

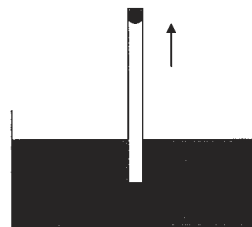
# Physics Challenges for Teachers and Students

*A Worldwide Problem-Solving Contest*



## ► Wet Behind the Ears (J4)

A thin vertical uniform wooden rod is pivoted at the top and immersed in water as shown. The pivot point is slowly pulled up. At a certain moment, the rod begins to deflect from the vertical. What fraction of the rod is still in the water at that moment if the density of the rod is one-half of the density of water?



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### Submission Guidelines:

The deadline for submitting solutions to this problem is Feb. 5, 2005.

- only email submissions will be considered;
- email your solutions to Boris Korsunsky at [korsunbo@post.harvard.edu](mailto:korsunbo@post.harvard.edu);
- please email the solutions as Word files;
- please email *each solution* as a separate file;
- note that each problem, in addition to a very clever title, has a code such as J1. Please name each file as “problem code-first initial-last name.” For instance, “J1DVader” if your name is Darth Vader and you are sending the solution to problem J1;
- please state your name, hometown, and professional affiliation in each file.

We look forward to your (and your students’) participation.

### Please send correspondence to:

Boris Korsunsky  
[korsunbo@post.harvard.edu](mailto:korsunbo@post.harvard.edu)

The next Challenge problem will be posted online Feb. 7.