I602

A STUDY ON THE EFFECT OF A MOLECULAR MOVEMENT BASED INSTRUCTION ON UNDERSTANDING OF DIFFUSION AND OSMOSIS AND ON SCIENTIFIC ATTITUDE

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Students' conceptions of diffusion and osmosis were identified, and a molecular movement model of osmosis was developed and the effect of the use of the model in instruction on increase of understanding and on scientific attitude was studied.

Students of two high school science classes learned the concepts through the model, and two other classes learned the concepts without the model. A conception test and a scientific attitude inventory were administered about one week before and after every instruction.

The result showed that the instruction with the model was significantly more effective than the instruction without the model on prediction and explanation of osmosis and on scientific attitude. The result also showed that the teachers influenced students' understandings of the concepts negatively by focusing students' attention on only a part of the phenomena, and by giving incorrect explanations to them.

I603

과학교재로서의 바나나의 활용

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연중 비싸지 않은 값으로 쉽게 구할 수 있는 바나나를 초·중·고등학교에서 과학(생물학)교재로서 활용하면 학습효과를 더욱 높일 수 있겠기에, 세포와 도관등 형태적 관찰의 실제와 영양분 검출과 효소의 작용 실험등 학습교재로 활용할 수 있음을 검증 이에 보고한다.