

# HEAT ENERGY

Click this icon anywhere you see it to always return to this homepage

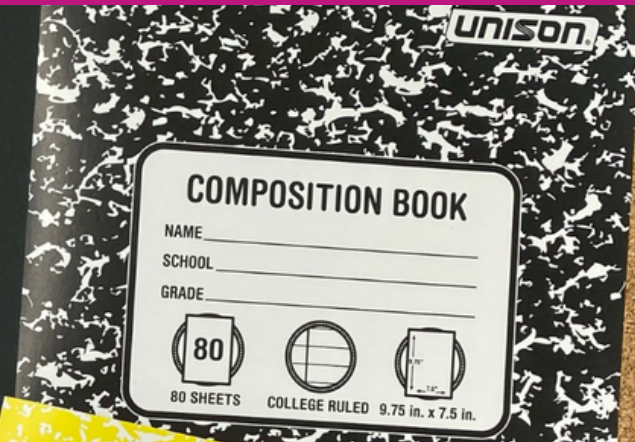
WHAT IS HEAT? HEAT ALL AROUND US HEAT TRANSFER EFFECTS OF HEAT

Click a topic above to learn more.

When you're done exploring, Click the for the Brain Burst Challenge!

BRAIN BURST!

The interface features a background of flames and four circular icons: a campfire, a thermometer, a pot on a stove, and an ice cream cone. A hand icon is shown clicking on the 'WHAT IS HEAT?' button. A speaker icon is visible in the bottom left corner.



 **LNK** **ativity**

Interactive Learning Guides

# WAIT!

Thank you for considering this LINKtivity for your classroom, but before you make a decision - you should know that you can get **access to this LINKtivity + PLUS our entire library** for about the same price as a single LINKtivity!

The results are in: **Teachers LOVE LINKtivities...** and want more! So, we've made it SUPER easy and cost effective for you to access any and ALL of our LINKtivities inside our LINKtivity Learning membership option! Instead of purchasing just ONE LINKtivity - why not get access to ALL of them... for about the SAME PRICE!



## INSIDE THE MEMBERSHIP YOU'LL HAVE UNLIMITED ACCESS TO:

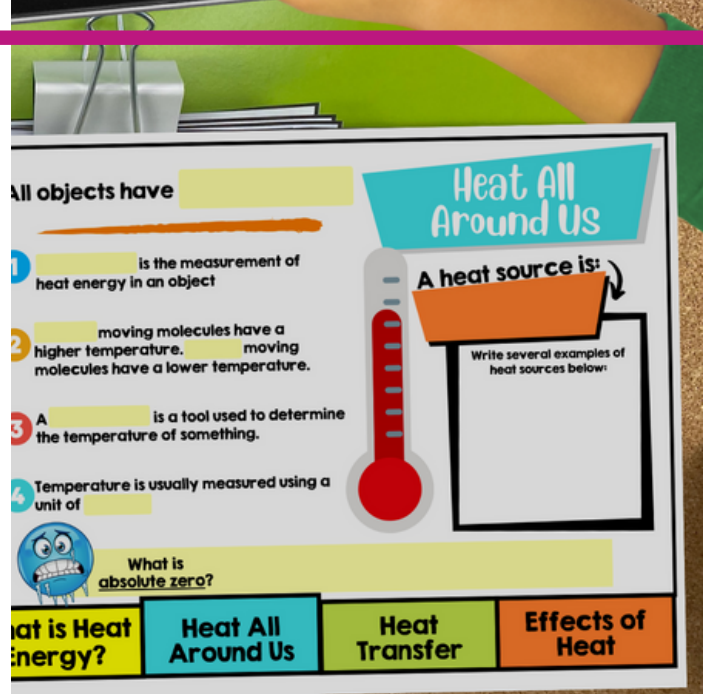
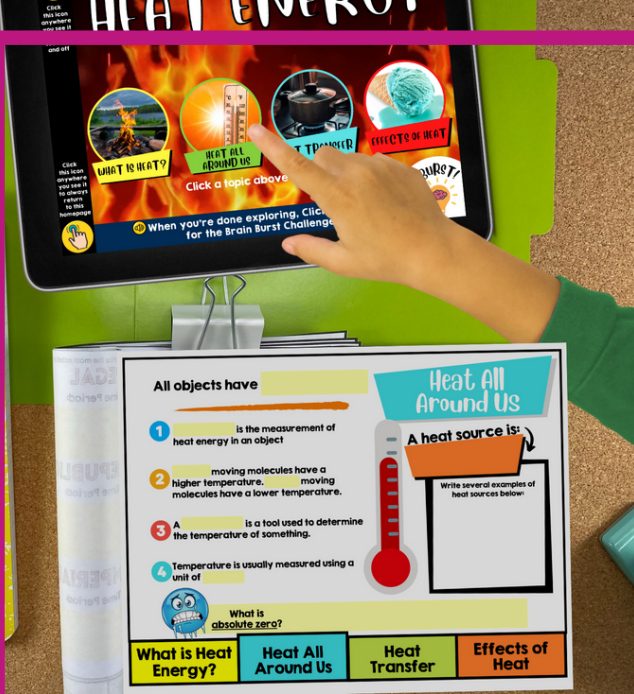
- ✓ The **entire growing LINKtivity® library** inside the Membership (LINKtivities for all content areas)
- ✓ ALL **future LINKtivities** to be added to the membership (new releases each month!)
- ✓ **Teacher guides** to help you set up each LINKtivity® successfully in your classroom
- ✓ **Student resources** that go along with each LINKtivity (printable OR digital)
- ✓ **Kid-friendly rubrics** and **answer keys** for each LINKtivity®



**JOIN NOW**







Inside the Heat Energy LINKtivity® students will learn what creates heat energy, how heat energy is transferred from one object to another (convection, conduction, radiation), and the effects heat can have on objects. Additionally, students will learn about conductors and insulators of heat. Students will also explore several related videos before completing the knowledge self-check.





# More Sample Slides

## HEAT STORY

After playing outside in the snow, Trey came inside for some hot chocolate. The hot mug felt great as it warmed his icy hands.

Read the heat story. Then, drag the correct heat transfer method that the story describes into the box.




Use the  button on the camera to scroll through the photos.


## Heat Transfer

Ever stand next to a fireplace to get warm or light the stove to heat up a pot of water? When you do this, you are transferring, or moving, heat from one object to another. Heat moves between two objects when there is a difference in temperature. Heat always moves from warmer objects to colder object.

**WAYS TO TRANSFER HEAT**

**CONDUCTORS & INSULATORS**

Click each category above to learn more.



## Ways to TRANSFER Heat

There are three ways that heat is transferred from one object to another.

Click on each heat transfer method below.

**CONDUCTION** **CONVECTION** **RADIATION**

CLICK the video icon to learn more about heat transfer

CLICK HERE to see heat transfer in action!




## Effect of Heat

By adding or subtracting heat energy, we can make changes to an object. When heat energy increases, molecules inside of the object move faster. A decrease in heat energy will slow down the movement of molecules. This change in heat energy can have a variety of effects.

**PHYSICAL CHANGES**

**CHEMICAL CHANGES**

Click each category above to learn more.




**BRAIN BURST!**

Test your knowledge of heat energy by completing each activity below.

**MATCH-UP**

**HEAT STORIES**


**CONDUCTOR VS. INSULATOR**



## CONDUCTOR VS. INSULATOR

Drag each word card to the correct category.

**CONDUCTOR** **INSULATOR**



## HEAT STORY

Sammy and his family were sitting around the camp fire. Sammy could feel the heat from the fire as he pulled his camp chair a little closer.


Read the heat story. Then, drag the correct heat transfer method that the story describes into the box.

**Convection**



**Conduction**

**Radiation**

CORRECT! Click Continue to Move On!



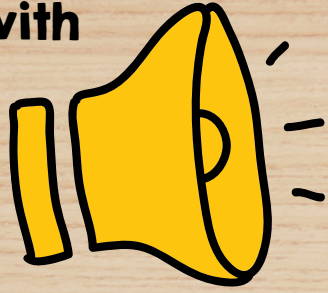
Watch these ice cubes melt. The heat in the air around the ice is greater than the heat of the ice cubes. As the heat transfers from the warmer air to the colder ice, the heat energy of the ice cubes increase and the molecules begin to move faster. As the molecules move faster, they expand and the ice begins to melt. If we wanted to reverse this action, we would need to take heat away from the melting ice in order to turn it back into a solid.



This LINKtivity is provided with

# AUDIO SUPPORT



Ever stand next to a fireplace to get warm or light the stove to heat up a pot of water? When you do this, you are transferring, or moving, heat from one object to another. Heat moves between two objects when there is a difference in temperature. Heat always moves from warmer objects to colder object.

## Heat Transfer



WAYS TO  
TRANSFER H

CONDUCTOR  
INSULATOR

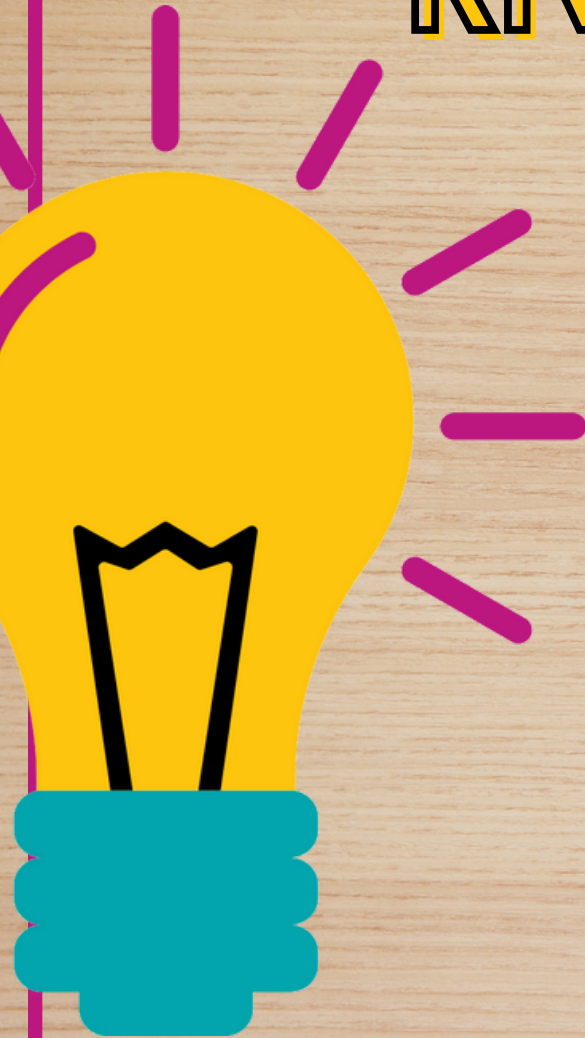
Click each category above to

Perfect for English language learners or students who could use a little extra support!





# KNOWLEDGE CHECK



Students complete a quick self-check at the end of the LINKtivity to show what they have learned!

**HEAT STORY**

Read the heat story. Then, drag the correct heat transfer method that the story describes into the box.

Sammy and his family were sitting around the camp fire. Sammy could feel the heat from the fire as he pulled his camp chair a little closer.

**Convection**

**Conduction**

**Radiation**

**CORRECT! Click Continue to Move On!**





# Teacher & Student Resources

Digital Flipbook for LINKtivity in Google Slides

## Printable Flipbook for LINKtivity

**HEAT ENERGY**  
By: \_\_\_\_\_

**What is Heat Energy?**  
\_\_\_\_\_ are always moving around randomly within an object. The movement of molecules creates a special kind of energy called \_\_\_\_\_.  
When heat energy travels from one object to another, we have \_\_\_\_\_!

**Heat All Around Us**  
All objects have \_\_\_\_\_.  
1. \_\_\_\_\_ is the measurement of heat energy in an object.  
2. \_\_\_\_\_ moving molecules have a higher temperature. \_\_\_\_\_ moving molecules have a lower temperature.  
3. A \_\_\_\_\_ is a tool used to determine the temperature of something.  
4. Temperature is usually measured using a unit of \_\_\_\_\_.  
What is absolute zero?  
A heat source is \_\_\_\_\_  
Write several examples of heat sources below.

**Heat Transfer**  
Heat moves between two objects when there is a difference in \_\_\_\_\_.  
Describe each type of heat transfer method below:  
**CONDUCTION** \_\_\_\_\_  
**CONVECTION** \_\_\_\_\_  
**RADIATION** \_\_\_\_\_  
\_\_\_\_\_ conductors allow heat energy to flow through. \_\_\_\_\_ insulators do not allow heat energy to flow through.  
Examples: \_\_\_\_\_  
**Heat Transfer**

**Effects of Heat**  
By adding or subtracting heat energy, we can make \_\_\_\_\_ to an object.  
**Physical Changes**  
Adding or subtracting heat from an object can cause it to \_\_\_\_\_.  
When this happens, the \_\_\_\_\_ properties are changed.  
**Chemical Changes**  
Sometimes when heat is added, it can completely change an object in a \_\_\_\_\_.  
When this happens, the \_\_\_\_\_ properties are changed.

**What is Heat Energy?**  
\_\_\_\_\_ are always moving around randomly within an object. The movement of molecules creates a special kind of energy called \_\_\_\_\_.  
When heat energy travels from one object to another, we have \_\_\_\_\_!

Navigation buttons: What is Heat Energy? Heat All Around Us Heat Transfer Effects of Heat

## Lesson Plan, Answer Key & Rubric

Student Flipbook Rubric				Student:
<b>Neatness &amp; Appearance</b>	<b>4 - Excellent</b> My flipbook is very neat and easy to read. I've included many details from the LINKtivity and have put what I've learned clearly in my own words. I have included information that goes above and beyond what is required.	<b>3 - Good</b> My flipbook is neat and my writing is easy to read. I've included several details from the LINKtivity, written mostly in my own words. My flipbook includes all of the required with responses.	<b>2 - Satisfactory</b> My flipbook is somewhat neat. Some of my writing is hard to read. I colored in any illustrations.	<b>1 - Needs Improvement</b> My flipbook is quite sloppy. My writing is hard to read. Illustrations are NOT colored, or are poorly drawn.
<b>Accuracy &amp; Completeness</b>	The information in my flipbook is 100% correct. I've included many details from the LINKtivity and have put what I've learned clearly in my own words. I have included information that goes above and beyond what is required.	The information in my flipbook is mostly correct. I've included several details from the LINKtivity, written mostly in my own words. My flipbook includes all of the required with responses.		

**LESSON**  
Standards Covered: 5.LS4.3, 4.LS1.1, MS.LS1.4  
Materials Needed: Animal Adaptation LINKtivity, Animal Adaptation student flipbook (optional), Scenario cards, Chart paper/markers (or SMARTboard/whiteboard), Adaptation Posters

**ESSENTIAL QUESTIONS:**  
What is an adaptation?  
What adaptations help animals survive?

**Teacher Preparation**  
Preview the Animal Adaptation LINKtivity and plan for how you will share the LINKtivity with students (ex. assign link in Google Classroom, prepare QR codes, etc). Print off the scenario cards and Adaptation Posters. Prepare an anchor chart with the definition of "adaptation." Suggested definition: An adaptation is a change that an animal undergoes to better fit into its environment.

**Lesson Introduction (5-10 min.)**  
• Introduce the essential questions.  
• Divide students into small groups and provide each group with a scenario card. Alternatively, this activity can be done as a whole group. Alternatively, this activity can be done as a whole group.  
• Groups should read their scenario card and decide what changes they would need to make to be successful. For example, one change from fall to winter is to start wearing warmer clothing or staying inside.  
• After groups have discussed, have each group share their scenario and necessary changes with the whole group.  
• Explain that another word for change is "adapt." Define this word using your prepared anchor chart.  
• Explain that animals often have adaptations to allow them to survive in their environment.

**Lesson Activity (30 min.)**  
Have students complete the Animal Adaptation LINKtivity. While navigating the LINKtivity, students have the option to complete the flipbook.

**Optional Extension Activities**  
• Assign each student an animal and have them create a poster illustrating its adaptation and how it helps the animal to survive.  
• Create a class book of animal adaptations.  
• Have students create a comic strip that tells a story about an animal facing a challenge in its environment and using its adaptations to overcome it.

**Lesson Conclusion (2-3 min.)**  
Review essential questions and have students share their responses in light of what they have learned. Display adaptation posters in your classroom for reference.

**HEAT ENERGY**  
Click this icon to activate the interactive flipbook. You can click on the icons to learn more about each topic.  
Click this icon to activate the interactive flipbook. You can click on the icons to learn more about each topic.  
Click a topic above to learn more.  
When you're done exploring, Click the Brain Burst Challenge!

**What is Heat Energy?**  
\_\_\_\_\_ are always moving around randomly within an object. The movement of molecules creates a special kind of energy called \_\_\_\_\_.  
When heat energy travels from one object to another, we have \_\_\_\_\_!

**Heat All Around Us**  
All objects have \_\_\_\_\_.  
1. \_\_\_\_\_ is the measurement of heat energy in an object.  
2. \_\_\_\_\_ moving molecules have a higher temperature. \_\_\_\_\_ moving molecules have a lower temperature.  
3. A \_\_\_\_\_ is a tool used to determine the temperature of something.  
4. Temperature is usually measured using a unit of \_\_\_\_\_.  
What is absolute zero?  
A heat source is \_\_\_\_\_  
Write several examples of heat sources below.

**HEAT ENERGY**  
By: \_\_\_\_\_