

## **Interdisciplinary Problem Solving 2021 NHERI REU CONVERGE**

### **Audience**

Elementary School (3-5<sup>th</sup> grade)

### **Takeaway**

We want students to understand the variety of different manners and professions that can come together to create a holistic solution to any given problem. You can be an engineer, teacher, social scientist, and more and if you learn to work as a team, you can all be problem solvers.

### **Introduction/Motivation**

It is vital for student to have the background in collaborating and understanding other subjects. Interdisciplinary/transdisciplinary furthers the collective understanding of how the world around us functions. This is not only relevant to hazards and disaster research, but for various subjects and settings.

### **Learning Activities**

Lego structures (to conceptualize all the different pieces – disciplines – coming together for a common goal)

Paint by number (everyone is a different number or color and they all come together to create a full picture)

### **Level of Knowledge**

Analyze (draw connections among ideas: differentiate/organize/relate)

### **Objectives**

Students will . . .

- Differentiate between different pieces of the puzzle (whether it's a building block or number assignment) to identify the various factors each person has to bring to the table.
- Organize different variable to begin the process of completing a larger picture or design (which would symbolize a solution or collective product).

- Draw connections from the activity, the need to have multiple different shapes or colors (aka disciplines and perspectives), to create the final product. Without all the required pieces or colors, the design is incomplete and will fail, but with all the different aspects, we can succeed to make a beautiful and effective design.

### **Background and Vocabulary**

- ***Discipline*** – a specific subject of study
- ***Interdisciplinary*** – work that connects various disciplines together (I.e., entertainment law, political historian, etc.)
- ***Collaborate*** – working together for a shared end goal
- ***Perspective*** – the background and ideas different people bring to the table

### **Assessment**

The completion of a cohesive product resulting from collaboration would be the primary form of assessment regarding the objective. The secondary form of assessment would be how well students collaborate during the creation of the deliverable (I. E., frequent conversation, proper resolution of disagreement, comprehensive incorporation, and discussion of student peers).

### **Conclusion**

By the end of this activity students should have a better understanding of the value of collaborative work. This will have larger implications not only in the academic realm but also in their social interactions. Teamwork is a skill that should be fostered from a young age so that each student will grow with the understanding that help and collaboration is not only important but it can be very rewarding. A final conversation following the activity will help ensure that students possess the understanding that no individual person can do it all on their own and that even when they grow up working in conjunction with everyone, not only their friends, can create important solutions.

There is also an added impact of not leaving people out of the conversation (activity) when conducting themselves. The pieces or numbers that each person possesses are an integral part in the whole and it's important to understand that leaving somebody out can damage not only the relationship but the final product.