Scalar Multiplication of Vectors

Today's Standard

HSN.VM.B5 - (+) Multiply a vector by a scalar.

Real-World Applications for this Standard

Physics: Calculating force vectors.; Engineering: Scaling vectors for design models.; Computer Graphics: Transforming images.; Economics: Adjusting economic models.; Robotics: Controlling movement vectors.

Today I Learned

Today, we learned about multiplying a vector by a scalar. This means making the vector longer or shorter without changing its direction.

Common Stumbling Blocks

Some kids think multiplying a vector by a scalar changes its direction, but it doesn't. Others think it changes each part of the vector differently, but it changes all parts the same way.

Quiz Me

- What happens when you multiply a vector by a scalar?

- Does the direction of the vector change?

- What changes when you multiply a vector by a scalar?

- Can you give an example of a real-world use of this?

- What is a common mistake kids make about this?

Help Me

Multiplying a vector by a scalar means making it bigger or smaller in the same direction. Imagine making a toy car move faster or slower but still in the same line.