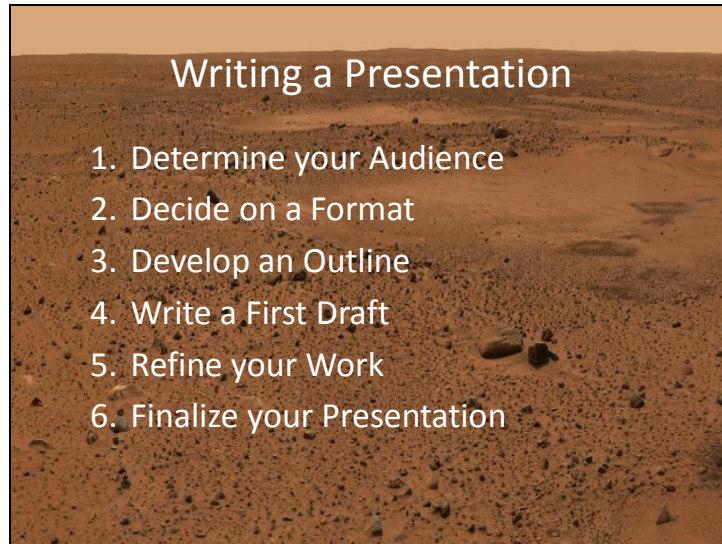





TEACHER: You may choose to walk students through the entire presentation before they begin writing their skits or may choose to use this presentation during the entire two day lesson. If you choose to use it during the entire lesson, STOP points are built in for students to work after they have learned how to complete each step of the skit development process.

Stop at these points and monitor students as they work. You may wish to leave the presentation up at each stop point so students may refer to the information on these slides as they complete their work.



Writing your Mars Rover skit isn't as simple as just starting to write and then presenting it. There are a number of things you should do first to make sure your skit has all the information it needs and makes sense when you present it. We will be walking through the steps shown here today and tomorrow so your presentation can be both fun and well-written.



Step 1: Audience

Who are you presenting to?

Depending on your audience, you might make a **PROFESSIONAL** or an **INFORMAL** presentation:

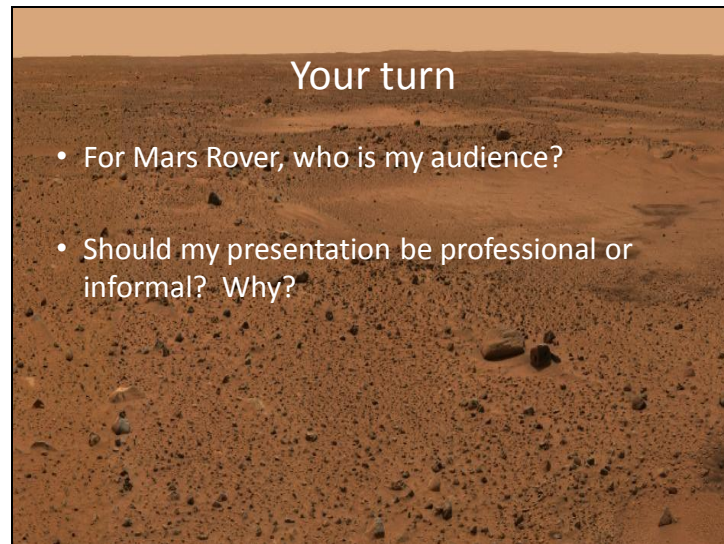
	PROFESSIONAL	INFORMAL
Length	short or long	short
Preparation	large amount of time	very little preparation time
Visual Aids	frequently used, polished	sometimes used
Rehearsals	YES	NO
Refinements	YES	NO
Audience	large: adults, experts	small: family, friends, classmates
Vocabulary	academic, consistent	language often varies from one performance to the next

The first thing to consider when writing a presentation is your audience. Who will be reading or listening to your presentation? Is your audience other students your age, your teacher or scientists?

One type of presentation is informal. Informal presentations generally do not require a lot of preparation time or practice. Often, an informal presentation might be made using just a brief outline or even without notes. The presenter usually speaks for only a brief period of time and their main goal is to explain their point clearly and quickly. Here are some examples of informal presentations: explaining to your class how you did a homework problem, telling your friends about your summer vacation trip, reading a short article and telling your classmates what it was about. An informal presentation will use no or very few visual aids (such as pictures, posters or power point presentations). You might conduct an informal presentation for a group of friends, your parents or your teacher.

Other presentations are professional. Another word for professional is formal. A professional presentation should sound just like it was written by an expert. Professional presentations usually involve a large amount of preparation, sometimes involving several weeks of effort. Formal presentations tend to be longer and have good flow. If a formal presentation is presented more than once, each performance will sound almost the same as the others. Professional presentations usually involve rehearsals. Presenters try to include good academic vocabulary words on their topic. During rehearsals, the presentation is refined to improve flow and clarity. In a professional presentation, your audience might be comprised of mostly adults and even people you don't know very well. There are often formal PowerPoint presentations or

other visual aids such as poster boards. Presenters will often dress in very nice clothing, costumes or uniforms.

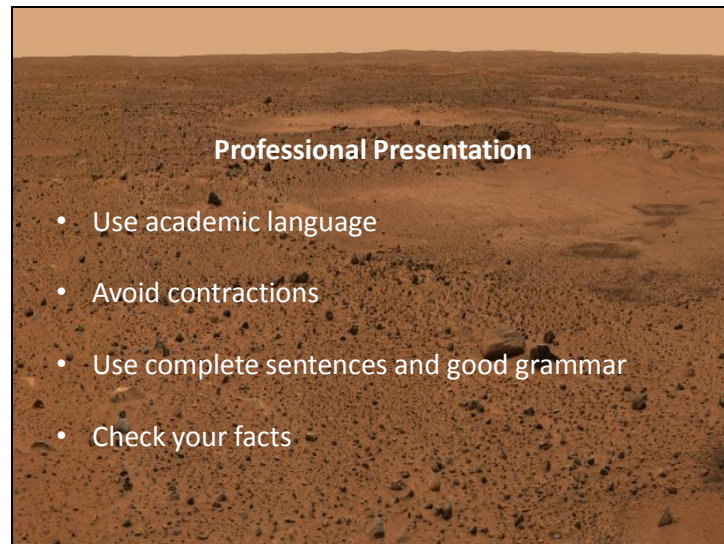


STOP HERE. (Let your students ponder these questions. Allow them to talk to each other to answer the questions. If they have difficulty, guide them to the answers below. Provide hints and scaffolding as necessary.)

In the case of your Mars Rover presentation, your audience will be comprised of real scientists.

For this type of audience, your presentation should be PROFESSIONAL.

Why? You want the scientists you talk to be impressed by your knowledge of Mars. You want to look and sound just like a professional scientist or astronaut when you give your presentation. You will want to rehearse your material so that you know it well and can answer the questions posed by anyone who listens to your presentation. Let's now learn about how you can achieve this.



Here are some things you should do in order to create a professional presentation.

First, in a professional presentation, you should use academic language. Academic language are those words that you tend to hear at school, but are not the words you usually use when you talk to your friends. Academic words include the kinds of words we have been studying in Mars Rover, words like calculate, represent, revolution and geology. By using academic language, you are showing your audience that you know your subject well.

In professional writing, you should also avoid using contractions. For example, instead of writing don't, write "do not".

Another consideration in a professional presentation is to use complete sentences and good grammar. Remember, you want to impress your audience with your knowledge of Mars and of *how your Mars Rover will successfully carry out its mission*. *Grown-ups, such as the scientists* who will be listening to your presentation will be more impressed if you take the time to craft well-written sentences with proper grammar.

You should also make certain that any facts you state about your mission are correct. The scientists who will be judging your Mars Rover project are experts in the field of astronomy. If you state something incorrectly, they will know. It could be very embarrassing for your team to have to admit you made an error in front of the scientists who have come to see you.



Remember, the Mars Rover rules state that every member of your team needs to be involved in your presentation. There are many different ways in which you can make your Mars Rover presentation. You will need to decide on how you might effectively present your mission. Here are just a few ideas:

An oral presentation: In this style, your team writes a summary of your Mars Rover project. Once completed, each person is assigned a section or a few paragraphs to read.

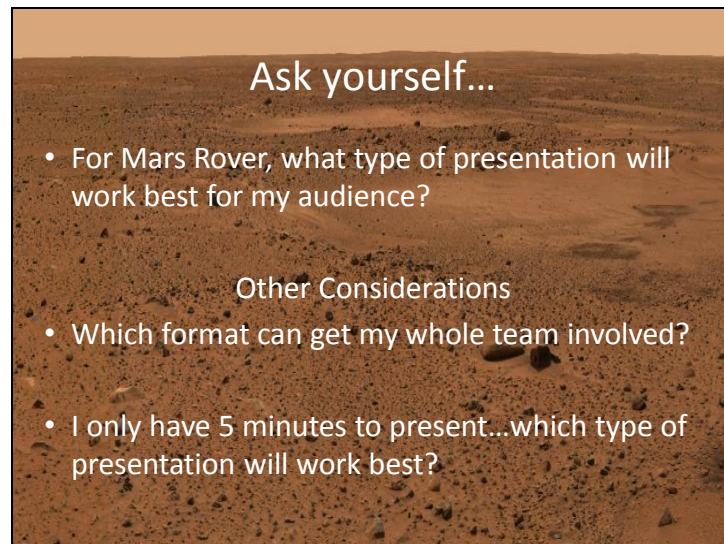
A play or skit: Here a dialogue is written in which several characters discuss your Mars Rover mission. You might consider pretending to be NASA scientists and to wear lab coats.

A PowerPoint Presentation: You are looking at a PowerPoint presentation right now. You can create one for your Mars Rover project. Each member of your team could present a number of the slides.

A Newscast: You could also create a newscast. You could have part of your team be reporters and part of your team be NASA scientists. Your “reporters” would the ask questions of your “scientists” who would then explain the details of your Mars Rover Mission.

There are hundreds of other possibilities for your skit. Be creative and original.

(TEACHER: If time permits, allow children to brainstorm other ideas for their presentation.)



Ask yourself...

- For Mars Rover, what type of presentation will work best for my audience?

Other Considerations

- Which format can get my whole team involved?
- I only have 5 minutes to present...which type of presentation will work best?

STOP HERE. (Allow each team to discuss the questions on this slide. Guide their conversations by probing with the following additional questions.)

- How can you best communicate your mission to the people who will attend the Mars Rover Celebration?
- Can you make everything you want to say fit into 5 minutes if you choose “...X....”?



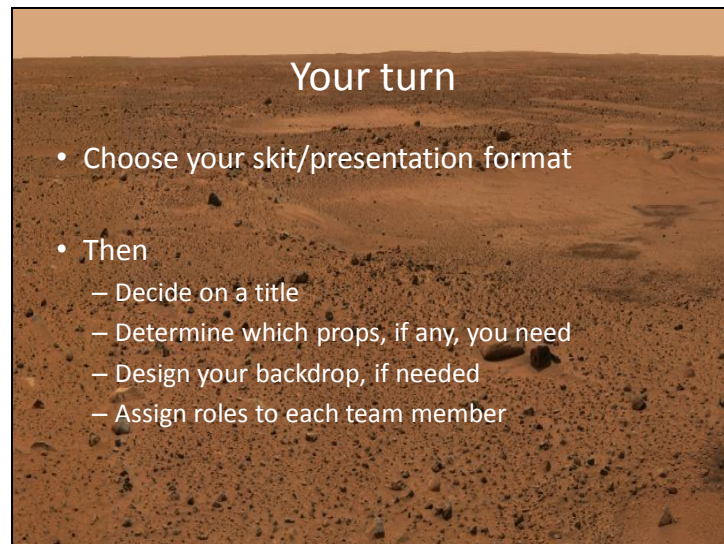
After you choose your format, you have several other decisions to make...

What will be the title of your skit?

Do you need any props? Props would be any objects you will use during your skit. It might include anything from a lab coat to a glass of water to your Mars rover prototype. If you need props, you will need to decide who on your team will be responsible for obtaining it.

The next thing to consider is your backdrop or setting. The backdrop is a drawing of the “place” where your skit takes place. If you are doing a newscast, your backdrop would be a TV studio. If your skit is a conversation between astronauts, your backdrop might show the NASA insignia or may have a rocket on a launch pad. It is not necessary for you to have a backdrop for your skit. If you choose to have one, check with your teacher to see if the school has craft paper and paints you can use to create your setting.

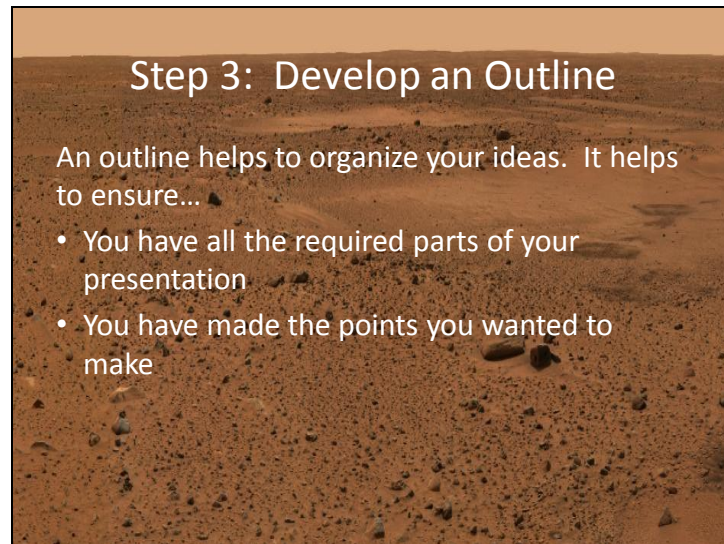
Next, you will need to assign a role in the presentation to each team member. Be creative in giving each team member an active part of your skit. Will each team member use their own name? Will each team member have a special career? Is there a robot, alien or some other unique character in your presentation? If so, which team member will play that role? You will need to decide how to resolve these problems, such as “What to do if everyone in your group wants the same role in your skit?”



Your turn

- Choose your skit/presentation format
- Then
 - Decide on a title
 - Determine which props, if any, you need
 - Design your backdrop, if needed
 - Assign roles to each team member

TEACHER: This is the next stopping point. Have your students work on this section of their Science Notebooks. Monitor the groups as they work and provide support as needed.

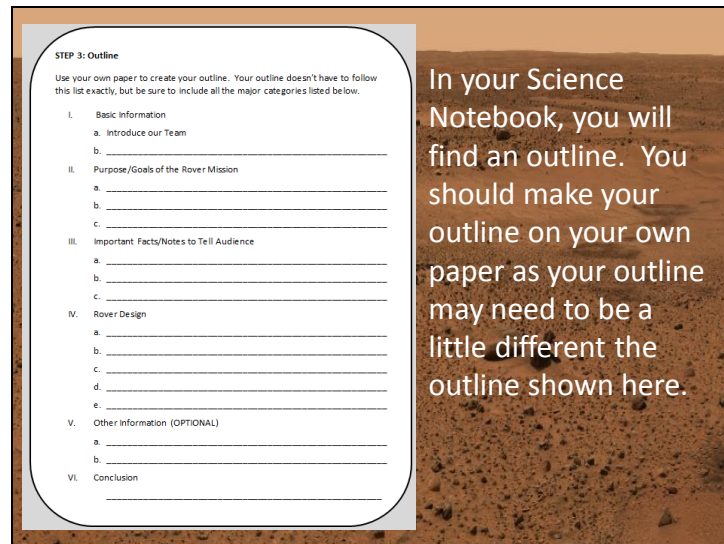


Step 3: Develop an Outline

An outline helps to organize your ideas. It helps to ensure...

- You have all the required parts of your presentation
- You have made the points you wanted to make

Paraphrase the information on this slide.



STEP 3: Outline

Use your own paper to create your outline. Your outline doesn't have to follow this list exactly, but be sure to include all the major categories listed below.

- I. Basic Information
 - a. Introduce our Team
 - b. _____
- II. Purpose/Goals of the Rover Mission
 - a. _____
 - b. _____
 - c. _____
- III. Important Facts/Notes to Tell Audience
 - a. _____
 - b. _____
 - c. _____
- IV. Rover Design
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
- V. Other Information (OPTIONAL)
 - a. _____
 - b. _____
- VI. Conclusion
 - _____

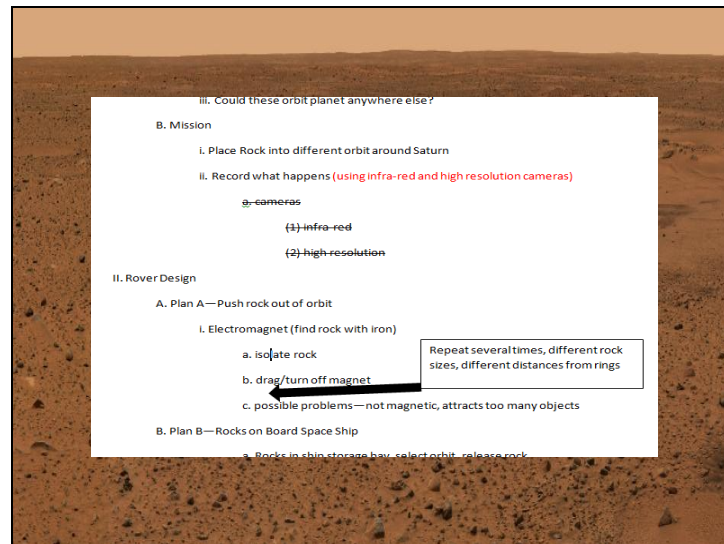
In your Science Notebook, you will find an outline. You should make your outline on your own paper as your outline may need to be a little different the outline shown here.

TEACHERS: The outline shown here parallels the Mars Rover Celebration Rover Guide that is required at the Mars Rover Celebration event. Students can use the above outline to ensure that all of the information they wish to present is in both their skits and the Rover Guide.

Explain to your students that the outline shown here and in their science notebook will probably not work exactly as written, but that they should follow the general format. This is why they should make their outline on their own paper. For example, under basic information, a letter “b” is available. Under “b”, some teams may choose to include information on the type of presentation they will conduct, if it may not be apparent to the audience (for example, if some of the team members may be “Martians”). In other cases, this will not be necessary and “b” can be eliminated.

Under the purpose and goals of the Rover Mission, a, b and c are listed. However, some teams may only have two points they wish to make in this section, while others may have more than three.

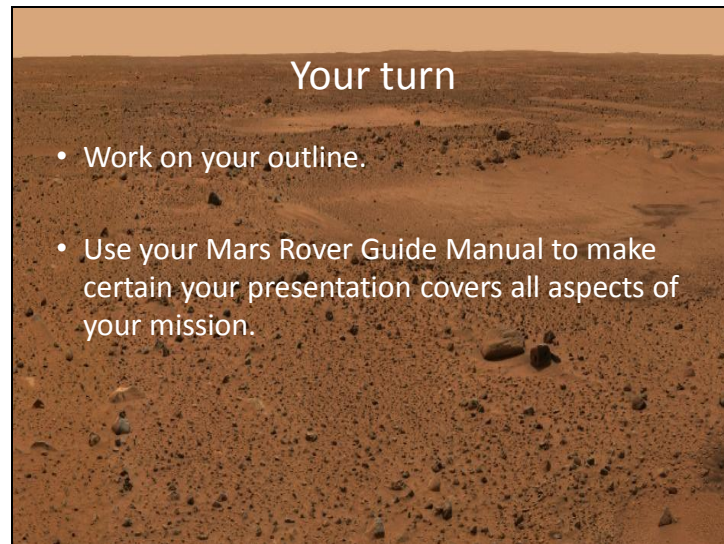
Slide 12



This slide shows part of an outline for a possible mission to Saturn that I used as an example in previous units. The outline is for your team to use to help you include all the information you want.

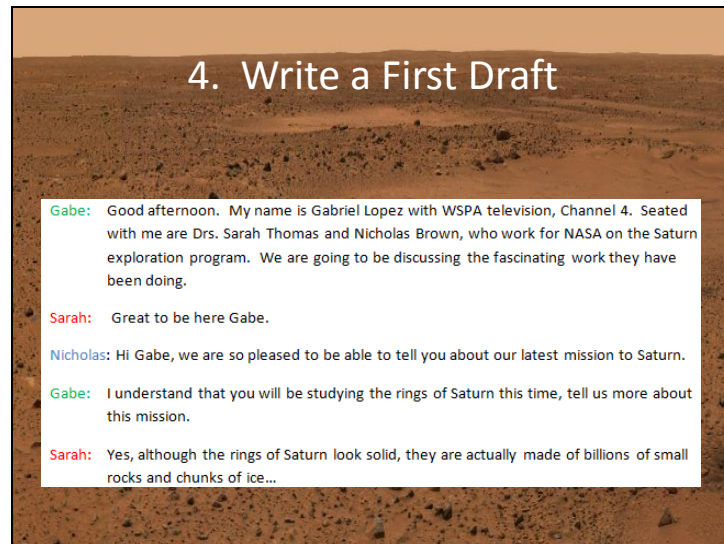
Outlines have another big advantage. If you realize that you left out some information or want to include additional information, it is easy to modify an outline. You can see here how we left off some information and used an arrow to show where we wanted to talk about it. You can also see where we crossed off information and moved it to another place. (*Point to the changes made on the outline.*) Using an outline in this way will help ensure that your presentation sounds just the way you want it to.

If you had skipped the outline and went directly to writing your presentation, you would have a big problem if you later decided to add something. You would have to completely rewrite the presentation. By contrast, if you use an outline, you can test out your ideas and make changes easily before you write your final presentation.



STOP HERE. Allow the teams to work on their outlines. The teams should use their Mars Rover Guide Manual for the major topics of their outline. The topics will include “Purpose/Goal of the Mission”, “Important Facts about Mars” (Background), and “Rover Design” (How Rover will Overcome Conditions on Mars, Power/Control, Communication with Earth, How it will Accomplish its Mission). Circulate throughout the room to make certain that each of the groups is addressing each of these categories.

If students do not have a lot of experience using/creating outlines, you can scaffold by having students work through one section at a time, monitoring their outlines as they are created. Based on your knowledge of each team’s rover, mission, and skit; make recommendations on what should be included in each section (as needed).



4. Write a First Draft

Gabe: Good afternoon. My name is Gabriel Lopez with WSPA television, Channel 4. Seated with me are Drs. Sarah Thomas and Nicholas Brown, who work for NASA on the Saturn exploration program. We are going to be discussing the fascinating work they have been doing.

Sarah: Great to be here Gabe.

Nicholas: Hi Gabe, we are so pleased to be able to tell you about our latest mission to Saturn.

Gabe: I understand that you will be studying the rings of Saturn this time, tell us more about this mission.

Sarah: Yes, although the rings of Saturn look solid, they are actually made of billions of small rocks and chunks of ice...

This slide has 1 CLICK of animation.

With the idea you have for your presentation and with the outline you just completed, you are now ready to write a first draft.

For my Saturn mission, my presentation idea was to conduct a television interview with the “scientists” responsible for the mission. We had three team members. Gabe chose to be the TV reporter and the other team members (Sarah and Nicholas) chose to play the role of scientists.

The next task was to work the information from the outline into the skit. Since this was going to be an interview, our team wrote the presentation in the form of a dialogue. We also assigned a different color to each of the names so each person would know when it was their turn to speak.

We started our interview by talking about the background information on Saturn and how we decided on our scientific question. This was the first item on our outline and became the first question of the interview. The rest of the interview would go through the remaining points of our outline.

(CLICK to bring up the dialogue. Either read the dialogue to your students or have student volunteers read the dialogue.)

Step 4: Write a First Draft

Mars Rover Celebration—Presentation/Skit Rubric

	Top-Notch	Thumbs Up	Fair	Novice
Audience	Presentation is specifically tailored to an audience of scientists and engineers	Students have thought about their audience and attempted to gear the presentation to a professional audience	Students have put some thought into who the audience will be and have attempted to write part of the skit with this audience in mind	No evidence that the team thought about the audience in developing the presentation
Professionalism	Formal language is used consistently; presentation is clear and in complete sentences	Formal language is used in places and for the most part; presentation is clear and in complete sentences	Some use of formal language is evident. Presentation lacks clarity in places or may suffer due to incomplete sentences	Formal language is absent or incorrectly used; tone of presentation is very informal
Creativity	Team selected a creative approach to their skit that was appropriate for their audience	Students have used some creative elements successfully in developing the presentation	Team has attempted to find a "theme" for presentation, but may not have done so successfully	Little or no creativity in creating the "theme" for the skit
Organization	Presentation is well-organized and all key aspects of mission are discussed; audience has clear understanding of mission	Presentation is organized and key aspects of mission are discussed; audience may have some questions but in general understands team mission	Parts of presentation are organized and most aspects of mission are discussed, however, the audience is lacking key information to understand the mission	Presentation is poorly organized; repetition of points or key aspects of mission missing from presentation; audience doesn't have clear understanding of mission
Delivery	Presentation is enthusiastic and smooth; it is clear the team has rehearsed and is well-prepared	Presentation may lack enthusiasm but delivery is smooth or enthusiasm present but some rough spots in presentation	Significant parts of presentation lack enthusiasm and show a lack of sufficient rehearsal	No rehearsal is evident; team members do not know their lines or when they are expected to speak
Time (5 minute limit—if over time, note in comments section below)	Time well used; presentation remains within 5 minute time limit	Minor loss of time; presentation remains within 5 minute time limit	Significant loss of time during presentation due to lack of preparation and/or organization	Time is poorly used
Other comments:				

One tool that is available for you to use as you create your presentation is the Presentation/Skit rubric.

As you write your first draft, pay special attention to the “TOP NOTCH” column. You want your presentation to be TOP NOTCH.

Under AUDIENCE, ask yourself if you have written your presentation with your audience of scientists and engineers in mind.

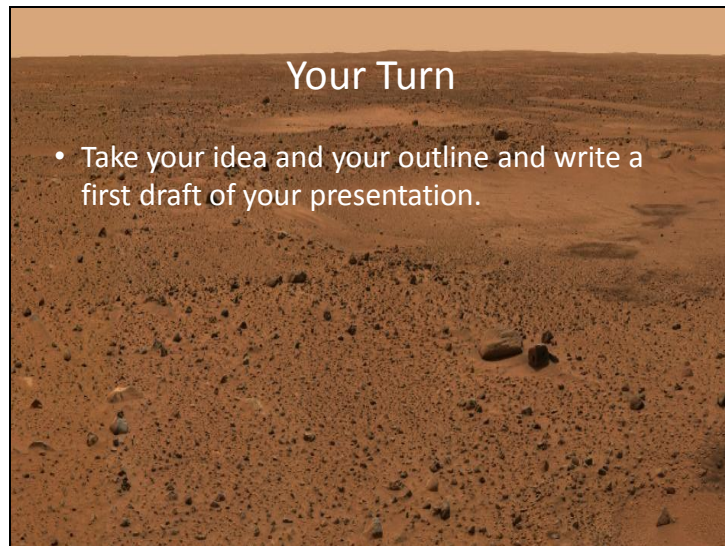
For PROFESSIONALISM, have you use the formal, academic vocabulary to explain your Mars Rover mission?

Under CREATIVITY, has your team created a fun and original skit to tell your audience about your mission?

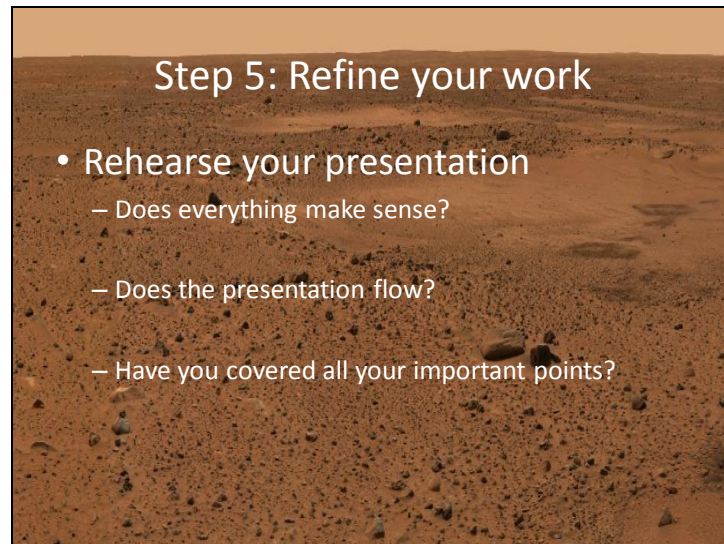
For ORGANIZATION, is your skit well-written, clear and complete, so that when you finish, your audience has a clear understanding of what your mission will do?

The DELIVERY refers to how well you and your team members know your skit. Does each team member know when they are supposed to speak? Has everyone learned what they are supposed to say and how they are supposed to read each line? When your team reads the skit, do they sound enthusiastic (read this enthusiastically) or bored (read this as though you are bored)?

And finally, for TIME, you need to ensure your presentation is 5 minute or less and that you use the presentation time well.



STOP HERE. Allow the teams to work on an initial draft.



Once you have your first draft written, you should rehearse your presentation. Rehearse by reading to your teacher, to friends and even to your parents. Ask them to tell you if something in the presentation doesn't make sense to them. Also ask them to let you know whether the presentation seems to flow smoothly from point to point or whether it seems to jump around. Also make certain you have covered all of the important points about your mission. Refine your presentation once you hear their comments. Try to have someone new listen to your presentation after each refinement.

Step 5: Refine your Work

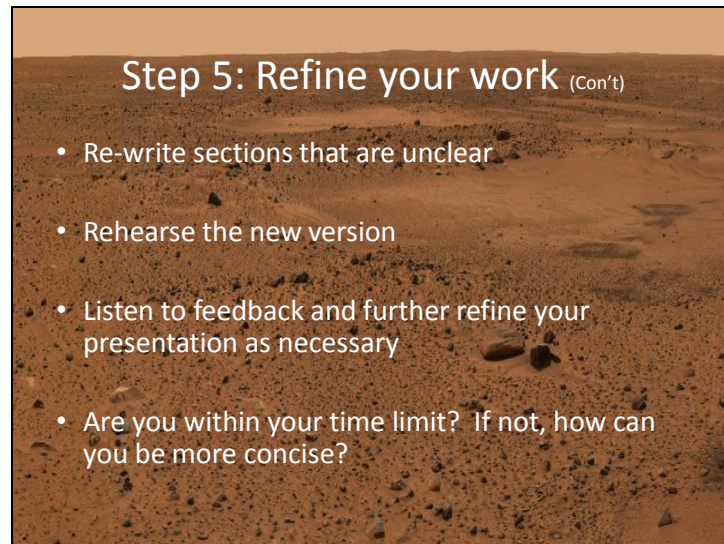
Mars Rover Celebration—Presentation/Skit Rubric

	Top-Notch	Thumbs Up	Fair	Novice
Audience	Presentation is specifically tailored to an audience of scientists and engineers	Students have thought about their audience and attempted to gear the presentation to a professional audience	Students have put some thought into who the audience will be and have attempted to write part of the skit with this audience in mind	No evidence that the team thought about the audience in developing the presentation
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Delivery	Presentation is enthusiastic and smooth; it is clear the team has rehearsed and is well-prepared	Presentation may lack enthusiasm but delivery is smooth or enthusiasm present but some rough spots in presentation	Significantly reduced presentation lack enthusiasm and show a lack of sufficient rehearsal	No rehearsal is evident; team members do not know their lines or when they are expected to speak
Time (3 minute limit—if over time, note in comments section below)	Time well used; Presentation remains within 5 minute time limit	Minor loss of time; Presentation remains within 5 minute time limit	Significant loss of time during presentation due to lack of preparation and/or organization	Time is poorly used
Other comments:				

Once you have refined and rehearsed your presentation, invite a friend, your teacher or your parents to listen to and evaluate your presentation. Give them a copy of the presentation rubric. As you perform your skit, ask them to circle how well they think your team has done.

Don't be angry if the person listening doesn't give your team a perfect score. They are actually helping you by pointing out the areas of your presentation that need improvement. Use the information they provide to make further changes to your skit. If you are unsure how to improve something on the rubric, ask them to explain why they scored you as they did.

Be sure to thank the person for helping your team.

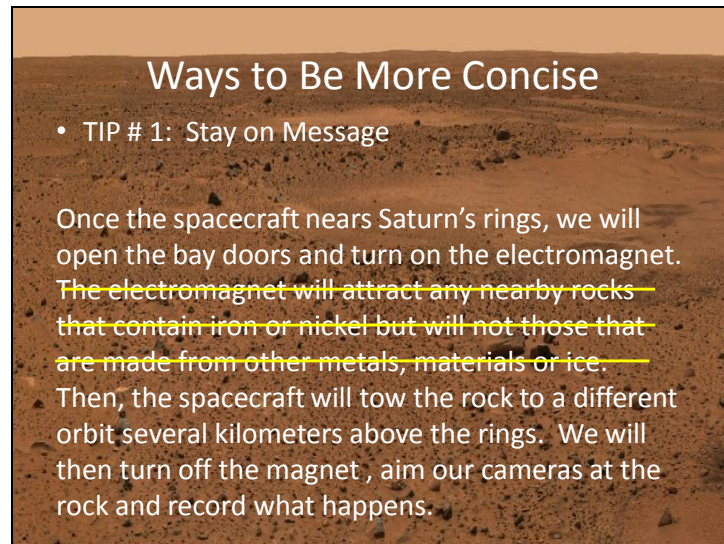


Once you have identified the parts of your presentation that need revising, re-write those sections. Unless your teacher or parents tell you that there is a major problem, you should be making refinements (small changes) to improve the clarity and flow of your presentation.

Then ask people to listen to you rehearse your new version. This is very important. They can tell you whether the new draft is clearer than the previous version and whether the presentation flows better. If there are new sections, they can let you know how well these fit into the presentation. In addition, if you had to shorten your presentation, your teacher, friends and parents can let you know whether you accidentally cut out something that was very important.

Based on what they tell you, refine your presentation some more. Continue to do this until you are happy with the presentation. If you cannot think of a way to fix a problem, ask a teacher for help.

Time your presentation: You want to make certain you stay within the 5 minute time limit. If your presentation is too long, you will need to determine how to shorten it. The next slide will give you some ideas on how you can be more concise.



Ways to Be More Concise

- TIP # 1: Stay on Message

Once the spacecraft nears Saturn's rings, we will open the bay doors and turn on the electromagnet. ~~The electromagnet will attract any nearby rocks that contain iron or nickel but will not those that are made from other metals, materials or ice.~~ Then, the spacecraft will tow the rock to a different orbit several kilometers above the rings. We will then turn off the magnet, aim our cameras at the rock and record what happens.

This slide has 1 CLICK of animation.

One way to be more concise is to “Stay on Message”. This means not telling your audience information that is not crucial to your mission. Let’s look at the example above.

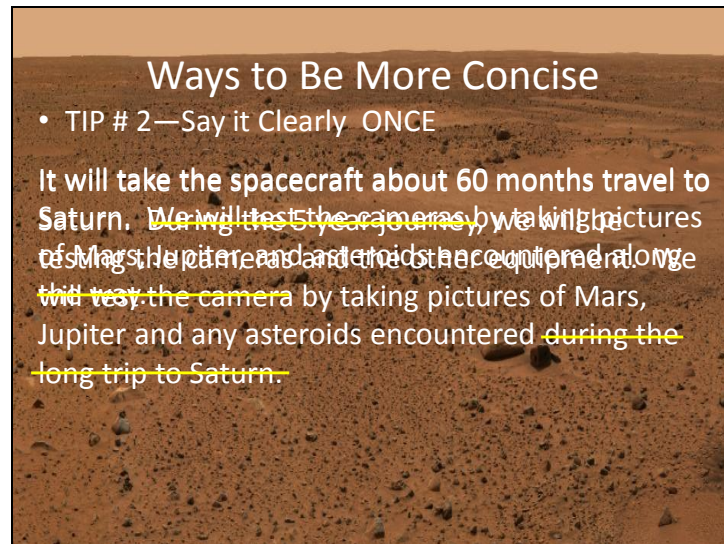
(Ask a volunteer to read the paragraph)

This paragraph is well-written but it does contain some information that is not crucial to my Saturn mission. I remember that my audience is going to be scientists and engineers and they certainly know how magnets work. So I can eliminate the second sentence in the paragraph.

CLICK (Ask a volunteer to re-read the shortened paragraph.)

We call these extra sentences that are interesting but not crucial to our presentation “digressions”. Good writing will stay on topic and will avoid digressions.

Source: Rudick, Marilynne and O’Flahavan, Leslie, “Six Tips for Writing Concisely”, online <http://www.hodu.com/concise.shtml> accessed on 6/25/2013.



Ways to Be More Concise

- TIP # 2—Say it Clearly ONCE

It will take the spacecraft about 60 months travel to Saturn. ~~During the 5-year journey, we will test the camera by taking pictures of Mars, Jupiter and asteroids encountered along the way.~~ We will test the camera by taking pictures of Mars, Jupiter and any asteroids encountered during the long trip to Saturn.

This slide has 2 CLICKS of animation.

Another tip for being concise is “Say it clearly, ONCE”. Let’s take a look at this paragraph.

(Ask a volunteer to read it.)

Even though this paragraph appears to be well-written, it is not concise. It contains “redundancies” which are statements that are said more than once. CLICK

(Point to the yellow strikethroughs.) You can see here that I repeated “60 months to travel to Saturn” when I said “5 year journey” and “the long trip to Saturn”. I used different words but I wasn’t saying anything new. I also repeated “test the camera” twice.

If I re-write this paragraph eliminating this repetition, it would read as follows CLICK:

(Read the corrected paragraph to your students.)



A third tip for writing concisely is “Show, don’t say.” Have you ever heard the expression, “A picture is worth a thousand words”? It would be equally true to say that “A picture, an illustration, a table, a graph or a diagram are each worth a thousand words.

Some things are very difficult to describe in words but much easier to show in a picture or a table.

Let’s take a look at this NASA picture of Saturn’s rings. I could write about Saturn’s Rings in my presentation without the picture. However, the helps me to shorten my explanation as I can simply point to features of the rings that I would otherwise have to describe using words.

Source: http://www.nasa.gov/multimedia/imagegallery/image_feature_834.html



Ways to Be More Concise

- TIP #4—Write in the Active Voice

ACTIVE VOICE

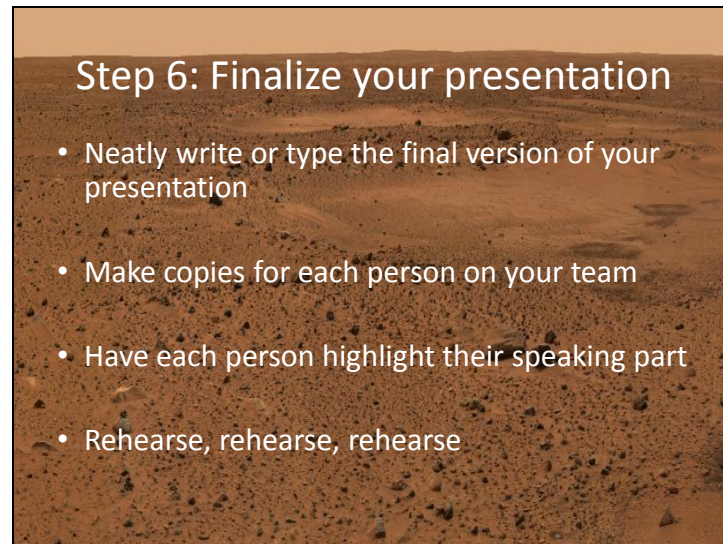
- The spacecraft delivered the rock to Saturn.

PASSIVE VOICE (avoid)

- The rock was delivered to Saturn by the spacecraft.

Structuring your sentences to emphasize the **WHO or WHAT that DOES** the action, rather than the object, helps you write short sentences. Look at the examples on this slide.

I wrote the first sentence in active voice sentence and it has seven words. By contrast, the second sentence is in the passive voice sentence has nine words.



Step 6: Finalize your presentation

- Neatly write or type the final version of your presentation
- Make copies for each person on your team
- Have each person highlight their speaking part
- Rehearse, rehearse, rehearse

Paraphrase the information on this slide.