



Migrating Math

Grade Level: 5 – 8 (can be modified to accommodate younger/older students)

Subject: physical education with math, social science

Objective: To practice estimating distance traveled while walking. Also can be used to introduce backpacking/hiking or as a daily warm-up.

Materials Needed: yardstick or tape measure, paper & pencils, toothpicks

Physical activity: Endurance, walking

Description

Measure the blacktop/cafeteria/playground, then determine how many times around make a mile.

Introduce to the class by asking students to estimate how far they think they can travel in 1/2 hour. Ask students to write these estimates down on a piece of paper you provide. Have students walk or run for 1/2 hour keeping track of how many laps they walk. You or a student who is not participating can hand out toothpicks to students every time they walk one lap. Tell the students the toothpicks are used to help them keep track of laps.

After 30 minutes, have the students calculate how far they walked by multiplying the number of laps by the distance of each lap. Use fractions of miles instead of feet for distance of each lap. For example, "1 lap = 1/10 mile".

On their paper, have students calculate how far they could walk in one day. (Have students estimate how many hours they would/could walk and subtract rest stops and meals.)

Teaching Suggestions:

Integrate this lesson with migration of settlers for social studies. Research each state as you "walk" through it. Have students write about their trip, what they saw, heard, felt, etc.

Variations:

Have students set distance goals by writing daily, weekly, monthly, and entire school year goals and turning them in.

Have students walk each day and record how many miles they accumulate during the school year.

Use heart rate monitors to help estimate caloric expenditure.

Accumulate all students "miles" and show on U.S. map total distance covered by class/school until they have walked across the continent.

Calculate how many days/months it would take to walk across the continent. Research each state as you "walk" through it. Have students write about their trip, what they saw, heard, felt, etc.

Repeat the lesson while students wear backpacks filled with their school supplies. Measure how far they could walk with backpacks filled with books/supplies. How many days would it take to walk from one place to another loaded/unloaded?

Assessment Ideas:

Have students write about this experience. This could be their real, personal feelings about the "trip" or a fantasy story about walking across the states.

Have students set goals for how far they want to walk during the school year/unit.

Adaptations for Students with Disabilities:

Students with disabilities can fully participate in this lesson. In wheelchairs or with walkers, they calculate distance traveled the same way as the rest of the class