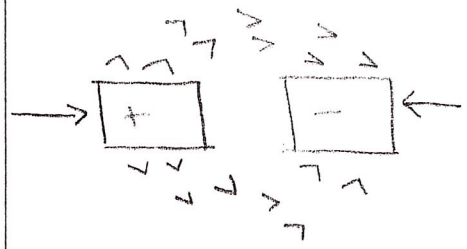
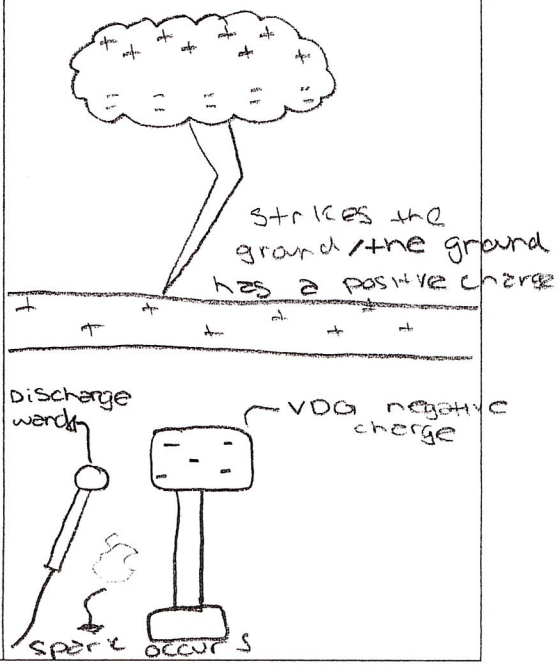
Unit 2 – Inv. 2 Summary Chart

Unit 2 Question: **How does a small spark trigger a huge explosion?**

Inv. 2 Question: **Where does the energy in a spark come from?**

What did we observe?	What have we figured out?	How does this help us answer our investigation question?	Our model
Act. 1 • we observed a spring & a toy car interact by stretching & compressing the spring & observing the movement of the car & types of energy that is present.	• we have figured out that all types of springs have a rest position. The energy can transfer from object to object in the system. the more force you apply = more P.E.	• This helps us answer our investigation question by the activity because when we pulled or pushed on the springs the P.E had charged by increasing.	Before KE PE TE During KE PE TE After KE PE TE
Act. 2 • opposite sides on 2 magnent attract & same sides repel • a spring compresses and decompresses • Furthe from surface of earth = higher P.E • Stronger electric flad = higher electric potential energy	• Magnetic PE - have an unvisible magnetic force * Gravitational PE exisists because of gravity on object * electric PE - due to electric charges • potential energy bulb up is from the distance between interacting objects & the forces between them	• VDG can be used to create a spark • a spark indicates that energy was transfered from one object to another to neutrilize • positive electric field = high PE w similar charges PE is ↑ when far apart	• low P.E untouched spring at its rest position This has high potential energy because it has been stretched out

What did we observe?	What have we figured out?	How does this help us answer our investigation question?	Our model
Act. 3 • we observed that a spring with less mass is easier to stretch and compress and a heavier spring has more P.E.	• we have figured out that there is less potential energy when the magnets compress, magnets come together they have more P.E. when pushing and pulling.	• This helps us answer our investigation question because a spark can occur from interactions between objects charges • Shows us electrical forces are stronger with bigger magnets.	
Act. 4 • We observed lightning strikes and VDG strikes are similar and dont contain PE at its most stable point. • The most stable point of two charged objects and the amount of P.E at the most stable Point.	• we figured out if the P.E of a system can move freely cause of the PE will decrease and transform into different kinds of energy, Sometimes creating a spark instead.	• Energy from a spark comes from an electric field around the object • Helps us answer our question because when a spark occurs the transfer of energy is taking place causing a decrease and a transfer of P.E.	

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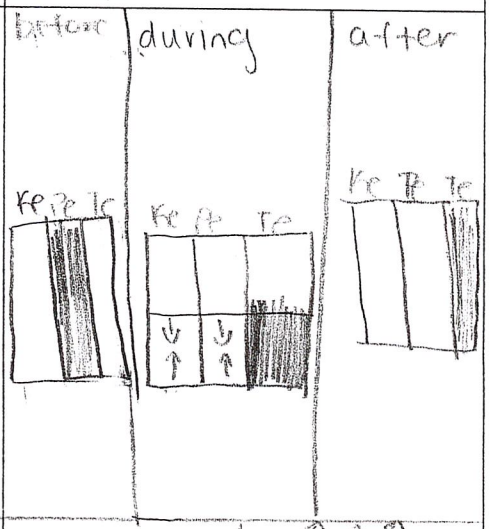
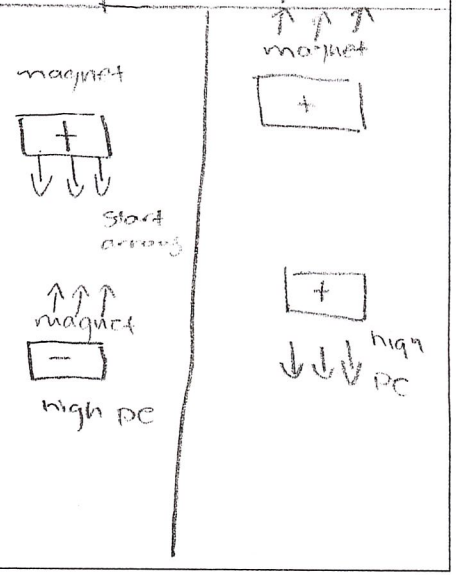
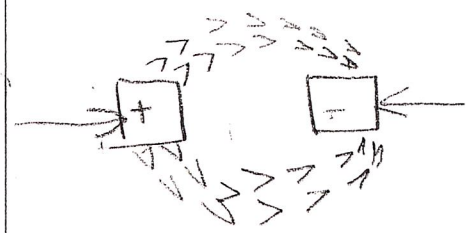
Unit 2 Question: **How does a small spark trigger a huge explosion?**

Inv. 2 Question: **Where does the energy in a spark come from?**

What did we observe?	What have we figured out?	How does this help us answer our investigation question?	Our model
act 1. • we observed the different types of springs and forces used for each. • energy transfers have occured.	• we figured out that all types of springs have a PE position. • energy can transfer place to place in the system. the more force you apply the more P.E. there is in the system.	• when we pulled or pushed on the springs the potential energy had charged by increasing. • forms of energy can be transferred to other objects and change force.	
act 2. • we observed the P.E. between magnets and things when we interact with them. • how objects interact without touching.	• energy is stored in the field around the VDG or charged particles (negative) • high P.E. with similar charges = closer to each other • high P.E. with opposite charges = further away.	• the energy in a spark comes from the stored P.E. in the field. • in act 2.2 objects interact w/o touching and the spark comes from P.E. in a field (not touching).	

What did we observe?	What have we figured out?	How does this help us answer our investigation question?	Our model
act 3. • we observed that a spring with less mass is easier to stretch and compress. • the heavier the spring the more P.E. it has.	• we figured out that objects with more mass has more P.E. • the easier [illegible] have more P.E.	• a spark can happen from interactions between objects charges. • the spark can occur from the potential energy increase.	
act 4. • we observed lightning strikes and VDG strikes are similar and don't contain P.E. at its most stable point. • the most stable point of two charged objects and the amount of P.E. at the most stable point.	• we figured out how a spark occurs and lightning is caused by a seperation of negative and positive charges. • [illegible] P.E. at stable point.	• energy from a spark comes from an electric field around the object. • sparks are made from big electric charges like lightning.