

Space Junk

You can't see them, but millions of pieces of junk are flying around Earth. The junk is called **debris** (deh-BREE). It includes parts of old satellites. The largest piece of debris is part of a rocket and about the size of a car. The tiniest pieces are flecks of paint.

The debris can damage working satellites. It can also hit old satellites and break them apart. That creates more space trash.

Scientists are tracking the pieces of debris in space. However, that is not easy. "All working satellites and debris are moving very fast, and in all different directions," says NASA scientist Nicholas Johnson. NASA is the U.S. space agency.

Can scientists solve the space junk problem? "Countries around the world have agreed to reduce the amount of new space junk," says Johnson. "We are working on getting rid of the old stuff, but we haven't figured out how yet. The good news is that we caught this before it started to get out of hand."



NASA

The dots show objects in Earth's orbit that are being tracked by scientists.

Name: _____ Date: _____

Directions: Answer the following four questions based on the information in the passage.

1. What does space trash or space junk do?

2. Why is it difficult to track pieces of debris in space?

3. Based on the passage, what do scientists from around the world agree on?

4. What is this passage mostly about?

Directions: Please read the sentence below and then write the word or phrase that best answers the questions. The first answer has been provided for you.

Now scientists are trying to solve the space junk problem by tracking the debris.

Who? scientists

5. (are) What?

6. When?

7. How?

8. The question below is an incomplete sentence. Choose the word that best completes the sentence.

Space debris can damage satellites, _____ scientists are trying to get rid of it.

- A but
- B because
- C so

Directions: Read the vocabulary word and definition below. Then answer questions 9 and 10.

Vocabulary Word: **debris** (de · bris): garbage or pieces of things that have been destroyed.

9. Read the sentences below and underline all forms of the word **debris**.

- a. After the plane crash, five survivors were found in the debris.
- b. When the business bought the building, it had to remove the debris before opening.
- c. After the earthquake, rescuers dug through the debris in search of survivors.
- d. There are teams of people that help to clean up debris on the side of the highway.
- e. The flood caused a lot of debris to be washed into the river from the town.

10. Which picture shows debris?



Teacher Guide and Answer Key

Passage Reading Level: Lexile 690

Featured Text Structure: Descriptive – the writer explains, defines, or illustrates a concept or topic

Passage Summary: The passage describes what space junk is and the problems that it causes. Space junk is debris flying around Earth.

To the Teacher: Read the passage aloud to the class [TIP: while reading aloud, show the passage on a whiteboard or give students a copy of the passage so that they can follow along].

Then, use the text-dependent questions 1-8 to facilitate a whole class discussion to ensure students comprehend the key details from the passage.

Finally, use questions 9-10 to deep teach one important vocabulary word [TIP: you can use the model provided for teaching additional vocabulary].

1. What does space trash or space junk do? [Important Detail]

Suggested answer: Space junk can damage working satellites. It can also hit old satellites and break them apart, creating more space junk. [paragraphs 1, 2]

2. Why is it difficult to track pieces of debris in space? [Important Detail]

Suggested answer: Tracking pieces of debris in space is difficult because working satellites and debris move very fast and in different directions. [paragraph 3]

3. Based on the passage, what do scientists from around the world agree on? [Important Detail/Inferential]

Suggested answer: Scientists from around the world agree that they need to reduce the amount of new space junk. [paragraph 4]

4. What is this passage mostly about? [Main Idea]

Suggested answer: The article is mainly about space junk and how it is flying around Earth.

Directions: Please read the sentence below and then write the word or phrase that best answers the questions. The first answer has been provided for you.

Now scientists are trying to solve the space junk problem by tracking the debris.

Who? scientists

5. (are) What? **are trying to solve the space junk problem****6.** When? **now****7.** How? **by tracking the debris****8.** The question below is an incomplete sentence. Choose the word that best completes the sentence.

Space debris can damage satellites, _____ scientists are trying to get rid of it.

A but

B because

C so

To the Teacher: ReadWorks recommends that you teach this vocabulary word to the whole class out loud using the four steps listed below.

Vocabulary Word: **debris** (de · bris): garbage or pieces of things that have been destroyed.

Step 1: Introduce the word

- Teacher writes the word on the board and divides it into syllables: (de · bris)
- Teacher says: "This word is debris. What is the word?" [All students reply together out loud: "debris."]

Step 2: Provide a child-friendly definition

- Teacher says: "Debris means garbage or pieces of things that have been destroyed."

- b. Teacher says: "The word 'debris' is used when talking about junk. In this passage, the author discusses how space debris is also known as space junk and how it is flying around Earth."
- c. Teacher says: "What is the word?" [All students reply together out loud: "debris."]

Step 3: Practice the word

Teacher provides examples and additional opportunities to repeat the word. Read the first sentence out loud to your students. Begin reading it again and when you come to the vocabulary word prompt students to say the vocabulary word out loud. Then, finish reading the sentence out loud to your students.

Directions: Read the vocabulary word and definition below. Then answer questions 9 and 10.

Vocabulary Word: **debris** (de · bris): garbage or pieces of things that have been destroyed.

9. Read the sentences below and underline all forms of the word **debris**.
- a. After the plane crash, five survivors were found in the debris.
- b. When the business bought the building, it had to remove the debris before opening.
- c. After the earthquake, rescuers dug through the debris in search of survivors.
- d. There are teams of people that help to clean up debris on the side of the highway.
- e. The flood caused a lot of debris to be washed into the river from the town.

Step 4: Check for student understanding

To the Teacher: This step can be completed as a whole class activity or as an independent practice.

10. Which picture shows debris?



Suggested Additional Vocabulary: satellite, space, Earth