Name: _____ Date: _____

What Sixty Miles an Hour Really Means

Circle group

A speed like 60 miles per hour is called a rate. A rate compares two different things. Here they are miles and hours. The word per means "for each." So 60 miles per hour means that in each hour of driving, a car goes 60 miles.

Rates let you do handy math. If a car keeps that speed for 1 hour, it goes 60 miles. In 2 hours, it goes 120 miles. In half an hour, it goes 30 miles. You can write a rule. Distance equals speed times time.

The rule can work backward, too. Say a family must drive 150 miles. They expect to go 50 miles per hour. Divide the distance by the speed. 150 divided by 50 is 3. The trip should take about 3 hours.

Real trips are not so neat. A car slows down in town. It stops at lights. It speeds up on the open road. Its speed changes all the time. That is why the speedometer needle moves. So a trip planner uses the average speed. That is the total distance divided by the total time. A drive of 150 miles that takes 3 hours has an average of 50 miles per hour. The car may never go exactly that fast.

Questions

1. What does 60 miles per hour mean?

_____

_____

2. How far does a car go in half an hour at 60 miles per hour?

_____

_____

3. What is the rule for finding distance?

_____

_____

4. How long should a 150 mile trip take at 50 miles per hour?

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_____

5. Why do trip planners use average speed?

_____

_____

6. Why does the speedometer needle move?

_____

_____

Words to know

rate: a comparison of two different kinds of things, such as miles and hours
distance: how far it is from one place to another
average: a middle amount found by adding up and dividing
speedometer: a dial in a car that shows how fast it is going

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: _____

What Sixty Miles an Hour Really Means

Triangle group

A speed such as 60 miles per hour is called a rate. A rate compares two different things, here the miles traveled and the hours that pass. The word per means "for each." So 60 miles per hour means that for each hour of driving, a car covers 60 miles.

Rates let you do some handy math. If a car holds that speed for 1 hour, it goes 60 miles. In 2 hours, it goes 120 miles. In half an hour, it goes 30 miles. You can write this as a rule: distance equals speed times time.

The rule can also work backward. Suppose a family needs to drive 150 miles and expects to go 50 miles per hour. Divide the distance by the speed, and 150 divided by 50 gives 3. The trip should take about 3 hours.

Real trips are not so tidy. A car slows down in town, stops at lights, and speeds up on open highway. Its speed changes all the time, which is why the speedometer needle moves. So a trip planner uses the average speed, which is the total distance divided by the total time. If a drive of 150 miles takes 3 hours, the average is 50 miles per hour, even if the car never held exactly that speed.

Questions

1. What does 60 miles per hour mean?

_____

_____

2. How far does a car go in half an hour at 60 miles per hour?

_____

_____

3. What is the rule for finding distance?

_____

_____

4. How long should a 150 mile trip take at 50 miles per hour?

_____

_____

5. Why do trip planners use average speed?

_____

_____

6. Why does the speedometer needle move during a drive?

_____

_____

Words to know

rate: a comparison of two different kinds of things, such as miles and hours
distance: how far it is from one place to another
average: a middle amount found by adding up and dividing
speedometer: a dial in a car that shows how fast it is going

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: _____

What Sixty Miles an Hour Really Means

Square group

A speed such as 60 miles per hour is known as a rate. A rate compares two different kinds of quantities, in this case the miles that are traveled and the hours that go by. The word per means "for each," so 60 miles per hour indicates that during each hour of driving, a car covers 60 miles.

Rates make some useful calculations possible. If a car maintains that speed for 1 hour, it travels 60 miles. In 2 hours, it travels 120 miles, and in half an hour, it travels 30 miles. These examples can be summarized in a single rule, which states that distance equals speed multiplied by time.

The same rule can also be used in reverse. Suppose a family needs to drive 150 miles and expects to average 50 miles per hour. By dividing the distance by the speed, they discover that 150 divided by 50 equals 3. The journey should therefore take about 3 hours.

Real journeys are rarely so tidy. A car slows down in towns, halts at traffic lights, and accelerates on the open highway, so its speed fluctuates constantly, which is why the speedometer needle keeps moving. For that reason, a trip planner relies on the average speed, which is the total distance divided by the total time. If a drive of 150 miles takes 3 hours, the average is 50 miles per hour, even if the car never held exactly that speed.

Questions

1. What does a speed of 60 miles per hour mean?

_____

_____

2. How far does a car travel in half an hour at 60 miles per hour?

_____

_____

3. What rule can be used to find the distance?

_____

_____

4. How long should a 150 mile trip take at an average of 50 miles per hour?

_____

_____

5. Why does a trip planner rely on average speed?

_____

_____

6. Why does the speedometer needle keep moving during a drive?

_____

_____

Words to know

rate: a comparison of two different kinds of things, such as miles and hours
distance: how far it is from one place to another
average: a middle amount found by adding up and dividing
speedometer: a dial in a car that shows how fast it is going

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: What Sixty Miles an Hour Really Means

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

Circle: What Sixty Miles an Hour Really Means

Easier · 192 words · Flesch-Kincaid grade 2.2

1. In each hour of driving, the car goes 60 miles.
2. 30 miles.
3. Distance equals speed times time.
4. About 3 hours.
5. A car's speed keeps changing, so one average number is easier to plan with.
6. The car speeds up and slows down on the trip.

Triangle: What Sixty Miles an Hour Really Means

This passage · 199 words · Flesch-Kincaid grade 3.9

1. In each hour of driving, the car covers 60 miles.
2. 30 miles.
3. Distance equals speed times time.
4. About 3 hours.
5. A car's speed changes all the time, so one average number is easier to plan with.
6. The car speeds up and slows down for towns, lights, and open highway.

Square: What Sixty Miles an Hour Really Means

Harder · 224 words · Flesch-Kincaid grade 7.4

1. During each hour of driving, the car covers 60 miles.
2. 30 miles.
3. Distance equals speed multiplied by time.
4. About 3 hours.
5. A car's speed fluctuates constantly, so a single average is simpler to plan with.
6. The car slows down in towns, halts at lights, and accelerates on the open highway.