

Differentiated & Student Centered





Unfortunately, with the large demands on reading and math from Common Core, science is often pushed to the side. If your district is like mine, you often have very little time to dedicate to science, yet are still expected to fully cover the entire curriculum. This packet was created to help save time and to cover the all important science concepts - all while still meeting the nonfiction criteria of Common Core.

In this packet you will find a mini-book for students to assemble and explore the critical science concepts. It can be used to teach, reinforce, and/or challenge students, all while meeting their needs and learning styles. The reading page has been differentiated for your students with one being a higher level (two stars) and the other being a lower level (one star).

The tabs in this booklet can be used as science stations. The first tab contains an important vocabulary activity related to the science concept of conductors and insulators. It can correspond with the reading piece provided. The second tab asks comprehension questions related to the reading piece and requires students to support their answers with textual evidence. The third tab focuses on the investigation to deepen the understanding of conductors and insulators and how they work. Additionally, this tab explains the investigation more thoroughly. The fourth tab asks students to draw, while the fifth tab prompts students to respond to a thought-provoking journal question.

I personally use all of my products in my classroom and can testify to the effectiveness of them.

Easy Use:

•Print pages 3-5 single sided (two sided copying will not work). Also print page 9 and/or 10 for students to use as their reading piece and page 11 for station use.

•After making class copies, provide each student with scissors and a glue stick. You can also staple or tape if you prefer. •Have students color before cutting - including the tabs. This makes the piece look attractive.

•Have students cut out all flipbook pages. The cover page goes first. Then the students should line up the tabs for each page, in view, similar to steps.

•Have students run a line of glue along the left edge of each sheet. When finished, the final product should resemble a small tabbed notebook.

+Have students complete each page individually, in pairs, in groups, or as a whole class. This can also be used in small groups with your direction.

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Investigation



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Be Current on Conductors and Insulators

Reading

about it. For instance, when you place headphones in your ears or plug in your TV, you Everyday you use conductors and insulators and probably don't even think twice are using both conductors and inclutors. se atoms have different particles called electrons, a path through substances it is called current ons move, it is forming a type of energy called to flow through and other times it is not. ກ electricity. When electricity moves al ul JS. T Sometimes that pr+ When neutrons, and protons. Everything is made electricity.

sually use copper for our electrical wires iductor is water. Electrical currents can also from the water to the body. That is why it's important to never have bodies, the current will pass through stal. In fact, Gold and Silver are the best ur bodies. When two conductors come in ierials allow the path of current electricity to flow hey are also the most expensive. materials are called conductors. , bu. I electrical appliances in the sir cost w u 'ally Another ÷) ear flow easily throur freely through it contact, such as Because of and circuits. Conductors conductors Some

guing NOI . Jurrent it wi you. Ť Í insulator. Insulators are materials that resist the for The protective coating around your headphor of electrical currents. It tries to keep the electrian from flowing through it. Insulators are materic another conductor. This protective coating is insulator. It is protecting that electrical cu through the copper wires from making cor plastic and rubber.



cookies and take the pan out of the oven, think about why you are reaching for the oven conductor). The oven mitts act as an insulator, Some people use coolers for their lunch or drinks to keep them cool. This also acts as an insulator. mitts. It is because you are a conductor and while there is no electricity in the pan, the pan also conducts heat. The heat would transfer from the pan (a conductor) to you (a Conductors and insulators are not just limited to electricity. The next time you bake

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Conductors and Insulators - Teacher's Page

Investigation

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For this investigation you will need the following materials (per investigation):

- Insulated copper wire (3 pieces)
 - Bulb holders and '
- Battery hola
 Juat
- Wooden block
- Aluminum Foil
- Plastic and metal

S

- Cotton ball
- Rubber eraser
 - Cup of water
 - Penny
- Styrofoam cup

Set Up:

- It is assumed that students know how to make a simple circuit. vires, you will connect Students will ... one, please make one untwist this connection (or man an open incuit) to test the If deringd label them. two wires together to make c 'ong con. ection. Julator. materials to see if it is a conductor σ^{\prime} Place all the items above in a cent $_{\rm LF}$ If students do not know how to battery, and wire. However, wⁱ⁺¹
 - in the materials tested. That also makes it flexible for you to u by placing the you prefer, I have choose what items are tested for conductivity. Assure students they will not be even oci wind in the wrater to close the circuit ye created the investigation page blank
- students that they must have a closed circuit when determining having students complete the investigation. Either way, remind You may wish to demonstrate how to determine if an item is a conductor or insulator with one of the items first before if it is a conductor or insulator.

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