

DATA Data Everywhere

Grades 2–3 Lesson Plans

OBJECTIVES

- ✓ Students will be able to apply the **4 steps** for responding to the sound of a smoke alarm.
- ✓ Students will be able to utilize a bar graph to assist in the data collection process.

Materials

"What's That Sound?" music video by Recess Monkey
"Die Throw Data" Collection Sheet
"Data Data Everywhere" Data Collection Sheet
Fire Escape Message Cards
Dice (1 die for each pair of students)
Snap cubes for each student

Instructions

- USE** the Fire Escape Message Cards to review the **4 steps** for responding to the sound of a smoke alarm. When you hear the smoke alarm sound:
 - **Stop what you are doing.**
 - **Know 2 ways out.**
 - **Head straight outside.**
 - **Go to your outside meeting place.**
- SHOW** the "What's That Sound?" music video. Ask students to identify the 3 different types of music used in the video (Latin, country, and hip-hop). Ask students to identify the 4 safety steps for responding to the sound of a smoke alarm.
- Have students **WORK** in pairs to complete the tally mark practice activity. One student will record and one student will roll a die. Each team will record the number for each role roll of the die. Use the Die Throw Tally Sheet.
- DISCUSS** data collection. Ask students what to call the information they have collected from rolling the die? It is called data. A good way to organize data is to use a chart with tally marks like they used for the die rolling.
- DISTRIBUTE** the Data Collection Sheet. Students will work in pairs to listen for the 4 important safety steps for responding to the sound of a smoke alarm. Demonstrate the process using the Latin music section of the video. Begin the video and stop as soon as you hear one of 4 safety steps. Have students record a tally mark on their data chart. Continue the video until you hear another step, stop the video and instruct students to record another tally. Practice identifying steps in the Latin music.
- Students will **COMPLETE** the Data Collection Sheet for the remaining genres. You can continue stopping the video every time you hear a step, or make it more difficult by stopping the video after the genre is complete.
- Once students have **COLLECTED** data for all three types of music, students are ready to practice making bar graphs with the data. Have students use snap cubes to make a model of a bar graph. Each cube represents one tally mark. Have students place their cubes flat on their desks to simulate what a bar graph will look like on paper.
- EXPLAIN** how to make a bar graph. A bar graph uses bars to display data (or the number of tallies for a specific category). The bottom of the graph should list the categories (Stop what you are doing, Know 2 ways out, Head straight outside, and go to your outside meeting place). The side of the graph lists numbers to reflect the number of times a message is mentioned in the song (1–20 for this activity). Students should draw a bar up from a category to the number that represents the number of tallies in that category. Be sure to have students give their graph a title and label the x and y-axis. You may want to teach students to remember the x and y-axis with a clever rhyme such as "x to the left, y to the sky."
- EXPLAIN** how a bar graph helps you look at information (data). Ask students to determine which category was mentioned the most times? Which was mentioned the least number of times?
- Have students **PRACTICE** making bar graphs using the data collected from the Latin and Country music on their "Data Data Everywhere" data collection sheets.

ASSESSMENT

Students will complete the bar graph for the Hip-Hop music and write 2 sentences explaining conclusions that can be made from the data. Students will label the x-axis of the graph with the steps for responding to the smoke alarm in the correct sequence.



Common Core

Mathematics Measurement & Data: Represent and interpret data

CCSS.Math.Content.2.MD.D.10
Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.

CCSS.Math.Content.3.MD.B.3
Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 4 pets.

National Health Education Standards for Pre-K-12

S7.5.2

Demonstrate a variety of healthy practices and behaviors to maintain or improve personal health.



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GRADES 2-3

DIE THROW TALLY SHEET

Roll Number	Frequency (use Tally Marks)	Total
1		
2		
3		
4		
5		
6		

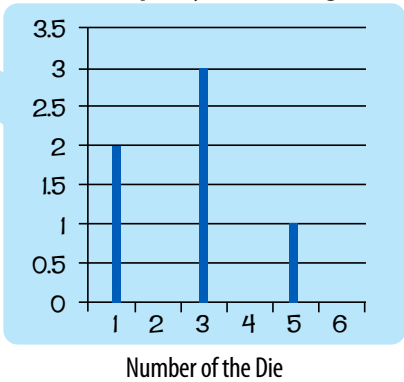
Example

DIE THROW TALLY SHEET

Roll Number	Frequency (use Tally Marks)	Total
1	1, 1	2
2		0
3	1, 1, 1	3
4		0
5	1	1
6		0

Number Frequency when Rolling a Die

Number of Times a Number was Rolled



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"Data Data Everywhere"

GRADES 2-3

DATA COLLECTION SHEET

Name(s):

Genre:

Important Fire Safety Message

	When you hear the smoke alarm sound	Frequency (use tallies)	Total
1	Stop what you are doing		
2	Know 2 Ways Out		
3	Head straight outside		
4	Go to your outside meeting place		

Genre:

Important Fire Safety Message

	When you hear the smoke alarm sound	Frequency (use tallies)	Total
1	Stop what you are doing		
2	Know 2 Ways Out		
3	Head straight outside		
4	Go to your outside meeting place		

Genre:

Important Fire Safety Message

	When you hear the smoke alarm sound	Frequency (use tallies)	Total
1	Stop what you are doing		
2	Know 2 Ways Out		
3	Head straight outside		
4	Go to your outside meeting place		

Create a bar graph of your results and write 2 conclusions you can make from the data.



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FIRE ESCAPE MESSAGE CARDS

GRADES 2-3

What to do when the smoke alarm sounds, "beep, beep, beep."



**BEEP! BEEP!
BEEP!**

MESSAGE CARDS:



I stop what I am doing.



I know 2 ways out.



I head straight outside.



I go to my Outside Meeting Place.



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TEACHER INFORMATION

GRADES 2-3

SMOKE ALARMS SAVE LIVES. Every home needs smoke alarms. They should be installed on every level of the home (including the basement), outside each sleeping area, and inside each bedroom. A smoke alarm makes a, “beep, beep, beep” sound. Between each set of three beeps is a slight pause — “beep, beep, beep, pause, beep, beep, beep, pause,” and so on. A smoke alarm senses smoke. It will sound if there is smoke in the home — possibly from a fire. When the smoke alarm sounds, everyone should leave the home. Everyone should know the sound of the smoke alarm and how to respond quickly.



A **HOME FIRE ESCAPE PLAN** is a plan to get out of the home quickly in case there is a fire. Every room in the home needs two ways out. One way out would be the door and the second way out may be another door or a window. Every home fire escape plan needs an outside meeting place. A meeting place is a permanent location in front of the home, a safe distance from the home. A good meeting place might be a neighbor’s home, a street light, a mailbox, a neighborhood store, or a special tree. Everyone in the family should go to the meeting place so everyone will be together and grown-ups will know that everyone is safe. Families should practice their home fire drill at least twice a year.

Here are the **4 important things to do** if the smoke alarm sounds:

1. **Stop what you are doing.**
2. **Know 2 ways out.**
3. **Head straight outside.**
4. **Go to your outside meeting place.**



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CHECK OUT SPARKY.ORG FOR MORE FUN!

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