

New Product Introduction

Innovating Science™ by Aldon Corporation

“cutting edge science for the classroom”

STEM Investigations: Biomaterials to Make Your Own Contact Lenses

IS3402

Engineers play an integral role in the process of finding a “perfect” material or ratio of materials to maximize the desired properties and decrease the amount of negative effects of other properties. For example, when developing the perfect material for use in contacts, an engineer will have to test many different materials before finding the right one. Therefore, testing a hydrogel, which is favorable for all three of the main properties needed for a contact lens to function properly seems to be logical.



A hydrogel is a polymer similar to the plastic, which has favorable optical properties and favorable flexibility/strength but like paper and glasses/ceramics, it is hydrophilic, which is necessary for a contact lens to function properly. The main job of a biomedical engineer developing contact lenses today is to make a hydrogel and find the perfect “ratio” of polymer to water so that the composition of the hydrogel is hydrophilic enough to maintain a wet environment in the eye but not too hydrophilic so that the contact begins to swell and change size and shape. Students will engineer the using 2 different materials the correct material and concentration that has similar properties as a contact lens while discovering the correct optical properties, tensile strength and hydrophobicity. Kit contains enough materials for 15 groups. Teacher’s Manual and Student Study Guide copymasters are included.

Kit Includes:

300g	Gelatin Powder	15 pieces	Zinc Metal
15	Plastic Pipettes	45	Petri Dishes
1pkg	Glass Cover Slips	15 pieces	Chromatography Paper
15	Plastic Microscope Slides	15	Glass Microscope Slides
1pkg	Toothpicks	1 bar	Soap

DOT Info:
Non-regulated



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