

Student Lab Sheet for a Polymer Factory

_____ Name

Purpose: to extrude a shape using the Play-Doh® Fun Factory® that is acceptable to the customer using teamwork and problem-solving skills. Keeping waste to a minimum is important.

Materials:

Play-Doh® Fun Factory®	Two colors of Play-Doh®
Customer order	Balance for mass measurements
Playing cards to indicate job assignments	Recycled packaging materials
Metric rulers	Grading Card Check List

Procedure:

1. Choose a playing card.
2. All of one kind of card (jacks or aces or twos) forms a team to run one factory.
3. Get into your teams and use the following to determine roles of each team member:
 - Heart card:** Factory Manager in charge of production, waste and total mass.
 - Club card:** Quality Control Manager in charge of making sure the final product fits the dimensions stated by the customer on order. This person is also in charge of writing the letter at the conclusion of the activity.
 - Diamond Card:** Packaging Manager in charge of packing the final product for shipment.
 - Spade Card:** Factory Technician who runs the factory and keeps the working area clean and tidy.
4. Obtain one customer order from your teacher.
5. Give your factory a name based on the shape you are making. _____
6. Find an area in your classroom to work and get one factory and two colors of Play-Doh®.
7. Read your customer order so that all know what is expected. Take the total mass of the colored dough. Record. _____
8. Pick the appropriate extrusion die shape and start your factory.
9. Once all the items are made to the best of your ability, clean up the factory and your area. Look at the Grading Card Check List to see how your product will be evaluated.
10. The Packaging Manager needs to package the product ready for shipment to the customer. The package must include all the items: the customer order, leftover waste dough with masses recorded, and a bill with your factory name.
11. Give your package to the shipper (the teacher). The shipper will determine how the packages will be handled.
12. Each factory team will receive another team's package of products for evaluation.
13. Using the Grading Card Check List, check the contents for all of these categories. Give each category a rating.
14. As a team, decide if the shipment is acceptable or not acceptable.
 - If it is acceptable, write a letter expressing your pleasure in doing business with them and enclose a check for the total bill.
 - If it is not acceptable, write a letter telling the manufacturer what is wrong and how they might correct the problem.