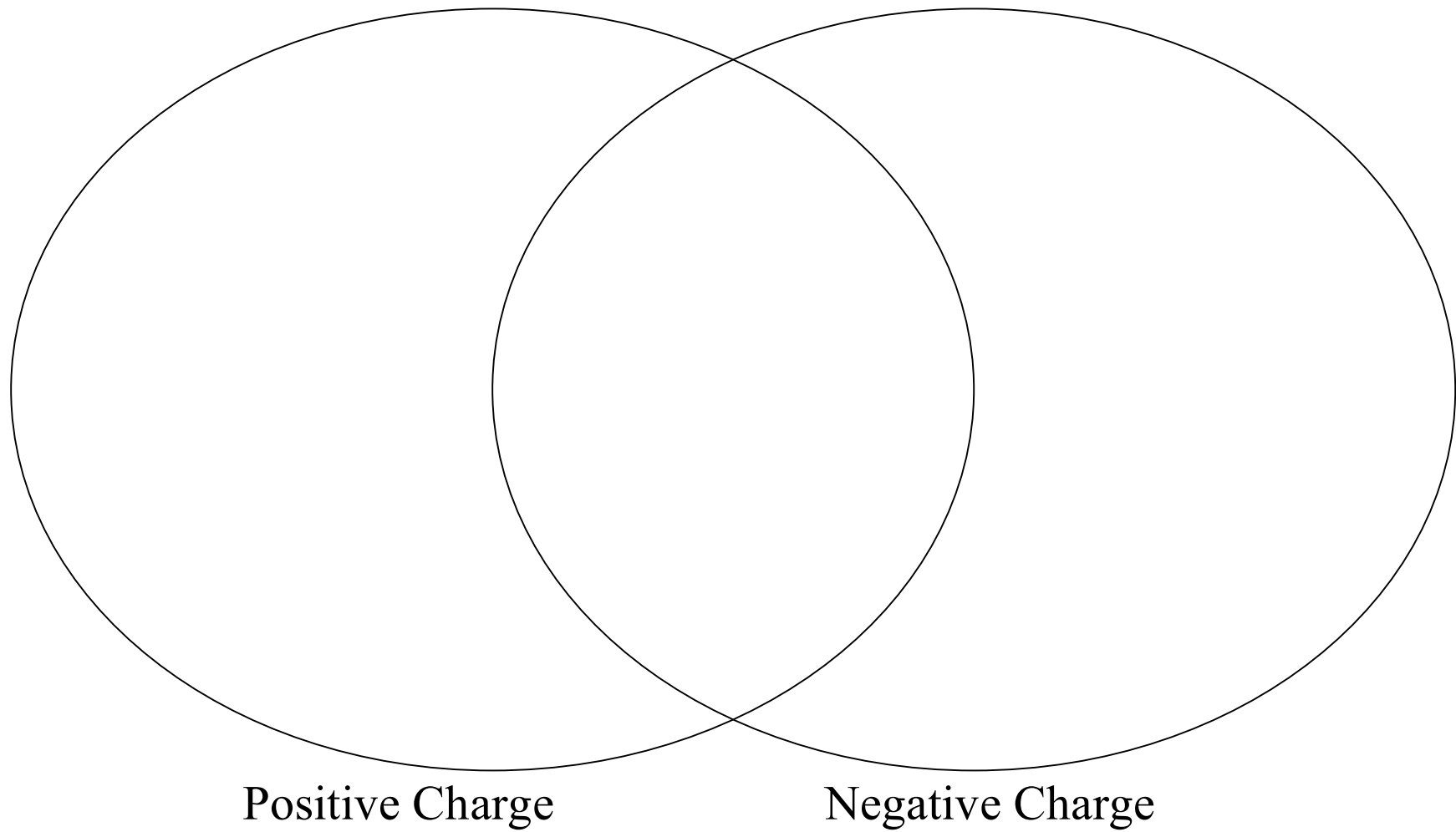


Graphic Organizer: Positive and Negative Charges (Section 21-1)

Name: \_\_\_\_\_

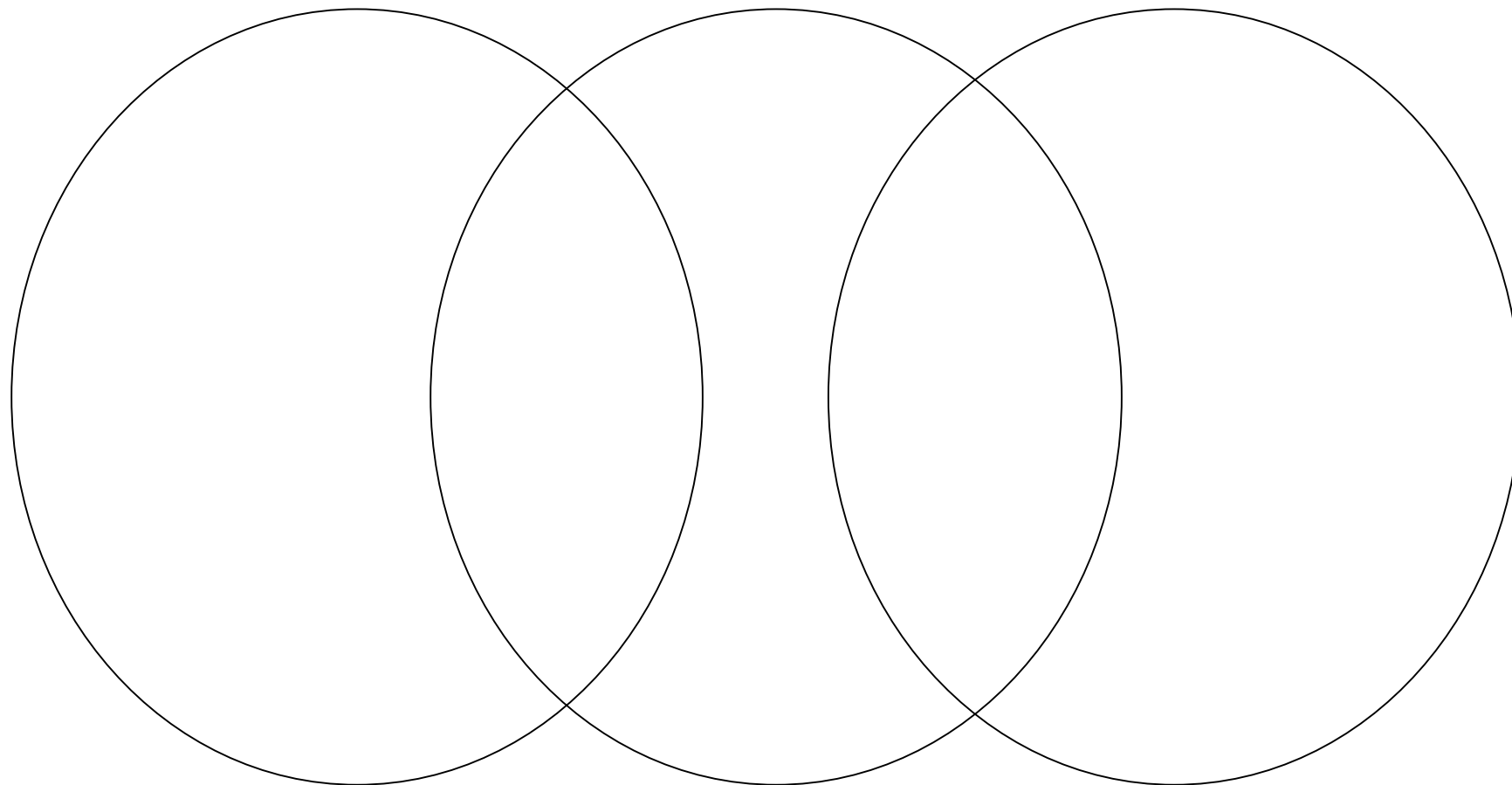
Date: \_\_\_\_\_



Graphic Organizer: Bond Types (Section 21-2)

Name: \_\_\_\_\_

Date: \_\_\_\_\_



Nonpolar  
Covalent

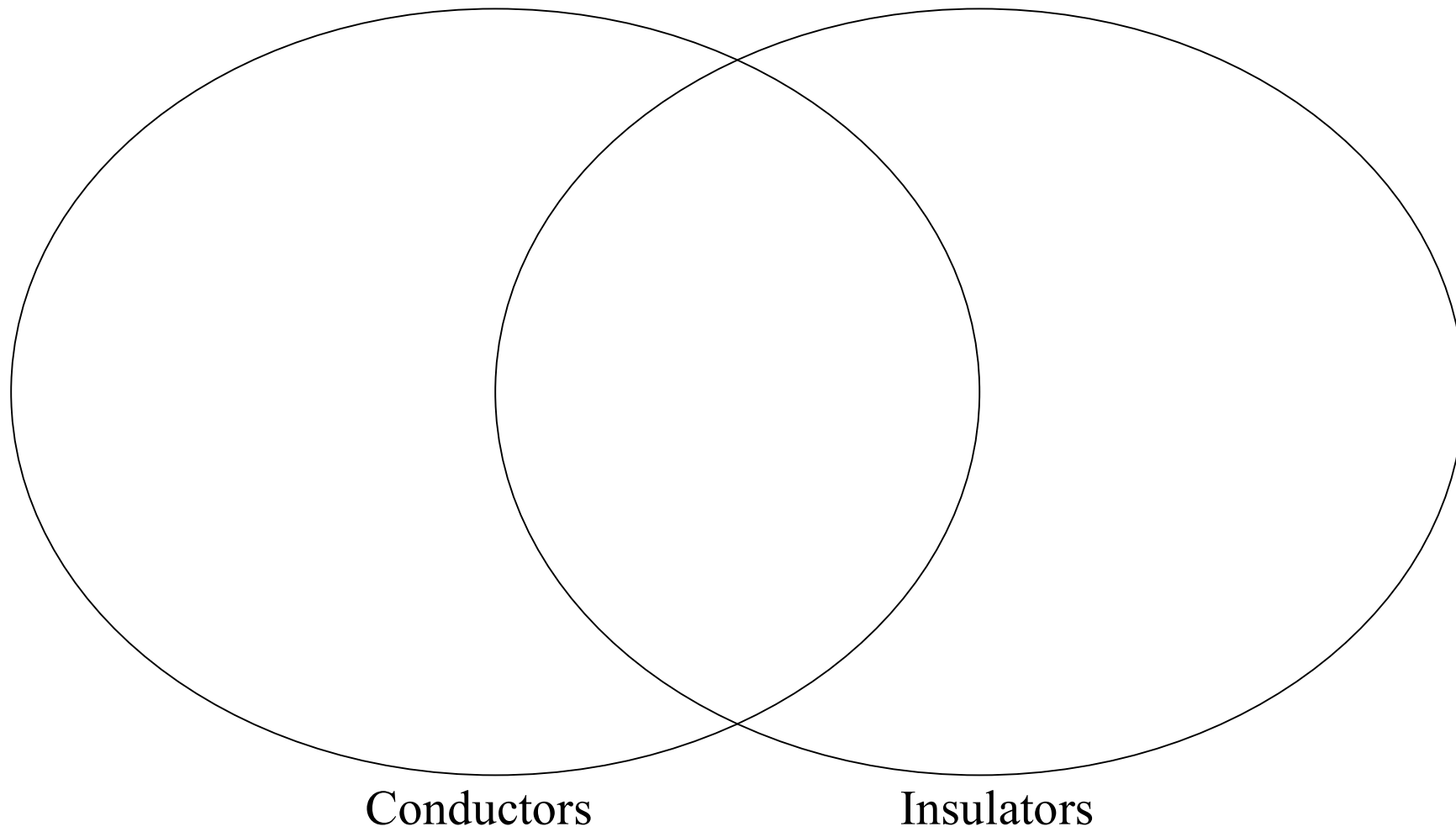
Polar  
Covalent

Ionic

Graphic Organizer: Conductors and Insulators (Section 21-3)

Name: \_\_\_\_\_

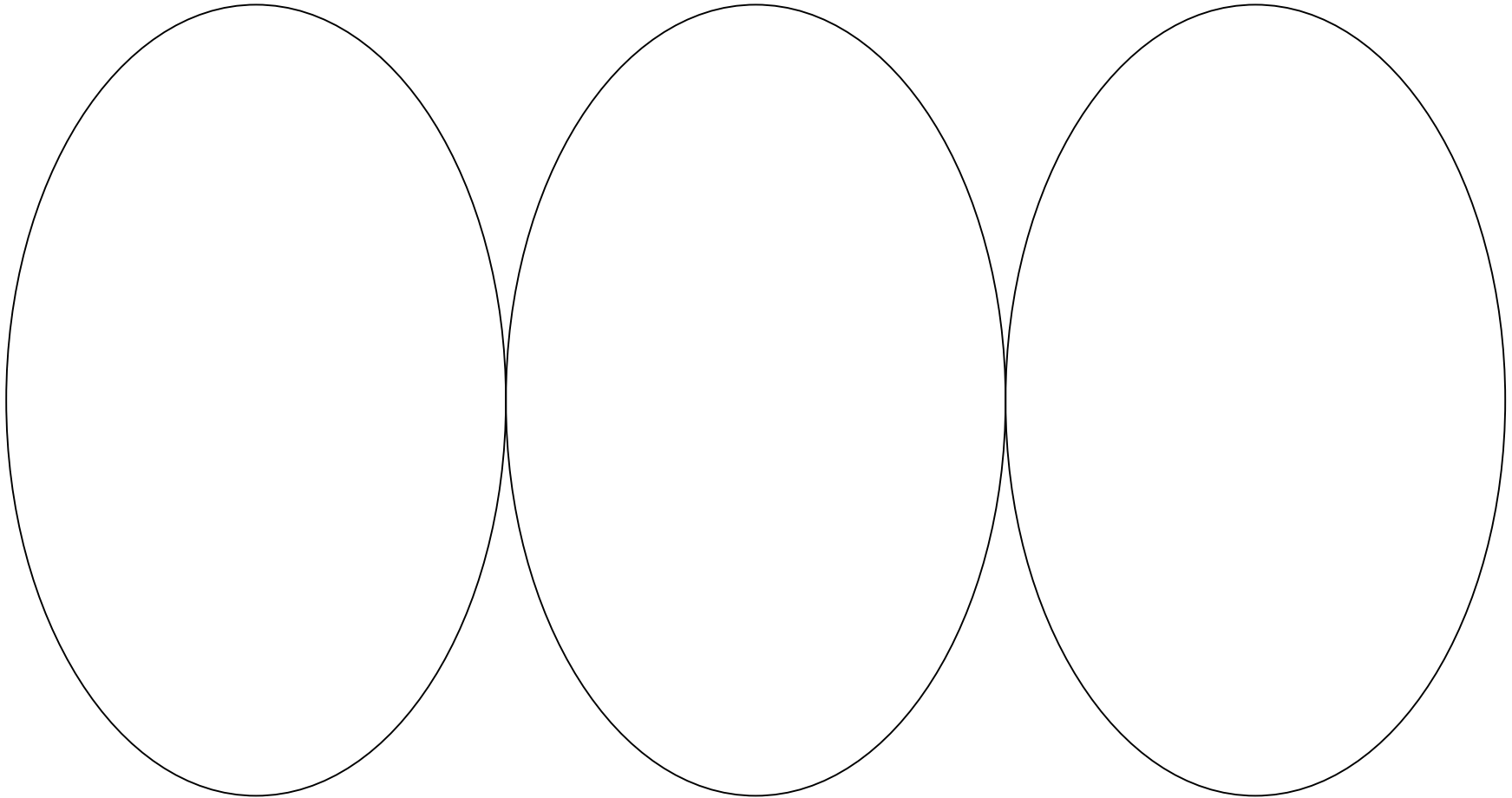
Date: \_\_\_\_\_



Graphic Organizer: Charging by Friction, Induction, & Conduction (Section 21-4)

Name: \_\_\_\_\_

Date: \_\_\_\_\_



Friction

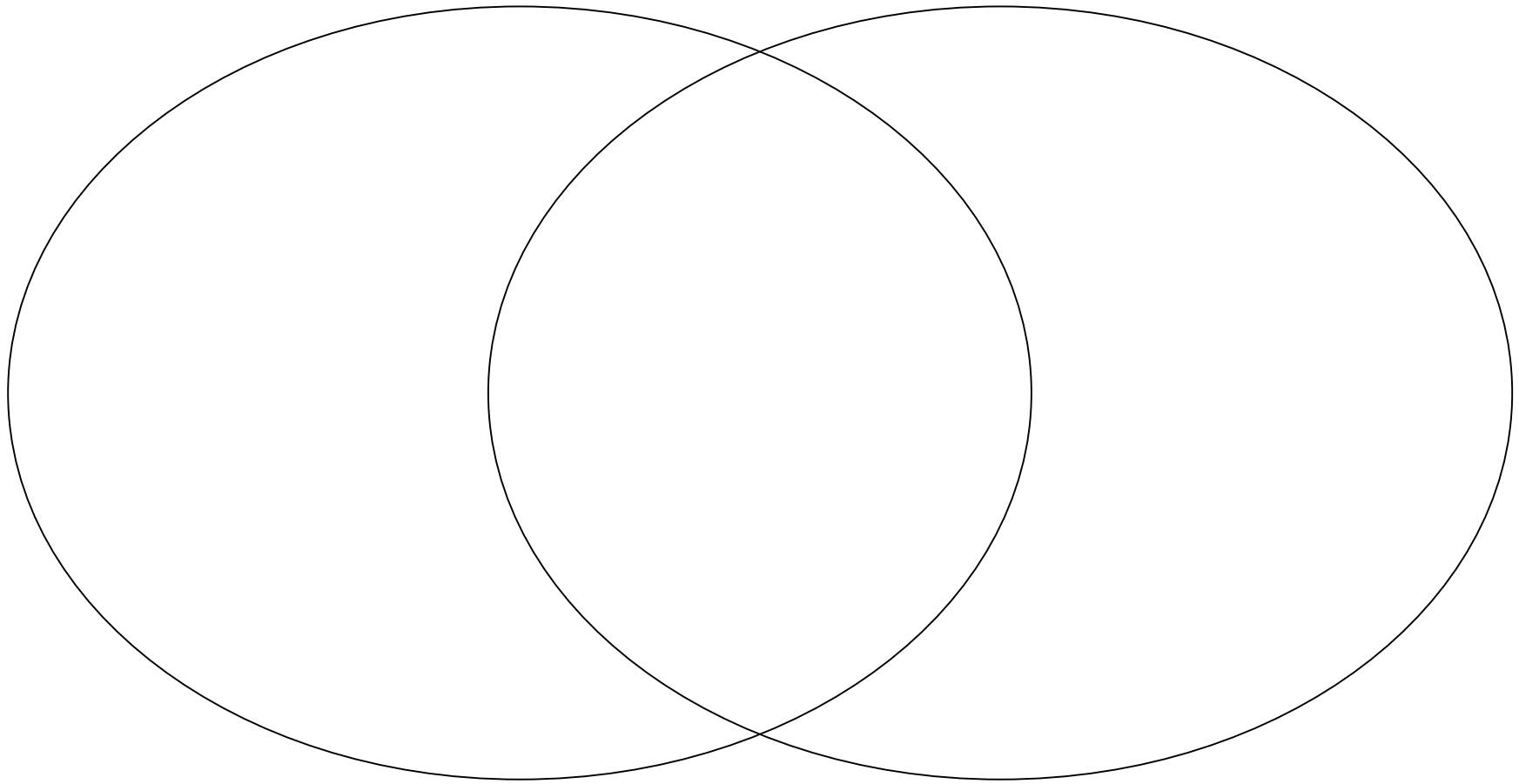
Induction

Conduction

Graphic Organizer: Coulomb's Law (Section 21-5) and  
Newton's Law of Gravitation (Section 6-1)

Name: \_\_\_\_\_

Date: \_\_\_\_\_



Coulomb's  
Law

Newton's  
Law of Gravitation

Graphic Organizer: Coulomb's Law, Electric Field, Electric Potential, and Potential Energy (Sections 21-5, 21-6, 23-1 & 23-2)

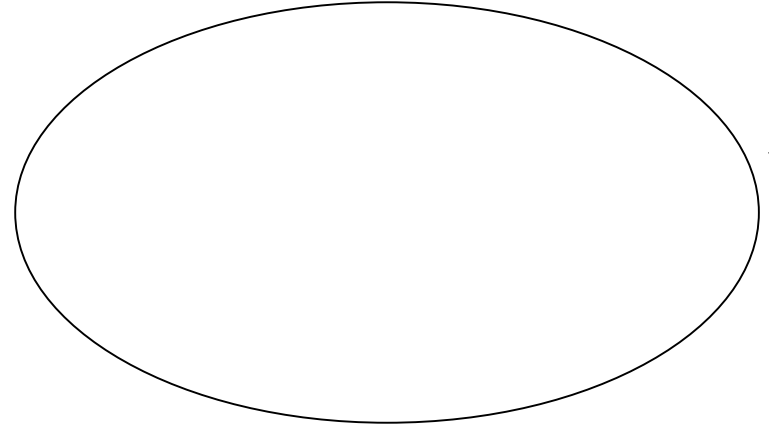
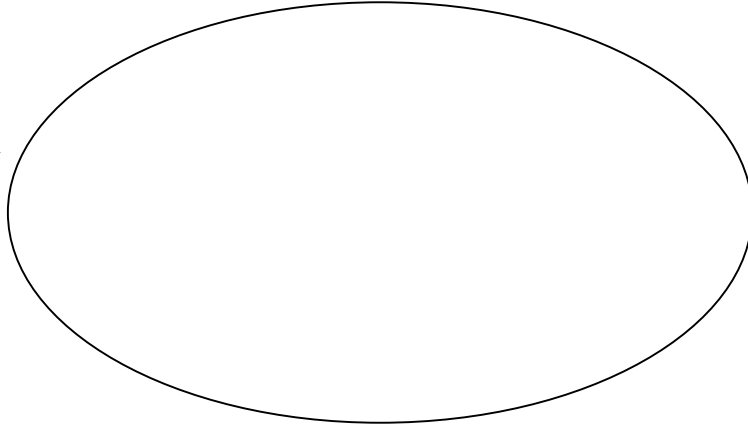
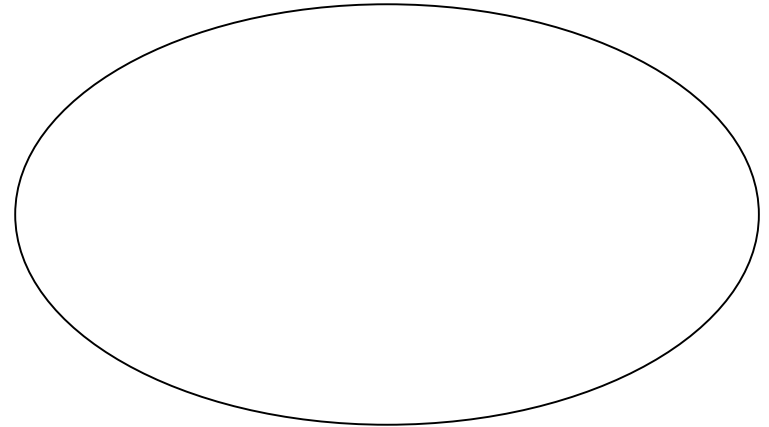
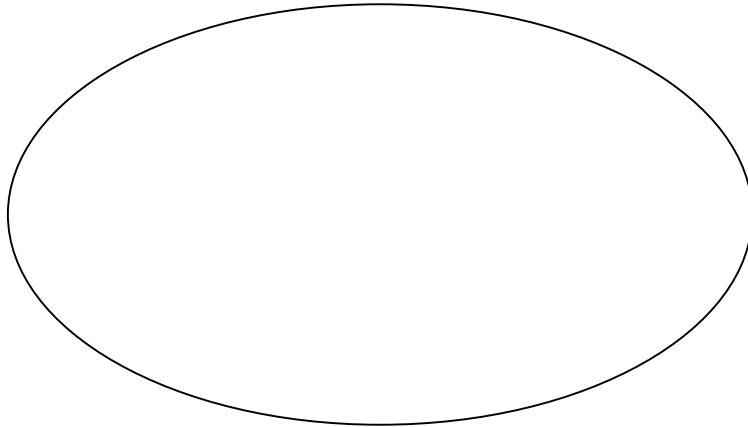
Name: \_\_\_\_\_

Date: \_\_\_\_\_

Electric Force



Electric Field



Potential Energy



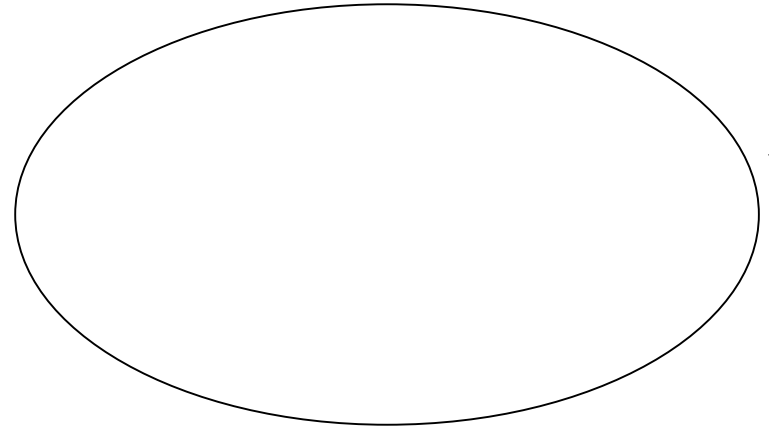
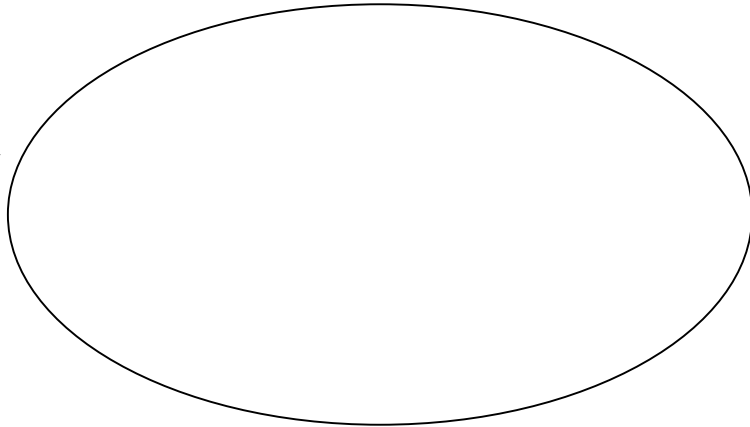
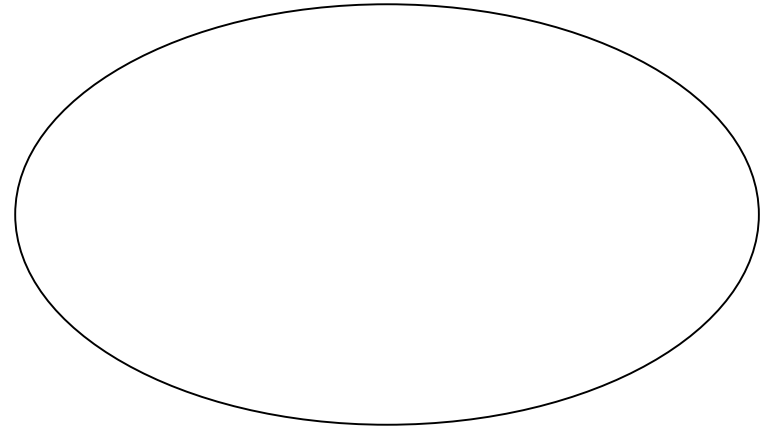
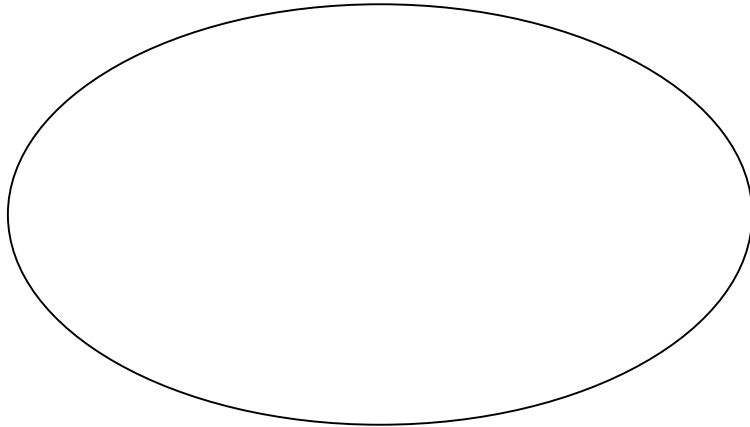
Electric Potential

Graphic Organizer: Coulomb's Law, Electric Field, Electric Potential, and Potential Energy (Sections 21-5, 21-6, 23-1 & 23-2)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Gravitational Force  $\longrightarrow$  Gravitational Field



Gravitational Potential Energy  $\longrightarrow$  Gravitational Potential

Graphic Organizer: Uniform Charge Distribution (Section 21-7)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

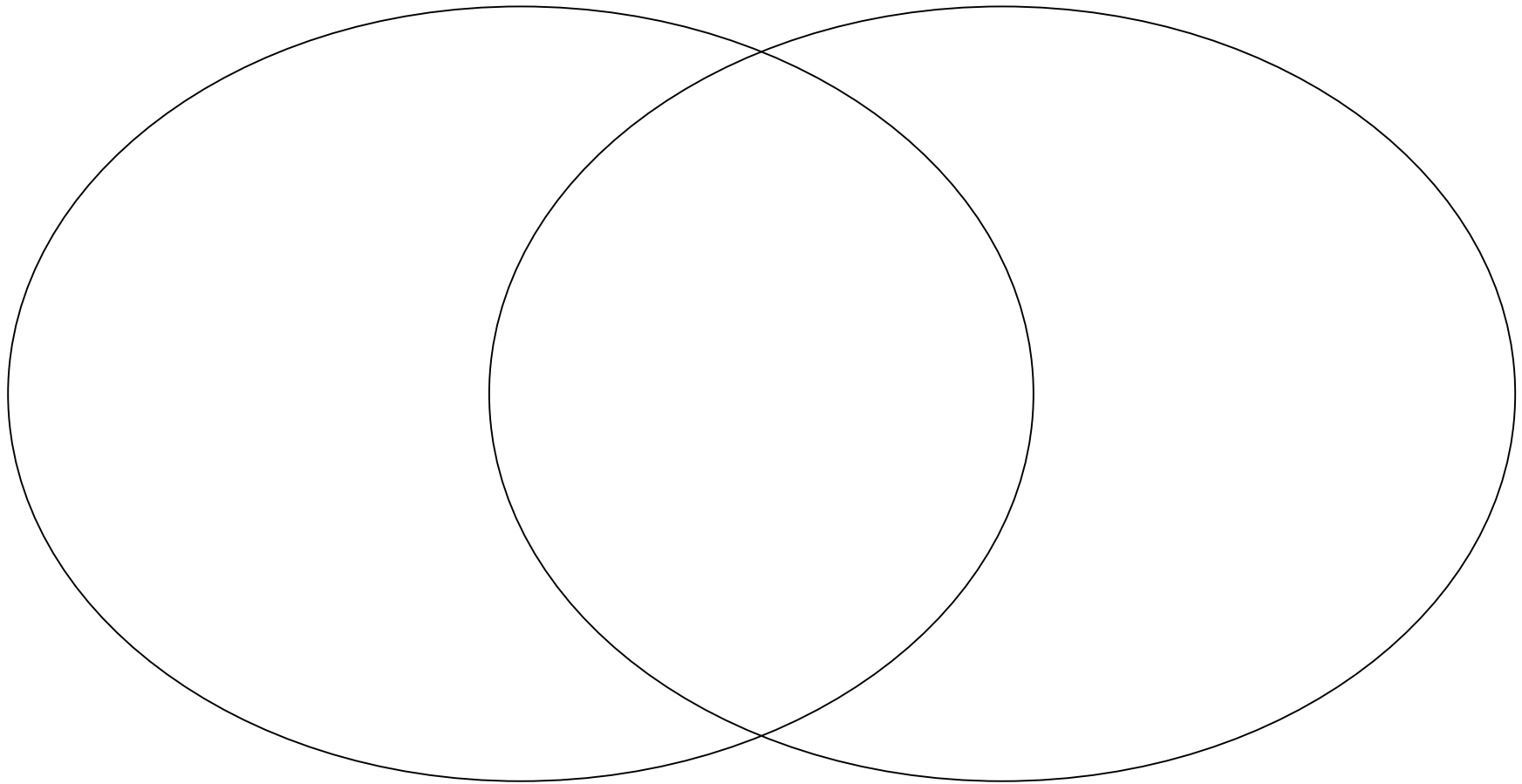
**Mathematical Derivation Steps**

**Reasoning for Each Step**

Graphic Organizer: Electric Field Lines (Section 21-8) and  
Gravitational Field Lines (Chapter 6)

Name: \_\_\_\_\_

Date: \_\_\_\_\_



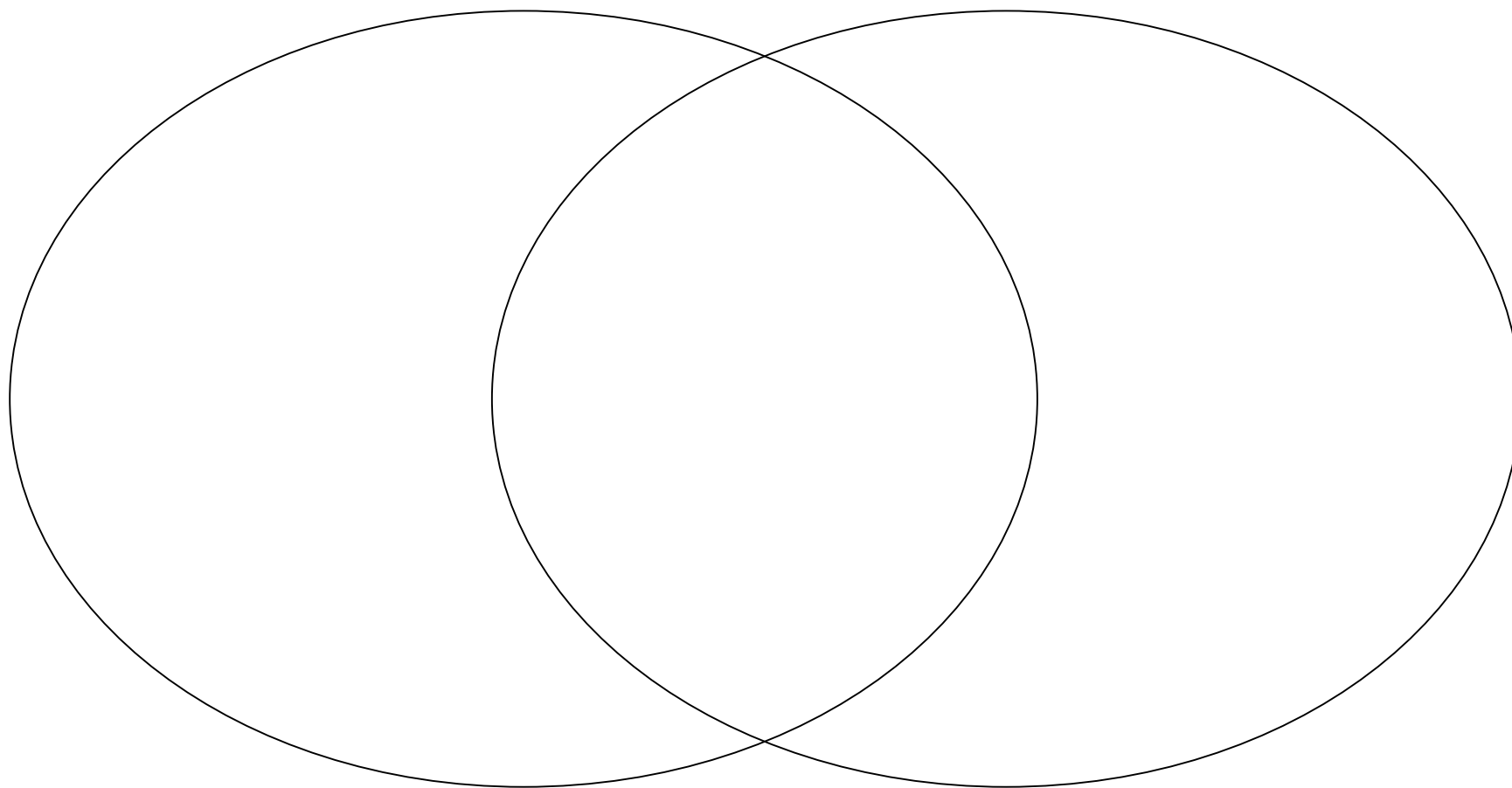
Electric Field Lines

Gravitational Field Lines

Graphic Organizer: Motion in an Electric Field (Section 21-10) and  
Projectile Motion (Sections 3-7 & 3-8)

Name: \_\_\_\_\_

Date: \_\_\_\_\_



Motion in an Electric Field

Projectile Motion

Graphic Organizer: Electric Dipoles (Section 21-11)

Name: \_\_\_\_\_

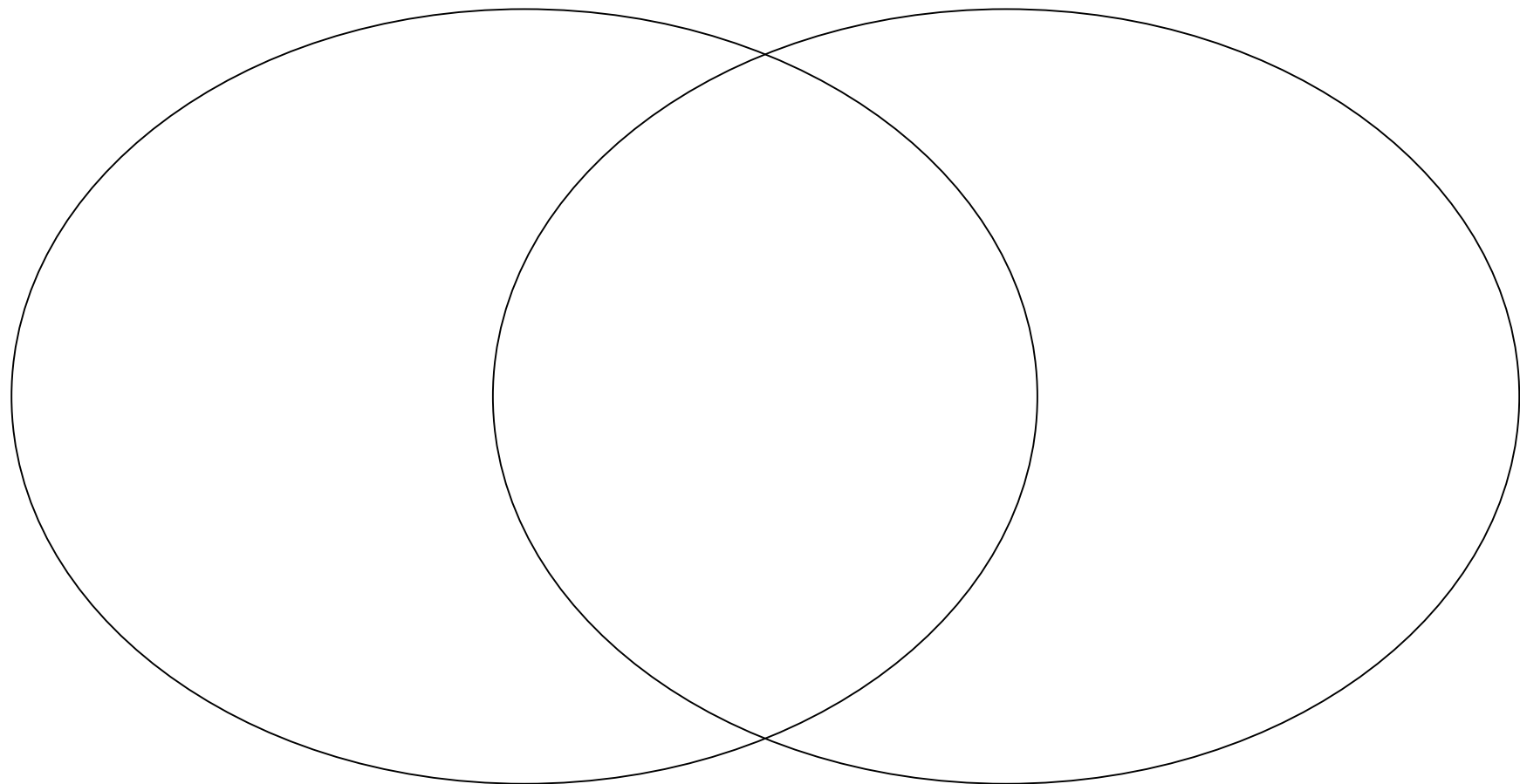
Date: \_\_\_\_\_

<p>Electric Dipole Moment Info</p>	<p>Torque on Dipole in E-Field</p>
<p>Stored Energy of Dipole in E-Field</p>	<p>E-Field Produced by a Dipole</p>

Graphic Organizer: Electric Dipoles (Section 21-11) and  
Magnetic Dipoles (Section 27-5)

Name: \_\_\_\_\_

Date: \_\_\_\_\_



Electric Dipole Moment

Magnetic Dipole Moment