

Unit T4 • Designing a Fair Test

SCENE: DEBATE AFTER THE RACE

Setting: Gregory pushed the door hard as he walked out of school. It had not been a good day. There had been a contest to figure out who was the best runner in the school. He had been sure that he would win, but he had lost to Evan. His friends Angelina and Monique were waiting for him when he came out the door.

Angelina: Why are you so mad about losing? Get over it. You lost.

Gregory: That contest was not **fair**!

Angelina: What do you mean “not **fair**?” You ran a race and you lost.

Gregory: But that’s just it. I only got to run one race. I know I’m faster than Evan. He knows it too. If I had a chance to run again, I’m sure I’d beat him.

*Monique was quiet. She had watched the race and was thinking about whether Gregory might have won if he had done multiple **trials**.*

Monique: I don’t know if you would have won if you got to run more than once. Evan ran pretty fast.

Gregory: I also had to run right after lunch. Everyone knows you never run your fastest right after eating. Evan had lunch an hour earlier!

Monique: Okay, I guess I can see how lunch might change how fast you can run.

*While Monique agreed that eating lunch was a **variable** in the race, Angelina didn’t think it was why Gregory lost.*

Angelina: You can’t say lunch was the problem. Maybe some people run faster after lunch because they have more energy. You lost. Stop whining.

Gregory: Oh come on. Evan also had on brand new sneakers. I just have my old ones. How is that **fair**?

Angelina: You both ran the same distance. He crossed the finish line before you. Finish lines don’t lie.

*Monique agreed that using the finish line was an **objective** way to figure out who was fastest, but she thought Angelina was being too tough on Gregory.*

Monique: Gregory, you seem to think lots of things about this contest were unfair. What would you do differently?

Gregory: I just think the whole **process** is wrong. The way that they choose the BEST runner shouldn’t come from only one race. Things have to be more **fair**. There need to be some more rules.

Angelina: Like what? How are you going to make the contest better?

*Gregory thought for a while. There had to be a way of **controlling variables** in the contest to make sure it actually tested who was the best runner in the school.*

Gregory: Everyone should have to run in the morning. No one should get to wear brand new clothes or special shoes for running. I think things like that would make it more **fair**.

Angelina: I guess you have a point. Saying something is the best doesn’t make a lot of sense unless the test is **fair**. Maybe next year you can see if the teachers will change some of the rules.

You may hear a younger brother or sister say “that’s not **fair**” when a parent allows an older child to attend an event late at night. This use of the word “**fair**” is subjective (not **objective**) and cannot be tested.

In science class, we use the word “**fair**” in a different way. To be **fair**, we measure and/or test something using a specific **process** in order to get as close to the truth as possible. For example, if we want to find out if water or alcohol evaporates faster, we would **control variables** such as the amount of liquid, the shape of the containers, and where they are placed in the sun.