

Get the Word Out! (Grades 4-6)

When students learn about community service causes such as animal homelessness, food drives, and community clean-up, there is a great deal of buy-in and students are benefiting by helping the greater good. In addition to fostering altruism and a sense of community, these tasks offer great math opportunities through examining costs, visibility and effectiveness of various forms of advertisements to “get the word out”!

Launch the Task

Goal: Generate interest in the task; increase “buy in” by creating a catchy advertisement.

Suggested Activities	Students Are...	The Teacher Is...
- Brainstorm community causes that are important to students. - Invite a member of a humane society, homeless shelter, food bank etc. to talk to the kids. This will instill the important idea of who our client is. - Discuss why awareness is so important for these organizations--“How can we help?”. Guide students to the idea of getting the word out/advertising.	- Activating prior knowledge about what it means to get the word out/advertising - Creating a catchy, persuasive poster, video or audio recording that will be used for modeling. (doing this first increases buy-in and allows them to focus on math later)	- Creating an anchor chart as a record of student ideas. - Pressing students to consider ideas from others’ perspective (“Which form of advertisement will be most helpful for our client? Who will your target audience be? Why?”)

Voices of Experience When I guided my students through this modeling task, I didn’t give them a chance to create an advertisement. I think that was a mistake, as I found that students really kept wanting a chance to make a picture, video or recording that they could use as their medium for advertising. In turn, they weren’t focusing on the math because they kept focusing on what their advertisement would be. This chance to be creative is a great “hook”, while also increasing buy-in. Students will be much more likely to want to investigate costs associated with getting their advertisement out there. During this time, I feel it is important for the teacher to have conversations with groups about who their target audience would be, as this will have an effect on advertising choices.

Pose Mathematical Questions

Goal: Students begin to pose questions and seek information to determine how best to get their advertisement out to the community.

Suggested Activities	Students Are...	The Teacher Is...
- Brainstorm with students about what “best” means in the context of this task--(the most people will see/hear our ad, it is affordable, it will be seen/heard for a good amount of time) - After teasing out the ideas about what “best” means in our context, guide a discussion about how those ideas or questions can be answered with math.	- Researching forms of advertisement in the community; looking at advertisements from their client’s perspective (“What is my target audience? what will reach that target audience?”) - Identifying the proper medium for the type of advertisement (“If I made a poster, which form of advertising will work? How can I get my video clip out to my target audience?”) - Recording their ideas in notebooks, Google Docs etc. for further review	- Recording student ideas. - Looking and listening for factors that can be investigated using mathematics (e.g. cost of advertising forms, how many people will see or hear the ad, will the ad meet our time requirements etc.) - Adding factors that don’t come up through class discussion. - Affirming all options, telling students the class will focus on determining costs and ad visibility within the time constraints.

Voices of Experience: I think with this task it’s a good idea to give the students a budget and a timeline. For my task, I told the students the Humane Society had \$4,000 to spend during the busiest time of need, the summer months. That way, students had a budget and timeline to keep ideas and variables within a manageable set of limits.

Build Solutions

Goal: Students determine the costs and work to justify their advertising choices with math.

Suggested Activities	Students Are...	Teachers Are...
- Students research and read information in order to find costs and data to support their ad choices. - Students develop a document which outlines how their advertising budget will be spent, which advertising options they're choosing and why.	- Deciding what factors they need to consider when determining ad effectiveness (e.g. cost, visibility, target audience, time) - Researching to find needed information. - Using mathematics to build solutions. - Organizing their information in clear way	- Monitoring students as they work. - Noting similarities and differences between students' approaches. - Selecting students to share ideas with the class. - Bringing the class back together for discussion when needed. - Helping students understand the language used in advertising, clear up confusion about research

Voices of Experience: I gave students copies of advertising options I had researched. They were given information from the local paper, local radio stations and billboards/bus shelter signs. All of the information I gave them included data about cost, audience and length of time advertisement would run. A lot of the information was very friendly to this task, with one radio station in particular giving statistics that helped "sell" the ad and showed how many people listened to their station and the station's statewide reach. Other options, such as Facebook ads, TV, YouTube etc. can be used as well. I found it was helpful to find the information myself and then print it off for students. It's important to allow students time to make sense of the information on their own, but because the information is written for an adult with knowledge about advertising, guide them through misconceptions or confusion that may come up.

As a teacher, you should hope to see students using strategies to add up costs of advertising as they choose them and making choices as to how to proceed ("It'll cost \$450 for us to run our radio advertisement as long as we want, so we still have _____ to spend"). Students should also be discussing ideas about visibility and target audience ("I don't want to buy time for a radio ad during the middle of the night, because people are most likely sleeping during that time").

Communicate Results

Goal: Students discuss their results with one another and decide how they should share their project outcomes with the client (in this case, the community service group). Older students might also consider generalizing their model by considering whether it could work for other clients in need of advertising suggestions.

Suggested Activities	Students Are...	Teachers Are...
- Students compile all of their work into a simplified spreadsheet, slideshow or doc as a proposal of advertising choices and costs. - Share the proposal with the class and client; encourage discussion and questions - Discuss how the model could be applied to other advertising needs	- Communicating their results with the class. - Using mathematics to justify their results. - Asking and answering questions about their solution strategies. - Choosing a way to communicate results to the client.	- Selecting and sequencing solutions for a whole-class discussion. - Noting similarities and differences amongst the models. - Asking students questions to help them understand each other's approaches. - Making notes of mathematical misconceptions that you can help clarify at another time

Voices of Experience: Consider providing a template for the letter, presentation, or report students give to the client (community service group). Decide what you will do to help students stay focused on the mathematics. Perhaps remind them that the advertisement has been created, and now the client is interested in an easy to read, direct proposal of how to spend the advertising budget and why. Decide ahead of time how you will help students focus on communicating their mathematical ideas. If at all possible, we recommend sharing the information with the community service organization you chose. Also, it may be possible that a radio station or newspaper may give you a good deal or even run your ad for free if you contact them! It makes the process so valuable to see the students' work come to fruition in the "real world".