

Let It Snow!

***WR News* talks to an award-winning snowflake expert.**

Most people stay indoors during a snowstorm, but Kenneth Libbrecht is not most people. When flurries start drifting down from the sky, the scientist heads out into the cold. He takes his camera with him.

Outside, Libbrecht waits for snowflakes that are just right. Finally, he spots the glittery ice crystals he's been waiting for. As the snowflakes fall, Libbrecht catches them. Then he points his camera and shoots.



Kenneth Libbrecht
Libbrecht caught these cool crystals
on camera.

The scientist's shiny snapshots recently earned him an award. The award is given to top science photographers around the world.

Libbrecht takes pictures of snowflakes to learn more about their shapes. The crystals form when **water vapor**, or steam, in a cloud freezes. Every snowflake grows into a **hexagon**. That is a six-sided shape. However, no two snowflakes look the same. Experts are not sure why.

To solve the mystery, Libbrecht has traveled to snowy places around the world. He has taken pictures of snowflakes in Canada, Alaska, and Vermont. He takes his research back to his science lab. That is in California.

Libbrecht has collected nearly 10,000 snowflake **images**, or pictures. He will spend most of this winter studying them. The scientist's outdoor adventures are far from over, though. Libbrecht plans to one day journey to other snowy places to take more photos.

"I really enjoy ... watching the snow fall and trying to see what I can find," he told *WR News*. "It's a bit of a treasure hunt."

Meet the Snow Man

Read to learn about scientist Kenneth Libbrecht's snowy side.



Kenneth Libbrecht

***WR News:* How do you take pictures of snowflakes?**

Kenneth Libbrecht: When I find a good one, I'll [catch it] using a little paintbrush. I then stick it under my microscope and take a picture.

***WR News:* What advice do you have for kids who want to study snowflakes?**

KL: You don't need a lot of fancy equipment. With a simple magnifying glass on a snowy day, you can really see quite a bit if you just stop and look.

Name: _____ Date: _____

1 What does Libbrecht use a paintbrush for when he is photographing snowflakes?

- A He uses a paintbrush to paint snowflakes.
- B He uses a paintbrush to make snow shapes.
- C He uses a paintbrush to catch snowflakes.
- D He uses a paintbrush to draw on his camera.

2. How does the author describe snowflakes in this passage?

- A The author describes snowflakes as glittery and boring.
- B The author describes snowflakes as beautiful and mysterious.
- C The author describes snowflakes as frozen and adventurous.
- D The author describes snowflakes as cold and fancy.

3. It can be inferred from the passage that

- A Kenneth Libbrecht will probably start studying beaches in the future
- B pictures of snowflakes all look exactly alike
- C scientists still have a lot to learn about snowflakes
- D Canada, Alaska, and Vermont have the best snowflakes for pictures

4. Read the following sentences and answer the question below: "I really enjoy watching the snow fall and trying to see what I can find. It's a bit of a treasure hunt."

Why does Kenneth Libbrecht use the words treasure hunt to describe what he does?

- A He is looking for something hidden
- B He is searching for something valuable
- C He wants to find snowflakes made of gold
- D He just really enjoys what he does

5. The primary purpose of this passage is to describe

- A the work of a scientist who studies snowflakes
- B the reasons that no two snowflakes look alike
- C the places around the world with the most snow
- D the best pictures ever taken of snowflakes

6. What does Libbrecht do in the wintertime? Be sure to explain your answer using evidence from the text.

7. What word might the author use to describe Kenneth Libbrecht? Be sure to explain your answer with evidence from the text.

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

Kenneth Libbrecht plans to visit lots of snowy places _____ he wants to take more pictures of snowflakes.

- A but
- B although
- C because
- D if

9. Answer the questions based on the sentence below.

Snowflakes fall from the sky in the winter.

What? snowflakes

(do) What? _____

Where? _____

When? _____

10. Read the vocabulary word and definition below and complete questions 10a, 10b, and 11.

Vocabulary Word: expert (ex • pert): a person who knows a lot about something.

10a. Read the five sentences below and underline the word **expert** in each sentence.

1. Someday, I would like to be an expert about dogs because they are my favorite animal.
2. My teacher has studied so much about United States history that she is now an expert.
3. My father is a chef which means he is an expert at cooking.
4. When the projector in our classroom broke, the principal called an expert to come and fix it.
5. An art history expert usually works at a museum or in an art gallery to study art from long ago.

10b. Which person looks most like an expert?



11. If you walk to your teacher's desk, is that a journey? Explain your answer.

Teacher Guide & Answers

Passage Reading Level: Lexile 680

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

Passage Summary: This passage is about Kenneth Libbrecht, a scientist who researches and photographs snowflakes in North America. The passage also describes how snow forms and what the flakes look like.

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- C He uses a paintbrush to catch snowflakes.**
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4. Read the following sentences and answer the question below: "I really enjoy watching the snow fall and trying to see what I can find. It's a bit of a treasure hunt."

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- A He is looking for something hidden
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- A the work of a scientist who studies snowflakes**
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- D the best pictures ever taken of snowflakes

6. What does Libbrecht do in the wintertime? Be sure to explain your answer using evidence from the text.

Suggested answer: Libbrecht travels to snowy places in the wintertime to take his pictures of snowflakes. He takes the pictures so he can study them and try to figure out why no snowflake has exactly the same shape as any other. [paragraphs #5, 6]

7. What word might the author use to describe Kenneth Libbrecht? Be sure to explain your answer with evidence from the text.

Suggested answer: The author might describe Kenneth Libbrecht as adventurous because he travels to faraway snowy places to take photographs of snowflakes. [paragraphs #5, 6]

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

Kenneth Libbrecht plans to visit lots of snowy places _____ he wants to take more pictures of snowflakes.

- A but
- B although
- C **because**
- D if

9. Answer the following questions based on the sentence below.

Snowflakes fall from the sky in the winter.

What? Snowflakes

(do) What? **fall**

Where? **from the sky**

When? **in winter**

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

Vocabulary word: expert

Step 1: Introduce the word

- a. Teacher writes the word on the board and divides it into syllables: (ex • pert)
- b. Teacher says: "This word is expert. What is the word?" [All students reply together out loud: "expert."]

Step 2: Provide a child-friendly definition

- a. Teacher says: "An expert is a person who knows a lot about something."
- b. Teacher says: "In the text, Kenneth Libbrecht is described as a snowflake expert. This means that he knows a lot about snowflakes."
- c. Teacher says: "What is the word?" [All students reply together out loud: "expert."]

Step 3: Practice the word

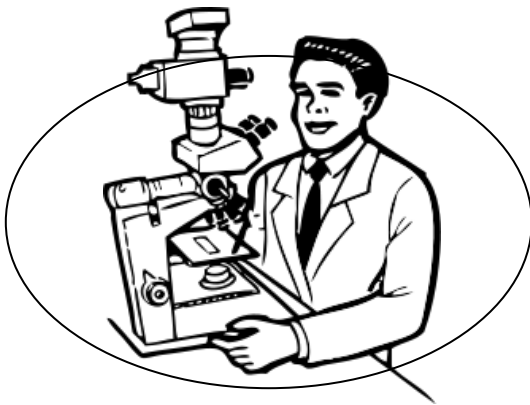
Teacher provides examples and additional opportunities to repeat the word. Read the first sentence out loud to your students. Begin reading it again and when you come to the vocabulary word prompt students to say the vocabulary word out loud. Then, finish reading the sentence out loud to your students.

- 10a.**
1. Someday, I would like to be an expert about dogs because they are my favorite animal.
 2. My teacher has studied so much about United States history that she is now an expert.
 3. My father is a chef which means he is an expert at cooking.
 4. When the projector in our classroom broke, the principal called an expert to come and fix it.
 5. An art history expert usually works at a museum or in an art gallery to study art from long ago.

Step 4: Check for understanding

This step can be completed as a whole class activity or as an independent practice.

- 10b.** Which person looks most like an expert?



- 11.** If you read one book about lions, does that make you an expert? Why or why not?

Suggested answer: No because you would need more extensive knowledge and experience with lions to become an expert.

Suggested Additional Vocabulary: images, journey, treasure