

Structure and Function

Standard(s): HS-LS1-2

Task: Place your non-dominant hand on the table in an unusual position. Draw a lifelike picture of your hand using the principles of perspective, shading or crosshatching, and shadowing. Label the joints and bones of the hand using your choice of calligraphy styles. Your finished product could go into our school's next art show.

Materials: Anatomy book, paper, pencils

Restrictions: none

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Task: Design a working "puppet" prosthetic hand that can be fully articulated using puppet-like strings. You must start with a sketched and labeled design plan and materials list before receiving any materials.

Materials: String, popsicle sticks, latex glove (1), paper clips

Restrictions: Materials available in the classroom or brought from home only.

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Task: You will make a life size, anatomically accurate model of the bones in the hand. Make each bone individually and when they dry pose them together with glue. Your finished product could go into our school's next art show.

Materials: Anatomy book, recipe for homemade play dough, measuring cups and spoons, toothpicks (paint??)

Restrictions: Be very conservative with class supplies and be sure to give yourself time to clean up every day.

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Task: You will research diseases that affect the hands and write a one page essay and give a powerpoint, prezi, or present a large poster or pamphlet to the class about the disease. Examples: Carpal tunnel syndrome, Parkinson's (tremors), Rheumatoid arthritis, Raynaud's disease, Severe frostbite, or one of your choice.

Materials: Internet access, paper, markers, ect.

Restrictions: Must obtain permission to use internet in this room or to use personal phone.



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Task: Using the designed experiment plans, you will conduct the experiment using at least 6 volunteer test subjects. You will properly graph your data with dependent and independent variables identified. You will write a one page step-by-step of the experiment and your results, also include what you would recommend for further reaction time studies. If you have time, conduct further research on reactions.

Materials: See instructor.

Restrictions: Ask permission to find test subjects beyond this class.

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Task: You will choreograph a silent play using jazzy or interpretive hands that portrays to the audience everything hands do throughout the day. Design gloves to use in your performance. Share your performance with the class or with younger Boys and Girls Club members. You may have one dance partner if you choose.

Materials: Gloves, and your imagination! See instructor if more materials are needs.

Restrictions: Must rehearse your play at least once with instructor.

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Task: Make a video documentary about hand gestures in communication. Film various people while they are talking, but don't tell them you are watching their hands. What are some common gestures that most people use? Does it vary with age or culture? Share your documentary with the class.

Materials: Must use camera on phone and an editing app.

Restrictions: Must have permission from teacher and others to film. Must let instructor watch before showing class.

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Task:

Materials:

Restrictions: none