

# CLIMATE CHANGE

# DOODLE NOTES

# BUNDLE



- ACTIVATES WHOLE BRAIN
- INCREASES RETENTION
- IMPROVES FOCUS
- REDUCES STRESS
- ENGAGES STUDENTS

The Perfect Mix  
of Science & Art



**Review**

**Find the Image - Review**  
Name: Solutions  
Date: \_\_\_\_\_  
Record your answer to each question in the chart. Then find your answer in the grid and shade it in with the appropriate colour.

**Classifying Matter: Find the Hidden Image**  
Name: \_\_\_\_\_  
Date: \_\_\_\_\_  
Classify each substance as either a compound (C) or an element (E). To reveal the hidden image, color the appropriate boxes.

**Compound or Element: Find the Hidden Image**  
Name: \_\_\_\_\_  
Date: \_\_\_\_\_  
Classify each substance as either a compound (C) or an element (E). To reveal the hidden image, color the appropriate boxes.

**Crack the Puzzle - Review**  
Date: \_\_\_\_\_  
In the chart below, record the missing values using a Periodic Table. The value of the missing value is the sum of the values of the elements above and to the left of the missing value.

Element Name	Standard Atomic Notation	Atomic Mass	Atom Number
Bromine	$^{80}_{35}\text{Br}$	80	35
Carbon	$^{12}_6\text{C}$	12	6
Nitrogen	$^{14}_7\text{N}$	14	7
Boron	$^{10}_5\text{B}$	10	5
Iron	$^{56}_{26}\text{Fe}$	56	26
Krypton	$^{84}_{36}\text{Kr}$	84	36
Aluminum	$^{27}_{13}\text{Al}$	27	13

**Naming Compounds**  
Write the name of the ion (usually in brackets) and the number of ions (charges) if the metal has a charge other than +1 or +2. For the polyatomic ion (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, ammonium sulfate.

**Binary Ionic Compound**  
1-I  
2-II  
3-III  
4-IV  
5-V  
6-VI  
7-VII  
8-VIII  
9-IX  
10-X

**Molecular Compound**  
1mono- 2di- 3tri- 4tetra- 5penta- 6hexa- 7hepta- 8octa- 9nona- 10deca-

**Compound with Polyatomic Ions**  
Write the name of the cation (usually in brackets) and the number of ions (charges) if the metal has a charge other than +1 or +2. For the polyatomic ion (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, ammonium sulfate.

**Q1: Are there more than 2 elements?**  
Yes—Compound with Polyatomic Ions No—Go to Q2.

**Q2: Is there a metal?**  
Yes—Go to Q3. No—Molecular Compound

**Q3: Does the metal have multiple ionic charges?**  
Yes—Binary Ionic Compound (Metal with Multiple Ionic Charges)  
No—Binary Ionic Compound

# MORE GREAT RESOURCES

**Puzzles**

**Find the Image - Review**  
Name: \_\_\_\_\_  
Date: \_\_\_\_\_  
Record your answer to each question in the chart. Then find your answer in the grid and shade it in with the appropriate colour.

**Crack the Puzzle - Review**  
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**Cell Cycle**

**Interphase**  
The cell has grown, new organelles have formed, and DNA has been replicated in the nucleus.

**Mitosis**

**Prophase**  
The DNA and centromeres become visible. The nuclear envelope and nucleolus break down.

**Metaphase**  
The chromosomes line up in the center of the cell.

**Anaphase**  
Each chromosome splits into two sister chromatids.

**Telophase**  
Two new nuclei form as the chromosomes uncoil.

**Cytokinesis**  
The cytoplasm divides, pinching off in two new daughter cells.

**Lessons**

**Major Developments in Nuclear Technology**

Year	Event
1895	Röntgen discovers X-rays.
1896	Becquerel discovers radioactivity from Uranium salts.
1898	Maria and Pierre Curie identify 2 radioactive elements, polonium and radium.
1905	Einstein publishes the theory of relativity.
1911	Rutherford discovers the nucleus.
1919	Rutherford achieves first nuclear reaction.
1927	Chadwick identifies the neutron.
1932	Heisenberg and Schrödinger develop quantum mechanics.
1934	Fermi achieves first nuclear chain reaction.
1938	Nazi Germany uses uranium for atomic bomb.
1942	Enrico Fermi's team achieves first nuclear chain reaction in a reactor.
1945	Atomic bomb is dropped on Nagasaki.
1952	First nuclear power plant is built.
1954	First nuclear power plant is built in the US.
1957	First nuclear power plant is built in the UK.
1959	First nuclear power plant is built in the USSR.
1966	Chemical synthesis of a new element, seaborgium.
1979	Three Mile Island nuclear power plant accident.
1986	Chernobyl nuclear power plant accident.
1987	First nuclear power plant is built in France.
1997	First nuclear power plant is built in Canada.
2011	Fukushima nuclear power plant accident.

**Notable Disasters**

**Alpha Decay,  $\alpha$ -decay**  
Alpha decay is one of the most common forms of radioactive decay. Alpha decay involves the emission of a helium nucleus (2 protons and 2 neutrons) from the decaying atom.

**Beta-positive Decay**  
The general equation for beta-positive decay is as follows:  
 $^A_ZX \rightarrow ^A_{Z-1}Y + ^0_+1e$

**Units**

**Radioactive Decay**

**alpha-decay**  
 $^A_ZX \rightarrow ^{A-4}_{Z-2}Y + ^4_2\text{He}$

**beta-negative decay**  
 $^A_ZX \rightarrow ^A_{Z+1}Y + ^0_{-1}e$

**beta-positive decay**  
 $^A_ZX \rightarrow ^A_{Z-1}Y + ^0_+1e$

**Nuclear Energy: Radioactive Decay**  
Date: \_\_\_\_\_  
Name: \_\_\_\_\_  
What is Radioactive Decay?  
Radioactive decay is the process by which the nucleus of an unstable atom spontaneously disintegrates, releasing energy and particles.

**Alpha Decay,  $\alpha$ -decay**  
Alpha decay is one of the most common forms of radioactive decay. Alpha decay involves the emission of a helium nucleus (2 protons and 2 neutrons) from the decaying atom.

**Beta-positive Decay**  
The general equation for beta-positive decay is as follows:  
 $^A_ZX \rightarrow ^A_{Z-1}Y + ^0_+1e$

**Flipbooks**





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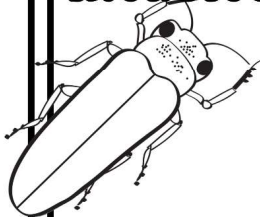
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# Global Effects

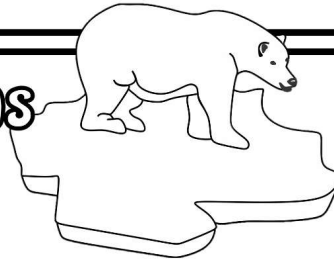


Invasive Species



Forest Fires

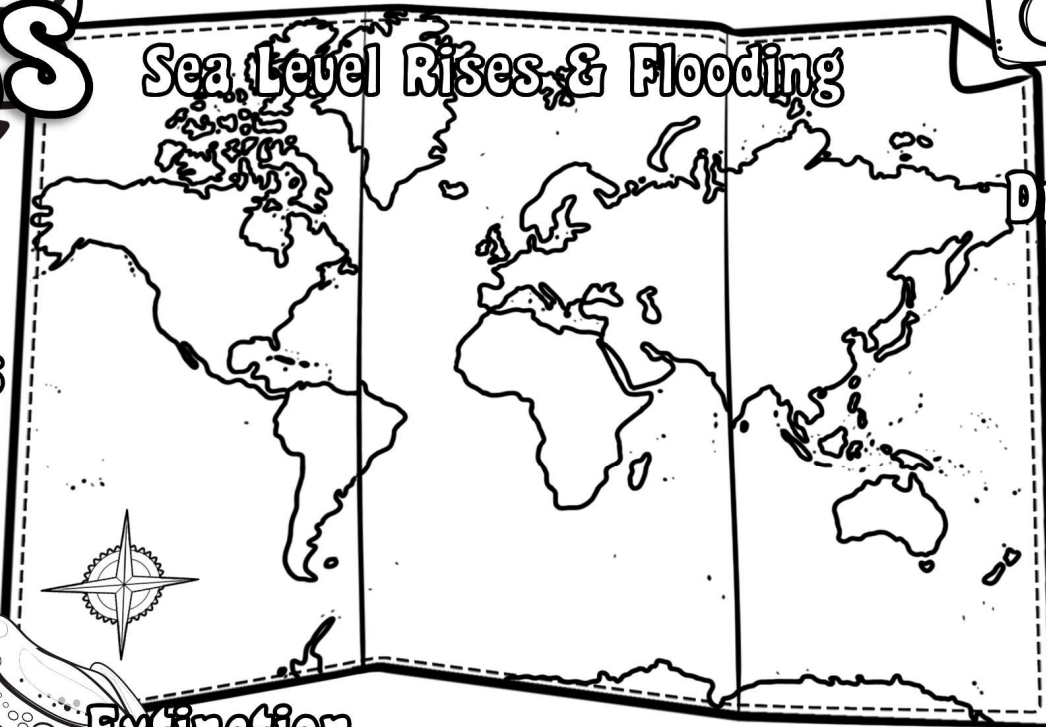
Melting Ice Caps



Heatwaves



Sea Level Rises & Flooding

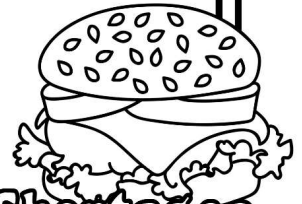


Drought

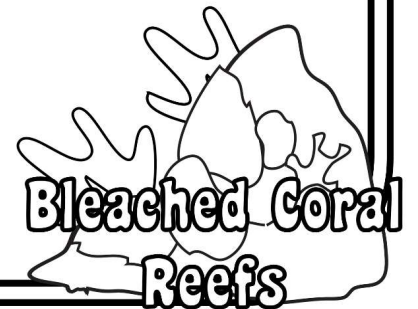


Extinction

Food & Water Shortages



Severe Weather



Bleached Coral Reefs

name:



# Global Effects

## Melting Ice Caps

Rising temperatures have accelerated the melting of polar ice.



## Heatwaves

Rising temperatures can stay very high for days or weeks.



High temperatures lead to more evaporation, causing drought in some areas.

## Sea Level Rises & Flooding



As ice melts, sea levels rise, causing flooding, property damage, and new coast lines.

## Drought



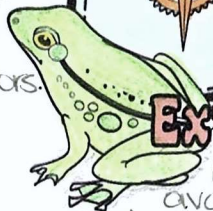
Climate changes, rising temperatures, drought and invasive species affects the food and water supplies.

## Invasive Species



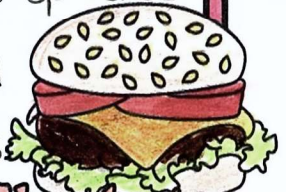
As climates change, new species will be able to live in areas to which they are not native. This can disrupt the food web if there are no predators.

## Extinction



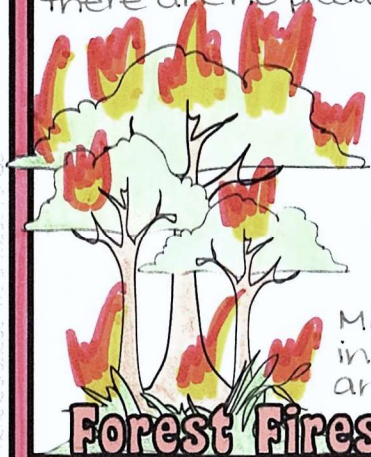
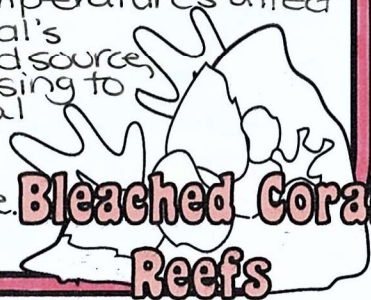
As food availability decreases, some species are at risk of extinction.

## Food & Water Shortages



Increased ocean temperatures affect coral's food source, causing to coral to turn white.

## Bleached Coral Reefs



## Forest Fires

More hot, dry climates increases the likelihood and intensity of forest fires.



## Severe Weather

Higher temperatures lead to more ocean evaporation causing heavier rainfalls and snowfalls.

name: Solutions