Name: _____ Date: _____

Turning Seawater into Drinking Water

Circle group

Most of Earth's water is in the ocean, but people cannot drink it. Seawater is too salty. Drinking it would make a person sicker. Some dry places near the coast have little fresh water. Some towns take the salt out of seawater. This is called desalination.

One way copies nature. Workers heat the seawater until it turns to steam. The salt stays behind, because only the water rises. When the steam cools, it turns back into drops of fresh water. That is how rain forms, too.

Another way uses a very thin sheet with tiny holes. Water can squeeze through, but salt cannot. Strong pumps push the seawater against the sheet. Fresh water comes out the other side. The salt stays behind.

Both ways have a downside. They use a lot of energy, so the water costs more than river or well water. The leftover salty water is called brine. It must be returned to the sea with care. So many communities try first to save the water they have.

Questions

1. Why can people not drink seawater?

_____

_____

2. What is desalination?

_____

_____

3. What happens to the salt when seawater is heated into steam?

_____

_____

4. How does the second way remove the salt?

_____

_____

5. Why does desalinated water cost more than river or well water?

_____

_____

6. Why do many communities try to save water before building a desalination plant?

_____

_____

Words to know

desalination: the removal of salt from seawater
steam: water that has turned into a gas by being heated
energy: the power needed to make something work or happen
brine: very salty water
communities: groups of people who live in the same area

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Turning Seawater into Drinking Water

Triangle group

Most of Earth's water is in the ocean, but people cannot drink it. Seawater is far too salty, and drinking it would make a person sicker, not better. In some dry places near the coast, though, there is little fresh water to be found. Some towns solve this problem by removing the salt from seawater. The process is called desalination.

One way copies nature. Workers heat the seawater until it turns into steam. The salt is left behind, because only the water rises. When the steam cools, it turns back into drops of fresh water, just as rain forms in the sky.

Another way uses a very thin sheet with holes so tiny that water can squeeze through but salt cannot. Strong pumps push the seawater against the sheet. Fresh water comes out the other side, and the salt stays behind.

Both ways have a downside. They use a lot of energy, so desalinated water costs more than water from a river or well. The leftover salty water, called brine, must also be returned to the sea with care. Because of this, many communities try first to save the water they already have.

Questions

1. Why can people not drink seawater?

_____

_____

2. What is desalination?

_____

_____

3. What happens to the salt when seawater is heated into steam?

_____

_____

4. How does the second way remove the salt?

_____

_____

5. Why does desalinated water cost more than river or well water?

_____

_____

6. Why do many communities try to save water before building a desalination plant?

_____

_____

Words to know

desalination: the removal of salt from seawater
steam: water that has turned into a gas by being heated
energy: the power needed to make something work or happen
brine: very salty water
communities: groups of people who live in the same area

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Turning Seawater into Drinking Water

Square group

Although the greater part of Earth's water lies in the ocean, people cannot drink it. Seawater is far too salty, and drinking it would make a person sicker rather than better. In certain dry regions along the coast, however, fresh water is scarce. Some towns address this shortage by removing the salt from seawater, a process that is known as desalination.

One method imitates nature. Workers heat the seawater until it turns into steam, and the salt is left behind because only the water rises. When the steam cools, it condenses back into drops of fresh water, in much the same way that rain forms in the sky.

A second method relies on a very thin sheet pierced with holes so tiny that water can squeeze through them while salt cannot. Powerful pumps push the seawater against the sheet, fresh water emerges on the other side, and the salt remains behind.

Both methods have a downside. They consume a great deal of energy, which makes desalinated water more expensive than water from a river or a well. The leftover salty water, called brine, must also be returned to the sea with great care. For these reasons, many communities first try to conserve the water they already have.

Questions

1. Why are people unable to drink seawater?

_____

_____

2. What is desalination?

_____

_____

3. What happens to the salt when seawater is heated into steam?

_____

_____

4. How does the second method remove the salt?

_____

_____

5. Why is desalinated water more expensive than river or well water?

_____

_____

6. Why do many communities try to conserve water before building a desalination plant?

_____

_____

Words to know

desalination: the removal of salt from seawater
steam: water that has turned into a gas by being heated
energy: the power needed to make something work or happen
brine: very salty water
communities: groups of people who live in the same area

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

For the teacher: Turning Seawater into Drinking Water

Each student sheet carries a shape, not a level. The same topic and facts, written three ways.

Circle: Turning Seawater into Drinking Water

Easier · 170 words · Flesch-Kincaid grade 3.7

1. It is too salty and would make a person sicker.
2. Taking the salt out of seawater.
3. It stays behind.
4. Pumps push seawater against a thin sheet that lets water through but not salt.
5. Both ways use a lot of energy.
6. Desalination costs a lot and makes salty brine that must be handled with care.

Triangle: Turning Seawater into Drinking Water

This passage · 193 words · Flesch-Kincaid grade 5.6

1. It is far too salty and would make a person sicker.
2. Removing the salt from seawater.
3. It is left behind.
4. Pumps push seawater against a thin sheet that lets water through but not salt.
5. Both ways use a lot of energy.
6. Desalination is costly and makes salty brine that must be handled with care.

Square: Turning Seawater into Drinking Water

Harder · 207 words · Flesch-Kincaid grade 8.1

1. It is far too salty and would make a person sicker.
2. The process of removing the salt from seawater.
3. It is left behind.
4. Pumps push seawater against a thin sheet that lets water through but not salt.
5. Both methods consume a great deal of energy.
6. Desalination is expensive and creates salty brine that must be handled with great care.