

Mathematizing the Beach

So much of a student's success in math is based on their ability to develop personal benchmarks and use those benchmarks to estimate measurement in school and the world around them. A personal benchmark is a physical reference for a unit of measure. For example, the width of your pinky finger is about a centimetre. It must be gained through experience! Once students have a sense of personal benchmarks, they can use these benchmarks to estimate. Parents can help students develop these benchmarks within everyday contexts by asking questions like: Do I have enough sugar to make cookies? Will this wrapping paper cover the box? Will my car fit into the parking space?

Let's illustrate how you might help your child develop personal benchmarks using the example of a trip to the beach.

How long do you think it will take us to get to the beach?

What increments of time are key for kids? Do they have a sense of a minute, 15 minutes, half an hour or an hour? We take it for granted that children have this sense. Car rides are a great opportunity for children to get a better sense of time.



What do you think is the temperature today?



If children know that water freezes at 0 degrees Celsius and it boils at 100 degrees Celsius, can they estimate the temperature on a "hot" day? Did you know that

"burning hot" sand can be 50 degrees Celsius?

How much water will this container hold? How much does it weigh?

A really important benchmark connection is that *a litre of water has a mass of one kilogram.*

Once a child has made this connection there are many opportunities to explore them at the beach. For example:

- How many litres of water will fill your pail?
- What is the mass of the pail?
- Can you find something with a mass of one kilogram?



How long is a kilometre?



The beach provides an ideal opportunity to develop a personal benchmark for a kilometre. You could use an app on your phone to keep track of distance. Pick a visual marker as a start point, walk a

kilometre, and then look back! We did it!

So, the next time you are planning on heading to the beach - use the opportunity to help your child build personal benchmarks.

On rainy days, try some of the activities at the link below:

<http://www.estimated180.com/>