

“cutting edge science for the classroom”

Urinalysis Using Simulated Urine

Urinalysis, one of the oldest medical diagnostic tests performed, is to this day still one of the most common. In this activity, students will use simulated urine to avoid the unpleasantness of using the real thing while still performing actual tests used on real urine samples. Students will examine the simulated urine for pH, color, clarity, and the presence or absence of proteins, glucose, and calcium. The samples can then be examined microscopically to determine if crystals may be present in any of the samples.



S98668A \$60.75

**BEST
SELLERS!**

DNA Extraction

In this lab you will learn the history of the discovery of DNA and DNA structure. Understand the nature of genetic inheritance and the role of DNA and proteins in genetic expression while using biological detergents, enzymes, and ethanol to isolate DNA from plant material. You need to supply the plant material.

S98659 \$37.03



Kidneys and Blood Filtration

Learn the role of the kidney in blood filtration and waste removal along with the many functional tasks performed by nephrons, as well as nephron structure. Students will create an artificial kidney model to filter simulated blood. This will allow them to visually determine if filtration of the simulated blood may or may not have occurred. Chemically test the resulting filtrate to detect any possible waste material that may have been removed by the kidney. Kit contains enough materials for 15 groups.

S98651 \$49.00



Enzymes and the Process of Digestion

All the food in the world is of no use if the human body does not have the ability to extract necessary nutrients from it. With this activity, students will be able to expose three nutrients (carbohydrates, proteins, and lipids) to different digestive enzymes. These samples will be compared to nutrients to which no enzymes are added and chemical tests will be used to determine if the enzymes were effective in digesting the compounds. Upon completion, students will not only understand the importance of the digestive system but also the vital role enzymes play in releasing nutrients from food and converting them to a form usable by the body.



**S05800
\$61.50**



Osmosis and Diffusion Lab

S98658A

\$51.50

This lab allows you to learn about two forms of passive transport: diffusion and osmosis. You will compare and contrast similarities and differences in the processes of diffusion and osmosis. Use a colorimetric test to demonstrate the movement of a solute across a semi-permeable membrane. Set up an environment likely to facilitate osmosis and gather data to determine whether or not osmosis may have occurred.



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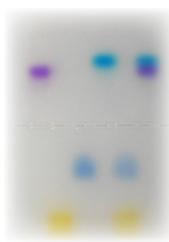
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Electrophoresis: Agarose Gel Separation of Dyes

Introduce your students to this valuable separation science in a safe and colorful manner. Unlike DNA and other molecules which cannot be seen during electrophoresis, this activity uses dyes that can be observed during the actual procedure, providing visual reinforcement of the forces driving molecular movement and separation in the electrophoresis process. Kit contains enough materials to run ten 20ml agarose gels (actual number of runs may vary based on your equipment). Not included but required are agarose electrophoresis chambers, electrophoresis power supplies and micropipettes capable of measuring 10µl.



S05801 \$45.00

Cellular Respiration: What Sugar Does Yeast Like Best?

In this experiment you will expose living yeast cells to three different sugars. The sugars used will be glucose, sucrose, and lactose. When living yeast cells are exposed to these sugars, the cells should begin to utilize the sugars as a food source if they are capable of metabolizing them. Upon using the sugars, the yeast cells will begin to engage in aerobic respiration and/or fermentation. This lab allows students to understand that yeast may use different options for energy production. Students will expose living yeast cells to three different potential food sources and use a pH indicator to indirectly determine the effectiveness of three different sugars as a food source for yeast.

S05881



\$33.50



Testing Food For Nutrients

This experiment will help students understand the importance of proteins, carbohydrates, and lipids in living organisms. They will learn to identify a positive test result for proteins using biuret reagent and examine the reaction between Benedict's reagent and a simple sugar. Using iodine/potassium iodide they will test for the presence of starch and test for the presence of lipids using a fat-soluble dye.

**S05985
\$59.00**

Introduction to Mendelian Genetics

In this activity, students can simulate Mendel's work and determine patterns of inheritance. Using special chips and Innovating Science's exclusive "double dice," students will be able to simulate both monohybrid and dihybrid crosses. After the crosses, students will be able determine genotypic and phenotypic ratios for select traits and compare their values to the theoretical "ideal" values as put forth by Mendel.



S05882 \$60.75

Chromatography of Plant Pigments

Chlorophyll is the most prevalent and well-known plant pigment related to photosynthesis. It is not, however, the only plant pigment necessary for photosynthesis to occur. Other pigments are involved in the process. These pigments are often overlooked as they tend to be masked by the abundance of the green pigment chlorophyll. In this activity, students will extract the various pigments from green plant material and separate the pigment using chromatography. Students will not only confirm the presence and learn the role of these "hidden" pigments but also learn about chromatography as a technique for separating molecules.



S06970 \$49.00

Each kit contains:

- Enough materials for 15 groups
- Teacher's Manual
- Student Study Guide copymasters



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