

# JURASSIC RACE: A COLLABORATIVE PEDAGOGICAL ACTIVITY BETWEEN PALEONTOLOGISTS, MATHEMATICS AND SCIENCE EDUCATION TEACHERS

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Collaboration between scientists and educators is crucial to didactical transposition and dissemination of scientific knowledge. Profiting the appeal of dinosaurs in students to the benefit of teaching science and mathematics, we present the activity “Jurassic Race” and the collaborative work between a paleontologist, a mathematics teacher and a science education teacher, developed within a context of teacher education. The work was organized according to an inquiry strategy and the 6E teaching model.

The activity started with an engage moment, in which students participated in a fieldwork in Lourinhã, followed by a visit to Museu da Lourinhã and/or Dino-Parque Lourinhã. Afterwards, in an explain moment, attended to a conference given by a paleontologist. Having as a background the study of methods used by paleontologists in reconstruction of history of life on earth, students were placed before a simulated theropod trackway recreated in school yard. The question raised was: How fast did the dinosaur move? In an explore moment, students had to collect and exchange data of bipedal biodynamics, discuss ideas, construct and use mathematical models to answer the problem, such as Alexander’s formula to estimate height to the hip and running velocity in bipedal dinosaurs based in tracks measurements. In an elaborate moment, students visited the theropods trackway in Vale de Meios, from the Middle Jurassic, and collected evidence of theropod foot structure and locomotion. This successful educational collaboration between a paleontologist and science educators led to the development, testing and publication of a teacher’s guide of the activity.