



# Writing and Analyzing Surveys

Language Arts Extension

**Goal:** Students will become familiar with the construction and analysis of a valid survey and be able to present their findings using clear and concise logic.

**Objectives:** Students will ...

- Review their hypothesis
- Brainstorm questions
- Consider their audience
- Gather information to support or rule out their hypothesis

**Materials (for class of 30 working in groups of 3):**

- 30 copies of Writing and Analyzing Surveys – Possible Sample Populations
- 30 copies of Writing and Analyzing Surveys – Steps to a Successful Survey
- 1 transparency of Writing and Analyzing Surveys – Five Question Survey Teacher Sample
- 10 Blank Writing and Analyzing Surveys – Five Question Survey sheets (one per group)
- 10 pieces of graph paper photocopied on transparencies
- 10 sets of overhead pens – several colors per set
- Overhead projector and screen
- 30 Writing and Analyzing Surveys – Presentation Student Sheets
- OPTIONAL – 30 computers loaded with a graphing program

**Time Required:** (2) 45 minute periods

**Standards Met:** C1, C5, G4, G5, M1, M3, M6, M14

**Procedure:**

DAY 1

- Have students work in groups of 3. Assign each group a number and pass out materials each group will need. (Do not pass out graphing materials until they are needed.)
- \*You have the option of having students conduct telephone surveys and/or using certain strategies to complete the surveys. Support materials are provided as "Writing and Analyzing Surveys – Optional Telephone Interview Techniques and Conducting a Personal Interview" at the end of this lesson.
- Discuss that the students are going to construct a survey in the form of a questionnaire. Each group will construct 1 survey to give them information about their hypothesis. The survey will consist of 5 questions that will be given to a population of 30 people per group.
- Have students read and discuss the Writing and Analyzing Surveys – Steps to a Successful Survey as a small group. Allow time for questions.
- Students should use the same steps to construct their own surveys.
- Students need to choose a sample population to survey. Possible sample populations are listed on the sheet, but they are welcome to use a different sample population.

- Students should list their survey population, group number, group members and hypothesis on top of their Writing and Analyzing Surveys – Five Question Survey sheet.
- Students should list the scale they are going to use for participant response. They may change the scale for different questions, as long as it is clearly indicated on their Writing and Analyzing Surveys – Five Questions Survey sheet.
- Students should compose their 5 questions.
- Circulate around the class and give students hints to make their surveys successful.

**Assessment Homework:**

- Each student should give the survey to at least 5 people who do not attend the school (family members, neighbors, etc). The rest of the surveys will be given out tomorrow.

**DAY 2**

- Students should circulate through class (and the school if you feel comfortable setting them loose) to complete an additional 5 surveys each.
- Give each group a clean copy of the Writing and Analyzing Surveys – Five Question Survey sheet.
- Students should tally their results on the Writing and Analyzing Surveys – Five Question Survey sheet.
- Give each group a transparency of graph paper and vis-à-vis markers.
- Each group should create a bar graph showing their results on the Transparency Grid.
- If computers are available, have students use the graphing program.
- Each group will be responsible to make a presentation of their results. The presentation should include the following:
  - Their original hypothesis.
  - Results from their survey (transparency overhead).
  - A conclusion showing that the results support or refute their original hypothesis.
  - Teacher should point out how a “bad” survey can provide information almost as well as a well-constructed one.
- As the groups present, each student should complete the Writing and Analyzing Surveys – Presentation Student Sheet.
- After all groups have presented, the class should brainstorm a list of the local major contributing factors to global climate change. This question is listed on the Writing and Analyzing Surveys – Presentation Student Sheet.

**Final Assessment:**

- Participation in the group presentation
- Completed Writing and Analyzing Surveys – Presentation Student Sheet



# Writing and Analyzing Surveys – Five Question Survey Teacher Sample

Research Group:

Population Surveyed: *People who are familiar with our school cafeteria*

Hypothesis: *The food served in our school cafeteria increases gas, increasing methane release.*

QUESTIONS	SCALE			
	Yes		No	Don't Know
1. Have you eaten at the school cafeteria or seen the food served at the school cafeteria in the last year?				

Comments:

2. Do you believe that the food served in the school cafeteria increases gas?				
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Comments:

3. After eating in the school cafeteria, have you noticed an increase in your gas production? (Do you fart more after eating in the school cafeteria?)				
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Comments:

4. After students eat in the school cafeteria, have you noticed an increase in their gas production?				
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Comments:

5. Does the cafeteria serve beans at least one time a week?				
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Comments:



## Writing and Analyzing Surveys – Steps to a Successful Survey

### **STEP 1: Form one hypothesis**

- Use the information thus far gathered from interviews, players, introduction, etc.

### **STEP 2: Select a target population**

- Choose a group that will best prove or disprove your hypothesis.
- Remember that you will be surveying 30 people from that population – is your target population large enough?

### **STEP 3: Design 5 questions and answering scale**

- Each question should be clear and concise.
- Each question should be written so that the answer will supply you with the information needed to support your hypothesis.
- Remember, you have already received many opinions; you are looking for facts.
- It may be advisable to limit your answering scale to “yes”, “no” and “undecided.”



# Writing and Analyzing Surveys – Five Question Survey

Research Group:

Population Surveyed:

Hypothesis:

QUESTIONS	SCALE				
1.					

Comments:

2.					
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Comments:

3.					
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Comments:

4.					
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Comments:

5.					
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Comments:



## Writing and Analyzing Surveys – Possible Sample Populations

(Remember to choose a population that will have up to 30 people in it!)

- People on the street
- Students at your school
- Students in your class
- Administrators at the school
- People who drive SUVs
- People who work at a local factory
- Parents or guardians of your classmates
- Family members
- EPA officials
- Developers in the area
- People who live near the highway
- People in Silver City who drive Sports Utility Vehicles
- People who live within 1 mile of the highway
- Elected officials
- Local clergy
- Health experts



## Writing and Analyzing Surveys – Presentation Student Sheet

Group	Hypothesis	Prove their hypothesis	Interesting Fact
<i>Example</i>	<i>Car emissions are causing global warming in our town.</i>	<i>yes</i>	<i>90% of students get a ride to school in the morning.</i>

- Based on the information you learned from the presentations, brainstorm a list of the 3 local major contributing factors to global climate change.

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## Writing and Analyzing Surveys – Optional Conducting a Personal Interview

### 1. DURING THE INTERVIEW

- Arrive or call on time.
- Introduce yourself and restate your interest.
- Listen and respond to the person you are interviewing; make the interview a two-way conversation.
- Keep the interview on topic. A little wandering can open up new avenues and provide interesting insights, but too much will not get you the information you are looking for.
- As you conclude the interview, remember to thank the person for their time.

### 2. AFTER THE INTERVIEW

- Write up your notes immediately. Identify what questions were answered and what questions you have left to answer.
- Identify what went well and what did not work well during the interview.
- Write a brief thank you to the person you interviewed.
- Send the person you interviewed a copy of how you used the information you gathered.

### 3. PRACTICE, PRACTICE, PRACTICE!

- Conducting a good interview takes practice. Practice the above steps on your friends, family and neighbors.

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#### USING A TAPE RECORDER

##### **Pros**

- ☺ complete record of the interview – both questions and answers
- ☺ ability to get exact quotations
- ☺ you can pay attention to the person you are interviewing without being distracted by note taking.

##### **Cons**

- ☹ possibility of mechanical malfunctions – losing the entire interview
- ☹ the person you are interviewing may be less candid in front of a tape recorder
- ☹ over-reliance on the tape recorder, leading to a failure of the interviewer to listen intently

##### **If you choose to use a tape recorder:**

- When you make the initial contact, ask for permission to record the interview.
- Prior to the interview, test the machine and tape you will be using.
- Carry extra batteries and tapes with you to the interview.
- During the interview position the machine between you and the person being interviewed.
- After the interview, listen to the entire interview and take notes and recording any important quotes. Note the counter # where important quotes are on the tape to you can find them again.

*Adapted from Education in Action: A Community Problem Solving Program for Schools,  
by Bull, et.al, 1988*



## Writing and Analyzing Surveys – Optional Telephone Interview Techniques

### BEFORE CALLING

#### Be informed

- Know why you are calling/what information you hope to gather.
- Know why you are calling this particular person or office.
- Be informed about the person you are calling: their level of knowledge, position, concerns, past statements, etc. on the issue.

#### Be ready

- Have paper and pencil ready to take notes; start with the date, time, name of person called and phone number.
- Make notes about what you want to ask.
- Make notes about what you want to say.

#### Be prepared

- Prepare yourself to answer questions.
- Gather and organize any information you need to help you answer questions.
- Know how far you can go in making commitments and promises.
- For your first few calls, tape your end of the conversation for future self-critique.

### STARTING THE CALL

- Identify yourself: first and last name.
- Identify your association. For example: *8th grade class, Summit County Middle School.*
- State your needs:  
I would like to speak with \_\_\_\_\_.  
I would like to speak with someone about \_\_\_\_\_.  
I would like some information about \_\_\_\_\_.

Sample Script: *"Hello, my name is Amy Action. I'm from the Summit Middle School's 8th grade, and we are doing a project on water quality in Lake Dillon. I'd like to speak with somebody about the concerns that realtors have over development restrictions in Summit County."*

- Prepare for roadblocks; ask:  
"Could you suggest a time I might call back?"  
"Could you suggest someone else who might be able to help me?"

### DURING THE CALL

- Speak clearly. Keep gum, candy, food, pencils out of your mouth. Avoid saying "uhm" and "ahh".
- Be courteous and friendly. On first calls, assume the person answering knows nothing at all about your class, your project, or the issue.
- Be descriptive. Paint a picture for the listener.
- Present your information in a logical order. Keep the information on track.
- Be truthful. Say you don't know rather than invent an answer.
- Answer politely.

- Take notes.
- Don't tell people what they *should* or *need* to do.

### ENDING THE CALL

- Repeat or rephrase any commitments either of you have made.
- Thank the person for their time.
- If you don't reach the person you need to speak with, ask to leave a message:  
"Please tell \_\_\_\_\_ that I called about ....."  
"Please leave a message that I called, and that I will call again."  
"When is a good time to call back?"

### AFTER CALLING

- Go over your notes and expand them if necessary.
- Review and critique your tape recording.
- Identify and initiate your next steps.
- Honor any commitments you made.
- Call back if necessary.

### PRACTICE CALLING

1. Review and discuss effective telephone techniques.
2. Select triads: phone caller, phone receiver, observer. Select roles for the first round.
3. Pass out Telephone Scenarios to each group.
4. Take a minute for each person to prepare his/her own statements, questions and potential responses.
5. Start the scenario. Callers should sit back to back. Observer should write notes.
6. Review and critique: strong points, weak points, misunderstandings, areas of confusion, ways to improve.
7. Rotate through at least three rounds so that everyone gets a chance to be the phone caller.
8. Discuss the most common strengths and weaknesses of the caller.
9. Do at least one public round in front of the whole class. This can be a humorous example emphasizing important telephone techniques.
10. On future phone assignments, work in pairs to support and critique each other.

*Adapted from Bill Hammond, Lee County Schools*