Name: _____ Date: _____

The Hidden Water Inside a Cotton Shirt

Circle group

A cotton T-shirt looks dry and light, but a lot of water went into making it. Experts use the term virtual water, or water footprint, for all the water used to grow and make a product. It is called virtual because you cannot see it in the finished item. Counting it helps people see how everyday goods are linked to rivers and aquifers far away.

Most of the water is used in the field. Cotton needs a lot of water, especially in dry places where rain is not enough. Farmers there often irrigate. They pump water from rivers or from underground and spread it over the fields. The plants take up some of the water. A good deal also evaporates from the soil and leaves into the air.

More water is used after the harvest. Mills wash the cotton fibers. Then they spin the fibers into thread and weave or knit the thread into cloth. Dyeing and finishing the cloth need water too. The wastewater must be cleaned before it is let go, so it does not pollute a river.

This does not mean people should never buy clothes. It shows where choices matter. Wearing a shirt longer, mending it, passing it on, or washing it only when needed all mean fewer new shirts. Some farmers use drip irrigation. It gives small amounts of water right to the roots and wastes less. Virtual water shows that saving water is not only about turning off the tap. It is also about the things we buy.

Questions

1. What is virtual water?

_____

_____

2. Where is most of the water used for a cotton shirt?

_____

_____

3. What happens to cotton at the mills?

_____

_____

4. Why is it called virtual water?

_____

_____

5. How does wearing a shirt longer save water?

_____

_____

6. Why does drip irrigation waste less water?

_____

_____

Words to know

virtual: real in effect but not something you can see
footprint: the total amount of something a product or person uses
aquifers: layers of underground rock or sand that hold water
irrigate: to bring water to crops through pipes or ditches
evaporates: turns from liquid into a gas that rises into the air

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: _____

The Hidden Water Inside a Cotton Shirt

Triangle group

A cotton T-shirt looks dry and lightweight, but a large amount of water went into making it. Experts use the term virtual water, or water footprint, for all the water used to grow, process, and produce a product. It is called virtual because you cannot see it in the finished item. Counting it helps people understand how everyday goods connect to rivers and aquifers far away.

The biggest share is used in the field. Cotton is a thirsty plant, especially in dry regions where rain alone is not enough. Farmers there often irrigate, pumping water from rivers or underground and spreading it over the fields. Some of the water is taken up by the plants, and a good deal evaporates from the soil and leaves into the air.

More water is used after the harvest. Mills wash the cotton fibers, spin them into thread, and weave or knit the thread into cloth. Dyeing and finishing the cloth require water too, and the wastewater must be cleaned before it is released so that it does not pollute a river.

The idea does not mean people should never buy clothing. It simply shows where choices matter. Wearing a shirt longer, mending it, passing it on, or washing it only when needed all reduce the demand for new ones. Some farmers use drip irrigation, which delivers small amounts of water right to the roots and wastes less. Understanding virtual water helps shoppers see that saving water is not only about turning off the tap. It also involves the things we buy.

Questions

1. What is virtual water?

_____

_____

2. Where is the biggest share of the water used for a cotton shirt?

_____

_____

3. What happens to cotton at the mills?

_____

_____

4. Why is it called virtual water?

_____

_____

5. How does wearing a shirt longer save water?

_____

_____

6. Why does drip irrigation waste less water?

_____

_____

Words to know

virtual: real in effect but not something you can see
footprint: the total amount of something a product or person uses
aquifers: layers of underground rock or sand that hold water
irrigate: to bring water to crops through pipes or ditches
evaporates: turns from liquid into a gas that rises into the air

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: _____

The Hidden Water Inside a Cotton Shirt

Square group

A cotton T-shirt appears dry and lightweight, yet an impressive amount of water was needed to make it. Experts use the term virtual water, or water footprint, to describe all the water that is used to grow, process, and produce a product. It is called virtual because the water cannot be seen in the finished item. Counting it helps people understand how ordinary goods are connected to rivers and aquifers located far away.

The largest share is consumed in the field. Cotton is a thirsty plant, particularly in dry regions where rainfall alone is not sufficient. Farmers in those regions often irrigate, pumping water from rivers or from underground and spreading it across their fields. Some of the water is absorbed by the plants, and a considerable amount evaporates from the soil and the leaves into the air.

Additional water is needed after the harvest. Mills wash the cotton fibers, spin them into thread, and then weave or knit the thread into cloth. Dyeing and finishing the cloth require water as well, and the wastewater must be cleaned before it is released so that it does not pollute a river.

The idea does not suggest that people should never buy clothing. It simply reveals where choices make a difference. Wearing a shirt for a longer time, mending it, passing it on, or washing it only when necessary all reduce the demand for new ones. Some farmers use drip irrigation, which delivers small amounts of water directly to the roots and wastes far less. Understanding virtual water helps shoppers recognize that saving water is not only a matter of turning off the tap. It also involves the things we choose to buy.

Questions

1. What is virtual water?

_____

_____

2. Where is the largest share of the water used for a cotton shirt consumed?

_____

_____

3. What happens to cotton after the harvest at the mills?

_____

_____

4. Why is it called virtual water?

_____

_____

5. How does wearing a shirt for a longer time save water?

_____

_____

6. Why does drip irrigation waste less water?

_____

_____

Words to know

virtual: real in effect but not something you can see
footprint: the total amount of something a product or person uses
aquifers: layers of underground rock or sand that hold water
irrigate: to bring water to crops through pipes or ditches
evaporates: turns from liquid into a gas that rises into the air

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: The Hidden Water Inside a Cotton Shirt

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

Circle: The Hidden Water Inside a Cotton Shirt

Easier · 255 words · Flesch-Kincaid grade 5.3

1. All the water used to grow and make a product.
2. In the field where the cotton is grown.
3. The fibers are washed, spun into thread, and woven or knit into cloth.
4. You cannot see it in the finished item.
5. Fewer new shirts are needed, so less water is used to make them.
6. It gives small amounts of water right to the roots.

Triangle: The Hidden Water Inside a Cotton Shirt

This passage · 259 words · Flesch-Kincaid grade 7.6

1. All the water used to grow, process, and produce a product.
2. In the field, where the cotton is grown.
3. The fibers are washed, spun into thread, and woven or knit into cloth.
4. You cannot see it in the finished item.
5. Fewer new shirts are needed, so less water is used to make them.
6. It delivers small amounts of water right to the roots.

Square: The Hidden Water Inside a Cotton Shirt

Harder · 282 words · Flesch-Kincaid grade 8.9

1. All the water used to grow, process, and produce a product.
2. In the field, where the cotton is grown.
3. The fibers are washed, spun into thread, and woven or knit into cloth.
4. The water cannot be seen in the finished item.
5. Fewer new shirts are needed, so less water is used to make them.
6. It delivers small amounts of water directly to the roots.