SO HOW LONG WOULD IT TAKE TO WALK AROUND THE WORLD?

CALCULATE YOUR <u>WALKING PACE</u> in KM/H!

Pace is defined as "an established rate of locomotion". A person's walking pace depends on the length of his/her legs, flexibility in his/her hips, his/her agility, fitness, and energy levels and on his/her personal preferences. Some people like to stroll, and others walk briskly. *What about you?* Do you head straight to the finish line or do you like to explore along the way?

For this activity, you will need: **string; scissors; masking tape; three sticks about 30cm in length; a stop-watch; a notebook and pen or pencil.** Read through the instructions below to see which of the above materials you will need to take with you to the field.

TEAM UP WITH A FRIEND AND MEASURE YOUR PACE

- Since each step you take is not exactly the same, your job is to find the *average*. The average speed that it takes you to cover a distance is also known as your "pace".
- Be sure not to walk too quickly – your goal is to estimate a pace that you can keep up for a very long walk.
- If you have extra time, try measuring your partner's and your own pace using different ways of moving: tiptoeing, running, leaping, crawling!

ESTIMATE AND CALCULATE

- Once you know your pace, you can estimate   how long it would take you to walk all the way around the world.

- Normally, of course, you would have to allow time for eating, sleeping, and perhaps a little sightseeing. Today, try figuring out how long it would take you if you could do it all in one go.

BEFORE YOU START

Divide the class in to pairs. Have the students decide who will be partner "Partner A" and who will be "Partner B".

Cut a piece of string to measure 50 metres. (If you are doing this activity indoors, or in a confined space, you can measure out a shorter amount in metres.)

IN THE FIELD – gather measurement data

1. Place the string onto the ground in a long line. Have Partner A secure one end to the ground. (With masking tape, if you are inside. If you are working outside on a field, attach the

string to one of the sticks with masking tape, and stick it into the ground.) Partner A should hold onto his/her end, while partner B stretches the string just until it is straight. Have Partner B attach the other end to the ground. If you are on a grassy field, put the third stick into the ground about halfway down the string, to mark where it is.

2. Choose which partner is going to walk first. Whichever student is not walking first will be the first timekeeper.
3. **Walker #1**: Walk the length of the string three times. Be sure not to walk too quickly – your goal is to estimate a pace that you can keep up for a very long walk.
   Timekeeper #1: Time how long it takes for EACH trip the walker takes. Mark down your partner's time in seconds at the end of each trip. Complete this three times. Now, switch roles and repeat.
4. If you have extra time, try measuring your pace using different ways of moving: tiptoeing, running, leaping, crawling.

BACK IN THE CLASSROOM – calculate your speed in km/h

With the information collected in the field, now you can calculate your walking pace. First, calculate the AVERAGE of the three trips you took along the string.

    A. Add the three speed totals together and divide by three.

        My average time was _____ seconds.

Now let's find out the average **pace** at which you walk.

    B. Divide the length of the string in metres by the average time calculated from above.

        I can cover _____ metres in one second.

    C. There are one thousand metres in a kilometre. Divide the answer from B by 1000 to find the answer below.

        I can cover _____ kilometres in one second.

> *We're learning how to use measurement to find out an established rate of locomotion – the "pace" at which you walk.*
>
> How would you figure out the average length of one footstep? Would you like to know how many footsteps it would take you to travel around the world?

    D. There are 3600 seconds in an hour. Multiply the answer from C by 3600 to find out your speed in km/hr

        I walk at an average pace of _____ km/h.

    E. It's time to calculate how long it would take you to walk around the world! Using David Kunst's distance of 23 250 km, calculate how long it would take you to walk around the world. Use your <u>walking pace in km/h</u>.