

[Accompanying Video](#)

English 102
J. Roth

Name: _____

**BRAINSTORMING EXERCISE FOR RESEARCH PAPERS—The Hubble Space Telescope
Example**

STEP ONE—LIST:

List the two or three most important things you have learned through your study.

1. Flaw in Hubble Lens_____

2. Possible Methods of Repair_____

3. Actual Repair and Outcome_____

STEP TWO--FREE-WRITE:

 Please copy the **first point** from the list in Step One:

1. Flaw in Hubble Lens_____

Free-write for as long as you can (15 to 20 minutes minimum) about what you have learned about this point. **Have no sources in front of you.** (Quickly running out of ideas to write about concerning this point most likely indicates the need for a bit more research and thought.)

Hubble—supposed to be a big deal—better than any ground based tele. Lots of prep—space shuttle delivered—problems with launch--tried it out—big flaw—blurry vision—was the whole \$ scrapped?? Really expensive—lots of hi expectations—NASA's reput at stake Barbara Edgars mission boss what to do? Could anything be done?

And on

STEP THREE--INFLATE: Return to your free-writing and highlight or mark the significant parts of each free-write. Then inflate these highlighted or marked parts into paragraphs by copying them in an appropriate order into the spaces below:

Inflate Point #1:

Free-write with parts omitted below:

Hubble—supposed to be a big deal—better than any ground based tele. ~~Lots of prep—space shuttle delivered—problems with launch--tried it out—big flaw—blurry vision—was the whole \$ scrapped?? Really expensive—lots of hi expectations—NASA's reput at stake~~ Barbara Edgars mission boss what to do? Could anything be done?

And on

Inflated Point Below

A while ago, the Hubble Space Telescope was launched into space using the space shuttle. Astronomers wanted answers to several questions about space and the universe and how it works. Unfortunately, a flaw was discovered in the lens that made the pictures it sent to earth too fuzzy to really see anything. It was difficult to know what, if anything, could be done.

STEP FOUR--EXPAND and SMOOTH: Expand and smooth each inflated point by adding transitions and any new information that you now remember. Be sure that each part reads smoothly when you are done.

Expand and Smooth Inflated Point #1:

Expanded—Inflated Point #1 below:

Inflated Point Below

A while ago, the Hubble Space Telescope was launched into space using the space shuttle. Astronomers wanted answers to several questions about space and the universe and how it works. Unfortunately, a flaw was discovered in the lens that made the pictures it sent to earth too fuzzy to really see anything. It was difficult to know what, if anything, could be done.

Expanded and Smoothed Point #1 below:

Several years ago, the Hubble Space Telescope was launched from a space shuttle flight. Astronomers had hoped that with the telescope orbiting high above earth's cloudy atmosphere, several questions about the birth and fate of the universe could be answered. Unfortunately, after the telescope was in orbit,

technicians discovered that the telescope lens had a flaw that made the pictures it sent to earth too fuzzy and imperfect to lead to new discoveries. Needless to say, this was a major disappointment to those hoping to peer deeper into space. Because of this unforeseen defect, a new lens would have to be fitted onto the telescope if it were to perform as it was designed to.

STEP FIVE--LOCATE and BLEND: Turn to your sources and locate information, ideas, words that you would like to blend in with your own. Insert these into your expanded and smoothed sections. Be sure to quote accurately! Clearly note the source, the page number if relevant, etc.

Also, when doing this, please remember the four rules of using sources:

1. Use words from a source **if the source says something particularly well**. (You want to share this wording with your reader.)
2. Use words from a source **if you need authoritative support** for a point you are making. (In other words, you want to share this wording with your reader.)
3. Keep citations as short as possible.
4. Give proper credit to the property (words, ideas) you use.

Quotation from Source:

"It was a view akin to a dusty contact lens or trying to see a sharp image through dirty water" (Why Couldn't).

Blend Point #1: List sources and locate wording/ideas to consider blending. Be sure to carefully note source and page number of each item.

Blended Version

Several years ago, the Hubble Space Telescope was launched from a space shuttle flight. Astronomers had hoped that with the telescope orbiting high above earth's cloudy atmosphere, several questions about the birth and fate of the universe could be answered. Unfortunately, after the telescope was in orbit, technicians discovered that the telescope lens had a flaw that made the pictures it sent to earth too fuzzy and imperfect to lead to new discoveries. As one expert said, *"It was a view akin to a*

dusty contact lens or trying to see a sharp image through dirty water" (Why Couldn't). Needless to say, this was a major disappointment to those hoping to peer deeper into space. Because of this unforeseen defect, a new lens would have to be fitted onto the telescope if it were to perform as it was designed to.

STEP SIX—EDIT and REVISE: Read through your draft ALOUD and circle questionable parts. Return to these circled parts and do the following: Reword “clumsy” “weak” wording, shorten your style to create impact, be BRUTAL with your editing!

Put the draft away for a bit. Take a break and then--

DO IT AGAIN—the same thing-- Read through this new draft ALOUD and circle questionable parts. Return to these circled parts and do the following: Reword “clumsy” “weak” wording, shorten to create impact, be BRUTAL!


Put the draft away for a bit. Take a break and then –

DO IT ONE MORE TIME!--the same thing-- Read through this new draft ALOUD and circle questionable parts. Return to these circled parts and do the following: Reword “clumsy” “weak” wording, shorten to create impact, be BRUTAL!

STEP SEVEN: FORMAT TIME: Finalize your Works Cited (MLA) or References (APA) page. Return to your most recent rough draft and insert the appropriate citation information.

Why Couldn't It See? Nova. PBS Television. 15 Jan. 2015.

STEP EIGHT: WRITE THE INTRODUCTION AND CONCLUSION

 Draft an introduction (list ideas that might work)—add your thesis to the end of it.

 Draft a conclusion: Wrap up, cheerlead, recommend a course of action.

STEP NINE: USE OUTSIDE RESOURCES IF NEEDED: Seek peer editing help. Polish your completed draft, check accuracy and conformity to the assignment and to the citation standards (MLA or APA). Submit by the due date.