Residency Sample Lesson Plan

Directions: Complete this lesson plan for a sample student residency. Fill out all the areas that apply to your lesson.

Teaching Artist Name	
Course Title	Olympics of the Mind
Course Type *(please check all that apply)*	☐ Cultural arts residency X Integrated arts residency Partnering Course: Science ***(For integrated residencies only, name the partnering subject area, i.e. – language arts, math, science, social studies, etc.)***
What grade(s) is the residency for?	4th-6th
Schedule Information	6 Number of sessions (6 – 8 total) 60 Length of each individual session 6 Total hours

Course Description:
Olympics of the Mind is a kinetic learning style series about problem solving using the adage, "If invention is the mother of necessity, what would you make?" Students get an overview of simple machines, explore physical examples of energy sources, and learn about young inventors such as William Kamkwamba, Xóchitl Guadalupe Cruz López, and Param Jaggi. Students will select a problem, design inventions to solve the problem and build a model or create a group demonstration of the invention

Materials & Space:
Supplies: cardboard, hot glue, strapping tape, blue tape, scissors, exactos. Artist will bring recyclables, repurpose-able objects and found objects for model building
Class room with desks moved to the sides or multi-use room with open floor space and work table possibilities

Big Idea:
Become a solution maker. Learn something from every experiment, flawed or successful.
Never let the fear of failure stop you from trying.

Lesson Objectives and Student Learning Assessment

Learning Objectives *What I want my students to know and be able to do.*	Assessment Criteria *What I will observe in my students – traits that can be seen and/or heard.* *[*
1. Critical Thinking	**1.** ***I will witness examination of "problems" and thoughtful process of solution making.***
2. Creativity	**2.** ***I will witness spatial, kinesthetic, linguistic, and logical engagement /inventiveness within the process***

Vocabulary (optional):
Inclined plane *Lever* *Wedge* *Wheel* *Axle* *Pulley* *Screw* *Chemical Energy* *Electrical Energy*

Mechanical Energy
Thermal Energy
Nuclear Energy
Gravitational Energy
Elastic Energy
Potential Energy
Kinetic Energy
Angular Momentum/ Rotational Energy
Sound Energy
Solar Power
Wind Energy
Geothermal Energy
Hydrogen Energy
Tidal Energy
Wave Energy
Hydroelectric Energy
Biomass Energy
Nuclear Energy
Fossil Fuels

Instructions:

Sample DAY 1:

- Opener "What's The Problem?"
    - Dialogue with youth about problems, large and small
    - Facilitate students ice breaker complaint choir game
    - Give overview of youth inventors / problem solvers

- Activity title and description _
    - Brain body warm up using cross lateral brain exercises as well as energy and simple machine examples/imagery
    - "If necessity is the mother of invention, what would you make?" assignment - writing, drawing, designing on the question
- Closer "Can you show or tell me what you learned?"
    - students sharing about the session

Remaining Sample Sessions:

Day	Daily Goal	Supporting Activities
2 Simple Machines	Knowledge and possible application of simple machines to invention	*Simple Machines Obstacle Course Warm Up *Apply simple machines to invention idea
3 Energy	Knowledge of energy that might power their invention	*Brain Body Warm - Energy *Electric Pickle Piano Demo - Electric & Chemical & Sound Energy *Apply energy sources to invention idea
4 Energy	Knowledge of energy that might power their invention Model construction or human demonstration practice	*Brain Body Warm - Energy *Rumitone Demo - Rotational & Sound Energy *Apply energy sources *Making Time
5 Making Session	Model construction or human demonstration practice	*Brain Body Warm - Energy *Bungee Drumming Video - Elastic, Potential, Gravitational & Sound Energy *Making Time
6 Presentations	Pride	*Cross lateral brain exercises * Sharing Inventions