did Ms. Chu's class read than Mr. Sanchez's class?

Bar Graph Surveys

Make and distribute copies of the Survey Sheet Reproducible. Demonstrate how to survey for information by telling students you are going to survey several members of the class to find out what kind of cereal they like for breakfast. Show students how to write the title of the information you are surveying on the reproducible and how to fill in the data. Then use the data on the reproducible to create a bar graph on the Bar Graph Poster.

Graph Along

Copy and distribute the *Bar Graph Mini Poster Reproducible* whenever you want students to create their own bar graphs or follow along with your lessons on the Poster.
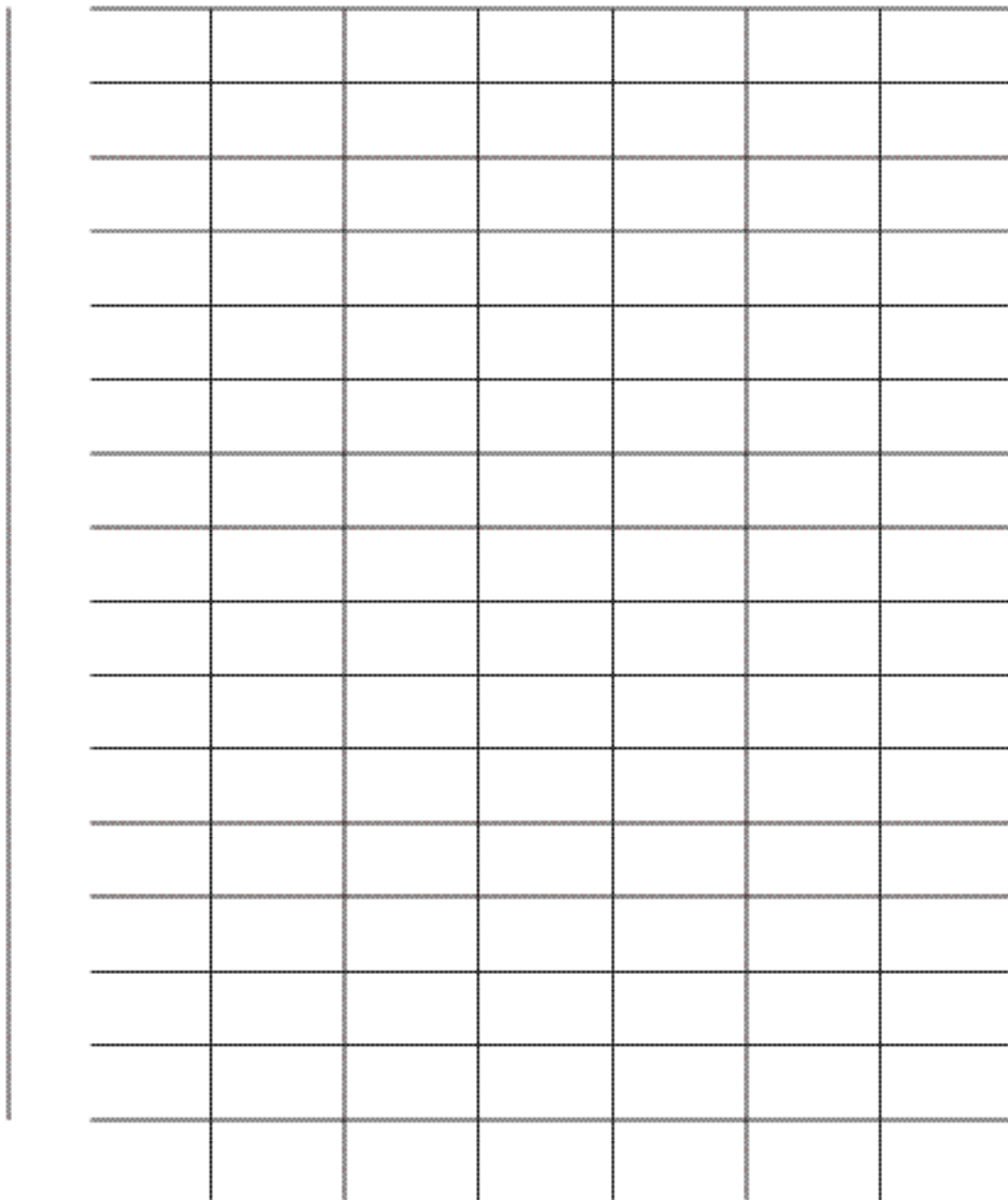
Survey Sheet Reproducible

Survey Sheet
Information I am looking for:

_____

_____

_____

Who I asked:	Response:

Name: _____

Bar Graph

Title:

Materials for Creating Line Graphs:
- *Line Graph Poster*
- *30 Line Graph Dot Magnets*
- *dry erase markers*

Introducing and Using the Line Graph Poster and Magnets

Have students track each day's high temperatures for one week. Make and distribute copies of the *Data Recording Sheet Reproducible*. Before your lesson, have students fill in their name, the information they are looking for, and the days of the week. Each school day, consult your local newspaper or its Web site to find out the high temperature for the previous day and have students record it on the reproducible. On the following Monday, you will be ready to create the line graph.

Hang the *Line Graph Poster* on your classroom whiteboard where students will be able to see and interact with it easily. Tell students that line graphs are good for showing changes in data over time. Ask students to take out their completed temperature sheet and ask what the title of the graph should be. Use a dry erase marker to write down the title. Label the horizontal line at the bottom (x-axis) *Days of the Week*, and the vertical line along the left-hand side (y-axis) *Temperature*. Review the temperatures written on students' reproducibles to decide the temperature range and increments you are going to use to label the y-axis. (You will most likely be able to use one-degree increments.) Label the y-axis accordingly and the x-axis with each day and date you recorded the temperature.

Ask a student to look at his or her sheet and read the temperature for the first day, select a Dot Magnet, and place it at the appropriate coordinates. Do this for each temperature measurement, then use a dry erase marker to connect the dots. Discuss the information the graph shows and ask questions such as, "What day had the highest temperature?" or "Between which two days was the biggest temperature change?"

Line Graph Activities

Copy and distribute copies of the *Data Recording Sheet Reproducible* to each student. Tell students to research and record data on the reproducible for one or more of the topics below. Then, instruct students to practice creating line graphs on copies of the *Line Graph Mini Poster Reproducible* using the information they collected.
- Reading—the number of books they have read over a period of weeks
- Math—the amount of money earned each day for a school fund-raiser
- Science—the growth of a classroom plant over several weeks
- Social Studies—the population growth in the United States over a period of years
- All areas—the number of students who turn in their homework during a week

Graph Along

Copy and distribute the *Line Graph Mini Poster Reproducible* whenever you want students to create their own line graphs or follow along with your lessons on the *Poster*.
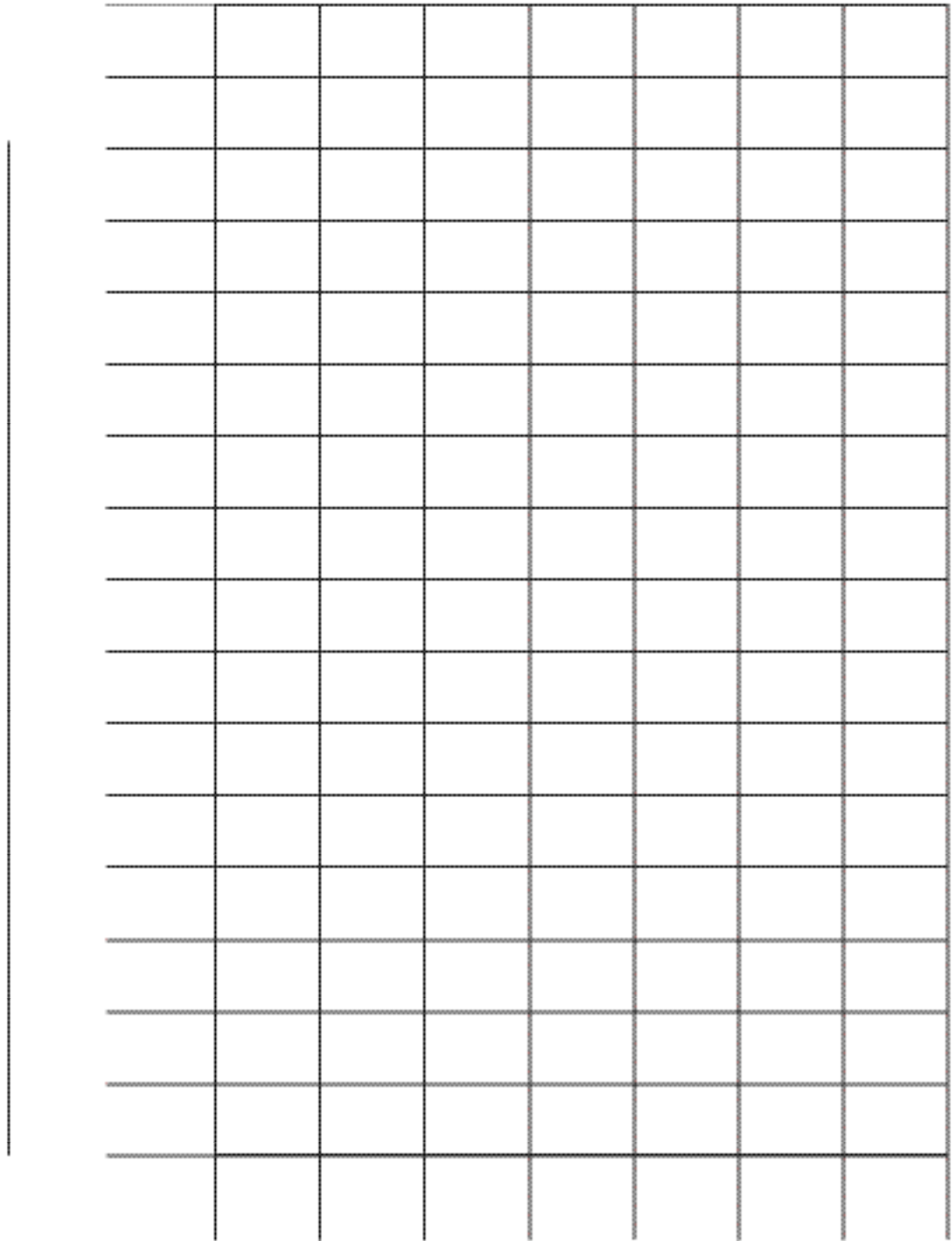
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Data Recording Sheet Reproducible

Name: _____			Information Needed: _____			

Name: _____

Line Graph

Title:

Making Graphs Posters and Magnets Set

Materials for Creating Circle Graphs:
• Circle Graph Poster
• 80 Circle Graph Wedge Magnets
• dry erase marker

Introducing and Using the Circle Graph Poster and Magnets
Remind students that a circle graph shows the size of the different parts of a whole. (The Magnets in this set allow you to show data divided into five groups with four different colors and the white of the circle.) Write the following on your classroom whiteboard:

Mr. Brown gave his class of 20 students a math test. Their grades were:
A: 6 students
B: 8 students
C: 4 students
D: 1 student
F: 1 student

Hang the Circle Graph Poster on your classroom whiteboard where students will be able to see and interact with it easily. Use a dry erase marker to write Math Test Scores of Mr. Brown's Students for the title. In the key section, write red = A, white = B, yellow = C, green = D, and blue = F. Explain that each Wedge Magnet is equal to 1/20 of the circle, and that for this graph one Wedge Magnet is equal to one student. Arrange 6 red Magnets, 4 yellow Magnets, 1 green Magnet, and 1 blue Magnet in the circle, leaving the remaining space white. If you wish, use a dry erase marker to label each color section with the number of students and/or the percentage. Once you have filled in the graph, erase the information from the whiteboard and ask students the following questions based on the graph:

1) Which grade was the most common?
2) Which two grades did the same number of students receive?
3) How many students got an A or a B on the test?

Note: There will be situations when using circle graphs that your data will not fall into 5 percent increments. In those cases, you need to trim one or more Magnets in each color into smaller wedges.

Cooperative Circle Graphs
Prior to this activity, make four copies of the Circle Graph Recording Sheet Reproducible and label them with four different graphing scenarios, such as Favorite Lunch at School or Favorite Ice Cream Flavors. Post the reproducibles where students can access them easily and tell students to mark one choice for each scenario with a tally mark.

Once the reproducibles have been marked by each student, divide students into four groups and have them make floor circle graphs: Give each group a large square of butcher paper and have them use crayons to draw a large circle on the paper, title their graph, and create a key. Give each group a completed Circle Graph Recording Sheet Reproducible of one scenario and color their circle graph from the data. Allow each group to present their graph, then display them around the room.

Graph Along
Copy and distribute the Circle Graph Mini Poster Reproducible whenever you want students to create their own circle graphs or follow along with your lessons on the Poster.

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Circle Graph Recording Sheet Reproducible

Circle Graph Title: _____				

Name: _____

Circle Graph

Title: _____

Key: _____