TITLE:

Blood Typing Lab

PREPAREDBY:

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DCPS STANDARDS:

7.7.7

Know that antibodies produced in response to an invader can remain for long periods in the system and can fight off subsequent invaders of the same kind.

GOALS:

1. Scholars will apply knowledge of antibodies and antigens.

2. Scholars will visualize antibody-antigen binding

OBJECTIVES:

1. Scholars will perform blood typing using a kit from NeoSci

2. Scholars will determine blood type of an unknown sample by using NeoSci antisera

3. Scholars will analyze results of blood typing experiment

PREREQUISITE KNOWLEDGE:

Prerequisite knowledge is provided in the kit. Students will receive copies of this material.

ESSENTIAL QUESTIONS:

1. How do we determine a person's blood type?

2. Why is it important to know your blood type?

LABORATORY MATERIALS:

Unknown blood samples (provided)

Antisera (provided)

stirring sticks (provided)

transfer pipettes

plastic mixing cards (provided)

ACTIVITY

Students have received lectures on antibodies and antigens as they relate to blood type. This laboratory will give them an opportunity to apply that knowledge. Students will be provided with a typing card with wells for A, B, and Rh antisera. Neo-blood will be dropped into each of the cards with three different blood types in each group of three. The students will add 5 drops of antisera to the blood provided and mix with stirring sticks. They will record whether there was agglutination in each well on a provided worksheet. In the interpretation region, the students will insert the blood type that they have.

DIFFERENTIATING INSTRUCTION:

English Language Limited students should have no problems with this activity.

RATIONALE:

This activity is designed to allow visualization of the interactions between antibodies and antigens on the surface of the red blood cell. Students will use the concept of antigen and antibody interactions in later courses in biology and it will increase their understanding of overall health.

EVALUATION AND ASSESMENT:

The students will be required to note agglutination on the attached worksheet. They will also be required to give an interpretation.of the agglutination they see. Students will be evaluated on both of these tasks receiving 25 points for each correct segment. Total 100 points.