

# **Static Electricity Introduction**

Directions:

- a. Blow up your balloon about the size of a soft ball and tie the end.
- b. Don't do anything to the balloon by rubbing it anywhere.
- c. Tie a string around the tied end of the balloon.
- d. Put a big X on one side of the balloon.

1. Rub the side of the balloon with an X on your hair. With a partner, hold the string so the two X's are facing each other. What do you see happening?

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2. Why did the two balloons do this?

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3. Rub your hair with the balloon, and put the balloon back on your hair. What happened?

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4. Why did the balloon do this?

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5. Hang your balloon next to your partner's balloon again. Put a piece of paper between them. What do you see happening?

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6. Why did the balloons do this?

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7. By rubbing your hair, go around the room and see what the balloon with stick to and what it won't stick to.

Stuck to:

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Won't stick to:

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8. Why do you think that the balloon stuck to some things and didn't stick to other things?

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9. Rub your hair 10 times with the balloon and put it into these particles. Put the number in the space of how many it picked up. Then answer the questions below.

|      | Tissue Paper | Rice Krispies | Rice Puffs | Bits of Paper | Styrofoam | Cheerios |
|------|--------------|---------------|------------|---------------|-----------|----------|
| Hair |              |               |            |               |           |          |

10. Why were the different objects attracted to the balloon?

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11. Put in order the balloons charge picked up the objects from most to least.

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12. Of the most particles that were picked up, what do these particles have in common?

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13. Of the objects that were not picked up well, what do these particles have in common?

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## Static Charge Experiment

Directions:

- Pick one of the items to be charged to test static electricity.
- Rub your item 10 times with one of the pieces of material.
- Put it in one of the objects.
- Count the number of those objects it picked up and record it in the proper place.
- Rub your hand over the charged item to discharge it.
- Repeat “b” through “e” until you are finished.
- When you are finished, answer the question below.

### **Static Electricity Data Sheet—**

|               | Tissue Paper | Rice Krispies | Rice Puffs | Bits of Paper | Styrofoam | Cheerios |
|---------------|--------------|---------------|------------|---------------|-----------|----------|
| Wool          |              |               |            |               |           |          |
| Cotton        |              |               |            |               |           |          |
| Silk          |              |               |            |               |           |          |
| Imitation Fur |              |               |            |               |           |          |
| Felt          |              |               |            |               |           |          |

### Answer These Questions

1. What was the item you charged? \_\_\_\_\_

2. Which two particles did the charged item pick up the most of?

Wool \_\_\_\_\_ Cotton \_\_\_\_\_ Silk \_\_\_\_\_

Imitation Fur \_\_\_\_\_ Felt \_\_\_\_\_

3. Of the most particles that were picked up, what do these particles have in common?

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4. Which two particles did the charged item pick up the least of?

Wool \_\_\_\_\_ Cotton \_\_\_\_\_ Silk \_\_\_\_\_

Imitation Fur \_\_\_\_\_ Felt \_\_\_\_\_

5. Of the least particles that were picked up, what do these particles have in common?

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6. What are your conclusions with your experiment?

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## Static Electricity Data Sheet—Wooden Pencil

|               | Tissue Paper | Rice Krispies | Rice Puffs | Bits of Paper | Styrofoam | Cheerios |
|---------------|--------------|---------------|------------|---------------|-----------|----------|
| Wool          |              |               |            |               |           |          |
| Cotton        |              |               |            |               |           |          |
| Silk          |              |               |            |               |           |          |
| Imitation Fur |              |               |            |               |           |          |
| Felt          |              |               |            |               |           |          |

## Static Electricity Data Sheet—Plastic Spoon

|               | Tissue Paper | Rice Krispies | Rice Puffs | Bits of Paper | Styrofoam | Cheerios |
|---------------|--------------|---------------|------------|---------------|-----------|----------|
| Wool          |              |               |            |               |           |          |
| Cotton        |              |               |            |               |           |          |
| Silk          |              |               |            |               |           |          |
| Imitation Fur |              |               |            |               |           |          |
| Felt          |              |               |            |               |           |          |

## Static Electricity Data Sheet—Metal Spoon

|               | Tissue Paper | Rice Krispies | Rice Puffs | Bits of Paper | Styrofoam | Cheerios |
|---------------|--------------|---------------|------------|---------------|-----------|----------|
| Wool          |              |               |            |               |           |          |
| Cotton        |              |               |            |               |           |          |
| Silk          |              |               |            |               |           |          |
| Imitation Fur |              |               |            |               |           |          |
| Felt          |              |               |            |               |           |          |

## Static Electricity Data Sheet—Comb

|               | Tissue Paper | Rice Krispies | Rice Puffs | Bits of Paper | Styrofoam | Cheerios |
|---------------|--------------|---------------|------------|---------------|-----------|----------|
| Wool          |              |               |            |               |           |          |
| Cotton        |              |               |            |               |           |          |
| Silk          |              |               |            |               |           |          |
| Imitation Fur |              |               |            |               |           |          |
| Felt          |              |               |            |               |           |          |

## Static Electricity Data Sheet—Paper Strip

|               | Tissue Paper | Rice Krispies | Rice Puffs | Bits of Paper | Styrofoam | Cheerios |
|---------------|--------------|---------------|------------|---------------|-----------|----------|
| Wool          |              |               |            |               |           |          |
| Cotton        |              |               |            |               |           |          |
| Silk          |              |               |            |               |           |          |
| Imitation Fur |              |               |            |               |           |          |
| Felt          |              |               |            |               |           |          |

## Static Electricity Data Sheet—Drinking Straw

|               | Tissue Paper | Rice Krispies | Rice Puffs | Bits of Paper | Styrofoam | Cheerios |
|---------------|--------------|---------------|------------|---------------|-----------|----------|
| Wool          |              |               |            |               |           |          |
| Cotton        |              |               |            |               |           |          |
| Silk          |              |               |            |               |           |          |
| Imitation Fur |              |               |            |               |           |          |
| Felt          |              |               |            |               |           |          |