Physics Chapter 11 Review

1. 11.1 – Charging by friction and electrostatic series
2. 11.2 – Charging by conduction (contact)
3. 11.6 – Charging by induction
4. 11.4 – Insulators and conductors
5. 11.8 – Electric discharge
6. Applications of static electricity

Painting with Charges (p. 470)

1. Why are electrostatic paint sprayers used by some industries?

2. What happens to the paint when it leaves the spray gun? What charge does the paint have?

3. How do they prepare the object being painted? What charge does the object have for painting?

4. Why does the paint stick to the object that is being painted?

Electrostatic Dusters (p. 475)

1. What method is used for a feather duster to pick up dust?

2. Explain how a Swiffer (electrostatic duster) gets charged and picks up neutral dust particles.

Electrostatic Precipitator (p. 476)

1. What is an electrostatic precipitator?

2. How does an electrostatic precipitator work?

Laser Printers (p. 481-482)

1. What principles do laser printers use to work?

2. When the selenium drum is struck by light, what charge does it get? What charge do the dark areas have?

3. What charge do the toner particles have and where do they stick?

4. What charge does the paper have and why do the toner particles stick to the paper?

Sparks or Electric Discharge (p. 492-493)

1. What causes there to be a spark between two objects?

2. If an electric discharge is large, it can cause damage to some equipment. What type of equipment is vulnerable to being damaged?

3. What happens when you reach for a negatively charged door handle of your car?

Lightning (p. 493-494)

1. What is lightning?

2. How are the particles in the clouds charged and where are these charges located in the cloud?

3. In Toronto, which building would most likely be hit by lightning in a thunderstorm? Why do you think so?

4. During a thunderstorm, what outdoor activities would be extremely dangerous? Give 2 activities.

Lightning Rods (p. 494-495)

1. Where are lightning rods usually used?

2. What does a lighting rod do and what are they made of?