

I N V E S T I G A T E !

12-1 Average Speed

Lab Preview

1. What four events will you be timing? _____

2. What will you use to time each test? _____

Have you ever wondered what your average speed is when you walk? Do the Investigate activity to find your average walking speed.

PROBLEM

What is your average speed when walking?

MATERIALS

- meterstick
- masking tape
- stopwatch

WHAT TO DO

1. To find your average speed, you need to know the distance traveled and the length of time you walked. In your group, develop a plan to determine the average walking speed of each member of your group using the materials you were given.

2. In the space provided, prepare a data table to record your observations and copy it *in your Journal*. Be sure to include a space for the calculated average speed.
3. When your plan has been approved by your teacher, carry it out and record your data. Be sure that every member of your group has a chance to do each job.
4. Test other forms of motion such as running, walking backward, and hopping on one foot.
5. Calculate the average speed for each event for each group member.
6. Calculate the average of the average speeds for each event by adding all the individual average speeds together. Then divide by the number of group members.

DATA AND OBSERVATIONS

Investigate 12-1 (continued)

ANALYZING

1. During which event did you have the greatest average speed? _____

2. What units did you use for average speed? _____
3. Does the average speed describe how you moved at each moment during the event? Why or why not? _____

4. Why could you only calculate your average speed? _____

CONCLUDING AND APPLYING

5. If you had stopped for a while when performing any of the events, how would this affect your average speed for that event? _____

6. **Going Further:** Predict whether there would be a difference between the average walking speed of a short person and a tall person. *In your Journal*, write a plan for how you would test your prediction. _____

