Colorado Science and Engineering Fair

2024 Individual Project Abstract Form

Please print 2 copies of the completed form. Sign both copies, keep 1 for your notebook and submit 1 copy to your Regional Fair Director with your other paperwork.

Title of Project: What Type of Sediment Makes the Best Imprint Fossil

Finalist's Name: Katherine Madrid

School and City: Liberty School

Sponsor's Name: Ms. Linda Fogale

Category: Earth & Enviornmental Sciences (EAEV) Division: Junior (6th - 8th grades)

Abstract (250 words or less):

The purpose of this project was to determine what sediment and amount of moisture would make the best conditions for the production of an imprint fossil. There were several hypotheses. To test these hypotheses, 12 different tubs of sediments were made: dry and wet sand, dry and wet clay, each with no weight, 1 kg of weight and 2.3 kg of weight. A clam shell was embedded into each and allowed to sit for 10 days. After that the shells were excavated to see the imprint fossil left behind. Each of the imprint fossils were given a score between 0-3 for the quality of the edges, details and stability of the impression. The results showed that the imprints with the highest combined quality score were produced in the wet sand with 1 kg, and the wet clay with 2.25 kg. The lowest quality imprints were found in the dry sand. The most consistent imprints were found in the dry clay.

In conclusion The first hypothesis that the wet sediments would make better imprints than the dry sediments was supported for both the sand and clay. The wet sand and wet clay both had an overall quality score of 9. The second hypothesis was also supported. Overall, the imprints in the clay were better than those in the sand. The third hypothesis that the more weight applied would make better imprints was supported for the clay. However in sand, a small amount of weight produced the better impressions.

I hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I also attest that the above properly reflects my own work.

Finalist's Signature: KM Date: 3/1/24

In addition, all students must complete the ISEF Student Checklist (1A), Research Plan, Approval Form (1B), and Checklist for Adult Sponsor (1), and any other ISEF forms required for this type of project. See the International Rules and Guidelines for form requirements. Return COPIES o all of these forms to your Regional Fair Director with you Finalist Verification/Permission Form. A signed copy of this form must be included in your notebook.