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WEATHER KWL Chart

[illegible]

Li Bing and the Flooding

by Vinnie Rotondaro



A very long time ago there were people who lived along a river in China. The river was named the Min River.

There was a problem with the Min River. The people who lived along it were scared of it because it would overflow. This happened once a year, every year. When the river overflowed, water would flood the people's homes, and everything would get wet. This was a very bad thing for the people who lived along the Min River. It was a big problem. So some of the people got together and started to think about how they could fix it.

Eventually the governor of the people got involved. His name was Li Bing, and he was very smart. Li Bing investigated the problem. To investigate a problem means to study it carefully and learn as much about it as possible.

Li Bing found out that the problem of the flooding river started up in the mountains. The tops of the mountains were very high up in the sky, where it was very cold. When it was wintertime, it would get so cold that the tops of the mountains would become covered in snow. When springtime came, all the snow would melt. When snow melts it turns into water. The problem was that the melted water would fall down the mountains and go into the Min River. This is

why it would overflow and flood people's homes.

Li Bing knew that the melting snow was the cause of the flooding. But he also knew that he couldn't stop the snow from melting. So he started to think about other ways that he could fix the problem. Then Li Bing had a great idea. He realized that the best way to solve the problem would be to turn it into an opportunity. An opportunity is a chance for something good to happen.

Away from the river there was a flat piece of land that had its own problem. It didn't have any water. It needed water. So Li Bing started thinking about how he could get the extra water that was bad for the people who lived along the Min River to the flat plain of land that needed water to grow plants.

Li Bing got a bunch of workers together and created a levee in the Min River. A levee is a big wall that people build to stop water from going somewhere. The levee makes the water go somewhere else.

Li Bing and his workers made the levee out of bamboo and stones. It took him and his men four years to build. When the levee was done, the water stopped flooding the homes of the people who lived along the Min River and started going into the land that was flat and needed water. Now the people who lived along the river didn't have to worry about the river flooding, and plants began to grow in the flat land.

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1. What was the problem with the Min River?

- A. The Min River became dry because there was not enough rainfall.
- B. Once a year the Min River would overflow and flood a flat plain of dry land nearby where nobody lived.
- C. The Min River was not big enough to build a levee in the river.
- D. Once a year the Min River would overflow and flood homes of people living along it.

2. The problem with the Min River was that it flooded the people's homes once a year. How did Governor Li Bing solve this problem?

- A. He built a levee at the bottom of the mountains to keep the melted snow from going into the river.
- B. He asked the people who lived along the river to build new homes on stilts
- C. He built a levee in the Min River that made the extra water go to a flat plain of land.
- D. He asked the people who lived along the river to move to a dry flat plain of land.

3. The levee was helpful in more than one way.

Which evidence from the text best supports this conclusion?

- A. The levee was built in the Min River and was made out of bamboo and stones.
- B. The levee stopped the river from flooding the people's homes and brought water to land that needed water to grow plants.
- C. The Min River would overflow even after the levee was built yet it didn't flood the people's homes.
- D. It took Li Bing and his workers four years to build the levee.

4. What was the flat plain of land away from the river like before the levee was built?

- A. It was dry.
- B. It was flooded.
- C. It had many plants.
- D. It had many houses.

5. What is this passage mainly about?

- A. how melted snow from mountains can cause river flooding
- B. how the people who lived along the Min River dealt with the problem of flooding
- C. how levees are built in rivers and what materials they are made of
- D. how Li Bing solved the problem of flooding along the Min River

6. Read the following sentence: "When the river overflowed water would flood the people's homes and everything would get wet."

The word **overflowed** most nearly means that the river

- A. was filled with plants
- B. was filled with so much mud that the water would become very dirty
- C. had too much water so it would flow over the sides of the river
- D. did not have enough water so the river dried up

7. Choose the answer that best completes the sentence below.

_____ the overflowing Min River was a big problem, Li Bing turned it into an opportunity.

- A. Although
- B. So
- C. On the other hand
- D. However

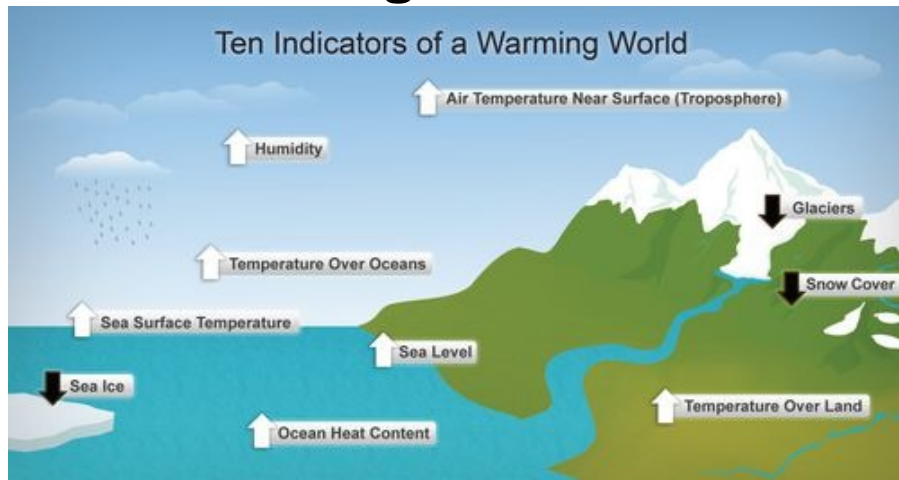
8. The flooding of the Min River was caused by seasonal weather changes.

Use evidence from the text to support this statement.

9. What two positive things happened after the levee was built?

10. How did Li Bing turn the problem of the overflowing Min River into an opportunity?

Watching the Weather



Do you know what the weather will be tomorrow? A weather report can tell you. But what will the weather be like in ten years? Or 20 years? Or 100 years?

No one knows for sure. But some scientists say that our long-range weather outlook isn't good.

Those scientists say the summers will be hotter. They say that warmer, wetter winters are on the way. Severe droughts, floods, wildfires, and storms are also possible.

What's the cause of all those wacky weather changes? Experts say that humans are.

Warming the Globe

Some weather changes are due to global warming. Global warming happens when gases in the air trap the sun's energy. That energy heats Earth. Without the gases, the energy would escape into space.

Some global warming is good. Without it, Earth would be too cold to live on.

For years, though, humans have created lots of air pollution. The pollution traps more of the sun's heat. In turn, Earth has grown warmer, experts say. This could lead to bad weather.

Melting the Ice

There are some signs of global warming. One of the signs is happening in the coldest parts of the world.

Near the North and South poles, vast ice sheets are breaking up.

Earth's glaciers (GLAY-shers) are also melting. A glacier is a huge mass of ice that slowly moves. Experts say some glaciers may vanish by the year 2100.

A Rising Tide

As the ice melts, ocean levels rise. Experts say that levels have risen 4 to 10 inches in the past 100 years. Levels could rise 3 feet in the next 100 years!

High ocean levels might lead to floods along U.S. coasts. Some coastal areas might disappear under water.

That change might also bring more storms. Hurricanes are storms that create high wind and rainfall. They are strongest over water. Higher sea levels might lead to stronger hurricanes on U.S. shores.

Drying Out

In some areas, though, global warming might lead to drier weather. Dry weather often leads to droughts. A drought is a long period of very dry weather.

Droughts hit parts of the country this year. If experts are right, global warming could cause less rain to fall in the Midwest. This would be hard on plant life and people.

Droughts kill off crops. And dried-out plants and trees could lead to wildfires.

What's the Answer?

Scientists say that cutting down on air pollution will slow global warming. One way to lower air pollution is to drive less. Cars cause a lot of pollution. People also need to find cleaner ways to make electricity.

Experts aren't sure about the best ways to stop or slow global warming. But they agree that something must be done. The life of future generations depends on it.

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1. According to the text, what is one negative effect of droughts?

- A. floods
- B. wildfires
- C. storms
- D. pollution

2. In the text, the author describes the problem of global warming. What solution does the author propose for this problem?

- A. The author proposes cutting back on air pollution.
- B. The author proposes melting the glaciers.
- C. The author proposes moving out of some coastal areas.
- D. The author proposes cooling off the Earth.

3. Humans can take action to slow global warming.

What evidence from the text supports this conclusion?

- A. "Scientists say that cutting down on air pollution will slow global warming. One way to lower air pollution is to drive less."
- B. "Some weather changes are due to global warming. Global warming happens when gases in the air trap the sun's energy."
- C. "A glacier is a huge mass of ice that slowly moves. Experts say some glaciers may vanish by the year 2100."
- D. "Droughts hit parts of the country this year. If experts are right, global warming could cause less rain to fall in the Midwest."

4. What does the text suggest?

- A. The droughts in the Midwest will not be difficult for people.
- B. People will drive their cars more in the future and cause more air pollution.
- C. Scientists can definitely know what the weather will be like in 10 years.
- D. There will be big problems in the future if global warming is not stopped.

5. What would be another good title for this text?

- A. How to Predict the Weather
- B. The Weather and You
- C. Weather Problems in the Future
- D. Whether the Weather is Warm or Hot

6. Read these sentences from the text.

Those scientists say the summers will be hotter. They say that warmer, wetter winters are on the way. Severe droughts, floods, wildfires, and storms are also possible. What's the cause of all those **wacky** weather changes?

What does the word "**wacky**" mean?

- A. hot
- B. crazy
- C. rainy
- D. melting

7. Choose the word that best completes the sentence.

Many weather changes are happening _____ humans have caused global warming.

- A. and
- B. although
- C. and
- D. because

8. How have humans caused the Earth's weather changes, according to experts?

9. What signs of global warming might a person in the Midwest be most concerned about?

Weather & Climate

What is Weather?

Now that students know where weather occurs (in the troposphere), they are ready to learn about what weather is. To access student's prior knowledge, I read the book "Cloudy with a Chance of Meatballs." We then talk about the types of weather that occur in the book. After that we complete the Weather KWL chart together to activate their prior knowledge. I then teach students that weather is how the air around us is at a certain time. Weather changes every day. We put motions to this definition to help kids remember it better. As a class we then go outside and talk about how weather can be observed using our senses. I have students complete the "Observing the Weather" sheet while outside. This can lead to a great discussion about local weather conditions, wind, temperature, etc. We talk about how yesterday's weather may be different from today's weather, because weather is always changing. As an extension activity, use this as a graphic organizer for sensory writing.

What is Climate?

After teaching students about weather I move on to teaching them about climate. Climate is the pattern of weather in a place over many years. Climate includes average temperatures and amounts of precipitation. The climate can change, but this takes a VERY long time. I then teach the kids that different places have different climates. We discuss an example of our location's climate. For example: I live in the Midwest. We fully experience all of the seasons. I ask my students, what the temperature is like in the summer, the fall, the winter, and the spring. They can answer these questions with ease. We discuss that we know the summer is hot because our climate follows a pattern and we can always expect this. I also ask them what season has the most rain or storms, which they can easily answer is spring because of the pattern our climate follows. After our discussion, I use the attached PowerPoint to reinforce these ideas.

Weather & Climate Sort

I use the "Weather vs. Climate Sort" as a practice activity and as a way to monitor and assess student learning.

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Observing the Weather

Use your senses to help you observe the weather.
Write and draw to tell what you have observed.

What do you **SEE**?



What do you **HEAR**?



What do you **FEEL**?



What do you **SMELL**?



NAME					Describe the weather in the Morning, Afternoon and the Evening	
Monday	May 11, 2020		Morning			
			Afternoon			
			Evening			
Tuesday	May 12, 2020		Morning			
			Afternoon			
			Evening			
Wednesday	May 13, 2020		Morning			
			Afternoon			
			Evening			
Thursday	May 14, 2020		Morning			
			Afternoon			
			Evening			
Friday	May 15, 2020		Morning			
			Afternoon			
			Evening			