Lesson 3: Mission to Sort

UNIT: Investigating Asteroids

TRANSCRIPT

HOOK 1

Hi, writers. It's Ann.

By now, you have learned tons about asteroids. You've learned that Earth gets hit every day with small rocks and dust from space, but the Earth's atmosphere protects us. So most of it burns up on the way down. Even this huge asteroid—the size of a building—didn't make it down in one piece.

You've also learned a lot about NASA's DART Mission, the Double Asteroid Redirection Test. This test crashed a spacecraft into an asteroid to see if it would change the asteroid's path—it did! There aren't any asteroids on their way to Earth, but NASA constantly watches the skies, tracking asteroids just in case.

Kristi feels so much better after learning all this information. The kids at her school who keep talking about a big asteroid about to hit Earth probably don't know as much about asteroids as you do. Kristi is excited to write her article for the school newsletter. When it gets read in every class, her classmates will know more and probably not be so worried anymore.

Kristi has been thinking about how to organize her writing—she has a lot of information. Let's review the sources you've used so far.

Source 1 was all about how rocks that hit the atmosphere are called meteors burning up as they fall to Earth.

Source 2 was all about the NASA DART Mission.

Source 3 was an interview with Marina Brosovich that talked about how the Earth gets hit every day with rocks from space, but they burn up in the atmosphere.

Source 4 was an interview where Nancy Chabot talked more about how the DART Mission works.

Kristi is looking for ways she can organize this information.

DISCUSSION 1

Discuss: What do you notice about these sources? Think about similarities and differences.

HOOK 2

You may have noticed they're all about asteroids and how the Earth is protected or that there are two print Sources and two interviews. Maybe you also noticed these two Sources are both about the DART Mission, while these two Sources are about the Earth's atmosphere. These would make great subtopics or sections in your writing.

Kristi knows what the main topic for her writing will be: The Earth is protected from asteroids. Now she has subtopics: NASA's DART Mission protects the Earth from asteroids, and Earth's atmosphere protects it from asteroids.

Kristi is really excited to start writing with this plan—but wait a minute—her notes are all mixed up.

To help her sort her notes, let's play a game. I'll read Kristi's notes one at a time. If you think it goes in the section about the NASA DART Mission, give yourself a fist bump, like

DART hitting the asteroid. If you think the information goes in the section about Earth's atmosphere, make an atmosphere bubble around your head, like this.

Ready?

Let's play!

- *DART stands for Double Asteroid Redirection Test.* This note is about the DART Mission.
- *Meteors are pieces of rock burning as they fall through the atmosphere*. This note is about the atmosphere.
- *Burning meteors equals shooting stars*. Atmosphere again.
- *Spacecraft changed the orbit of asteroid by 32 minutes!* This one goes with DART.
- *It's going to give it a small little nudge, and that will ever so slightly change that asteroid's future path. Nancy Chabot, NASA planetary expert.* DART Mission again.

Nice job!

As Kristi kept sorting, she found this one: Most asteroids and asteroid belt between Mars and Jupiter. That one is tougher. It is about asteroids, but it's not about the DART Mission. And it's not about the Earth's atmosphere. For now, she'll put it to the side. Maybe she can use it later.

Kristi finished sorting all her notes into the two categories and has a few notes on the side, but she still isn't done with her writing plan. The information is sorted, but her facts aren't in an order that makes sense.

Kristi already has a sentence that she could use as her topic sentence: The NASA DART Mission protects Earth from asteroids.

That will let her reader know what the section is about, but her reader may have never heard of the DART Mission before. She needs to let her reader know what it is right away, so they aren't confused.

She found some notes that she could put next, right after the topic sentence.

DISCUSSION 2

Discuss: Which of these notes would you put next? Why would you choose that one?

HOOK 3

Any of these facts could help a reader understand what the DART Mission is. As a writer, you'll get to decide the order of your notes that will help your reader understand the best.

Here's how Kristi organized her notes. She put this fact next, since it tells the reader what DART stands for. Next, she put this one to tell her reader what DART did. Then this one to tell what happened. Then she added more details, like this quote that tells more about what DART did, and the results after.

This isn't a paragraph yet, but it is a plan for how her paragraph will go. Christie still has more notes that she wants to include. She may reorganize her notes many times to find the best order of information that will make the most sense. While she organizes her notes more, you can get started on yours.

Today, you'll sort your notes into subtopics. Then you'll decide in order for the information and quotes. I'll get you started, step by step.

STEP 1

In today's activity, you'll be cutting out your notes and quotes. You'll organize them onto Sorting Mats and decide the order that makes the most sense. To get started, get these supplies. You'll get more supplies later on.

STEP 2

When Kristi sorted her notes, she found one note that said this: November 2021. Huh—what was that about? Kristi realized she didn't write enough information. She went back to the source.

Oh, the DART Mission launched in November 2021. She added that to her note.

Turn to Source 1 in your research packet.

Check each note to make sure it has enough information that it will make sense on its own. If any don't have enough information, you can use the source to add more. When you're done, check your notes on Source 2.

STEP 3

Get your scissors. Cut on the dotted lines around your notes on Source 2, like this. When you're done, do the same for Source 1.

STEP 4

Cut on the dotted lines between each note, like this.

Don't worry about remembering which note came from which Source. If you're ever unsure, you can match the picture on the note to the picture on the Source.

When you're done, stack all your notes in a neat pile.

STEP 5

In your research packet, find Source 3. Cut off the quotes you wrote from the bottom, like this. Do the same for Source 4.

When you're done, stack your quotes in a neat pile.

STEP 6

Get these supplies. You can put your research packet away if you need more room on your desk.

STEP 7

Put your note and quote strips together in one pile at the top of your desk, then set up your Sorting Mats side by side, like this.

STEP 8

One at a time, pick up a strip of paper and read it.

If it's about NASA's DART Mission, put it on Sorting Mat 1. If it's about how space rocks burn up in the atmosphere, put it on Sorting Mat 2. If it isn't about either one, put it to the side for now.

Your notes will look different from the ones on screen, and that's okay.

STEP 9

Double check the notes you put to the side.

Can those notes go on one of your Sorting Mats? If you think any can move it to that Mat. If not, leave it to the side.

STEP 10

Nice job sorting your notes! Now you're ready to organize them. Take a look at Sorting Mat 1. Here's Kristi's topic sentence.

When she decided the order of her notes, she remembered that her reader may have never heard of the DART Mission before. She thought about which of her notes would help her reader understand what the DART Mission is and put that note next.

Decide which of your notes would help a reader understand what the DART is, and put that note at the top, like this.

If you don't have a note that you think works, you can always write one directly on the Sorting Mat.

STEP 11

Kristi thought about what would make sense to go next, and then after that... until all her notes were in an order that made sense. She even wrote in some extra things that she thought were missing. This can be tricky, but there isn't a right or wrong order for your notes. As a writer, you get to decide.

On Sorting Mat 1, organize your notes and quotes until you have them in an order that you think would make the most sense. As you organize, you can always put notes that don't fit to the side or write more like Kristi did.

Your notes will look different from the ones on screen, and that's okay.

STEP 12

Now your notes are in an order that makes sense. It's okay if yours look different than the ones on screen.

One at a time, flip each note over and put one line of glue on the back. Then flip it back over and press down. Keep doing this for each note until they are all glued on to Sorting Mat 1.

STEP 13

Look at Sorting Mat 2. For now, you can use Kristi's topic sentence.

Remember, your reader may not know what happens when an asteroid hits the atmosphere. Decide which of your notes would help a reader understand what happens when an asteroid hits the Earth's atmosphere and put that note at the top, like this.

If you don't have a note that you think works, you can always write one directly on the Sorting Mat.

STEP 14

Organize the rest of the notes on Sorting Mat 2. Put them in an order that will make the most sense. As you organize, you can put notes that don't fit to the side or write more in.

STEP 15

One at a time, flip each note over and put one line of glue on the back, then flip it back over and press down. Keep doing this for each note and quote until they are all glued onto Sorting Mat 2.

STEP 16

You may have some notes on the side after all this sorting and organizing. That's okay, these pieces of information may not match these subtopics, but they might be helpful later on.

To keep these notes for later, glue them to the back of one of your Sorting Mats. They can be glued in any order.

STEP 17

To keep them together, staple your Sorting Mats together with one staple. You'll now have one research packet and one packet to help you write your article.

WRAP UP

Nicely done writers! You now have a writing plan for two sections of your writing. Your writing is now ready to blast off!

In the next lesson, you'll draft two paragraphs using your notes. Be sure to keep these V.I.P. packets somewhere safe, and I'll see you next time.