

## Opportunities for Application of the Material in competence-oriented Teaching:

1. Based on the construction task wonder how the running characteristics of the object could be improved. Draft and check measures for rising speed.
2. Build up the model racer freely or with help of the instruction (according to previous technical knowledge and motor abilities). Construction of the racer is possible in individual, partnership or group work.
3. Record and evaluate the experiences from construction of the work piece and the student material and test the terminated object in the group.
4. More work pieces with electric drive and simple mechanics (for this see OPITEC Model "Vehicle with Dynamo Drive" no. 114848, OPITEC Model "Quad with Electric Gear Motor" no.114044).
5. At the end of the construction task test the finished racer in self-monitoring and competition modus. Travel time for distance AB can be measured using different devices (stopwatch, smartphone).

Options for extension: visit a technical museum. Use, understand and explain the transmission of a bicycle as an option for application at different topics (chainrings, sprockets).

## Background: Technical Education

In the sense of successful technical education it is important for the children to express their previous knowledge by means of presumptions and illustrate them by drawings. After realization of the task these assumptions are compared with the results and evaluated. Own suggestions for the solution should be preferred to predetermined ones, therefore the instruction is only one possibility for successful construction and extension option of the racer. Variations as well as trial and error are explicitly desired as also the acquirement of knowledge by achieving different speeds for the vehicle. Therefore the racer work piece can be completed with further OPITEC materials.