EARTH'S ATMOSPHERE

Table of Contents:
Earth's Atmosphere

Introduction

If you are new to the idea of using a Science Interactive Notebook in your classroom, **stop by my Nitty Gritty Science shop and download my Intro to Science Interactive Notebooks tutorial for FREE!** In there you will find tips on how to begin with your students, what materials to have on hand and, most importantly, how it will enhance your students' learning through reflection and creativity.

Focused Lessons with Differentiated Instruction

The lessons shared on the following pages cover National Science Standards and meet students' needs. I have given you the notes that I would give my students (Right Side – Input Side of Notebook) so you can understand what I'm having the students focus on when working on their creative assignments (Left Side – Output Side of Notebook). Each lesson focuses on a Question of the Day (QOD) represented in red in the top margin of each "Input" page with the student giving an answer in red on the "Output" page.

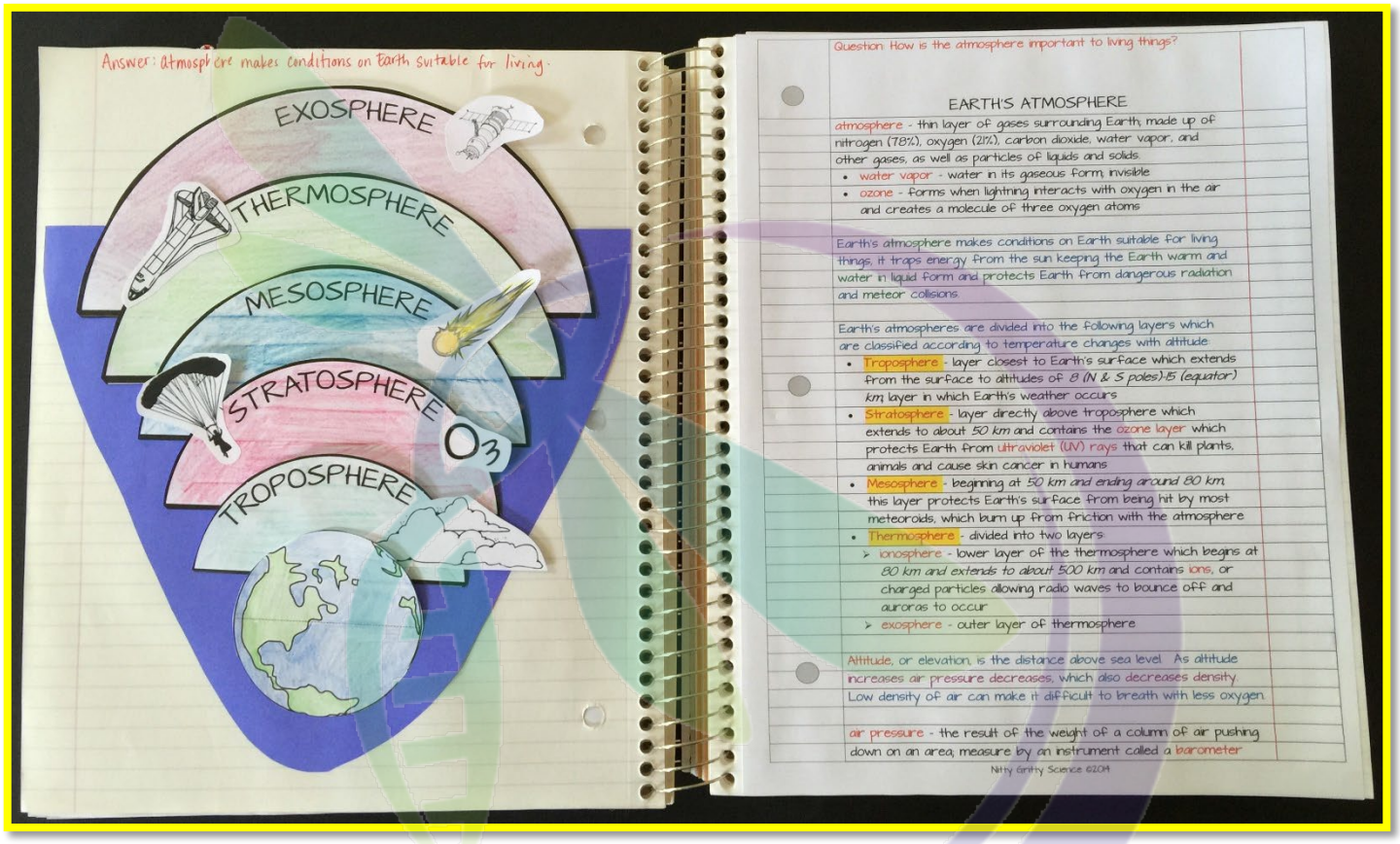
Left Side – Output

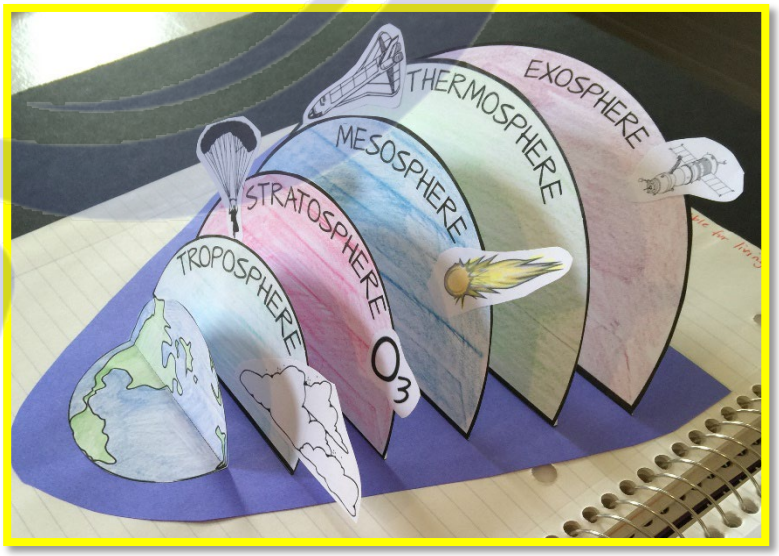
Instructions for each Output Side are included. This includes cut-outs, foldables or master copies where applicable. You may find that students work slowly at first, but once groups are organized and students know what is expected from them, not only will you see more energy focused on the final product, but also you will be shocked at the level of creativity certain students have in certain areas.

Mini-Assessments

Mini quizzes will be given for each section so you may monitor student's level of understanding. For reproduction purposes, there are two quizzes to a page so you can cut them in half and save on some paper ☺

Section 1: Earth's Atmosphere



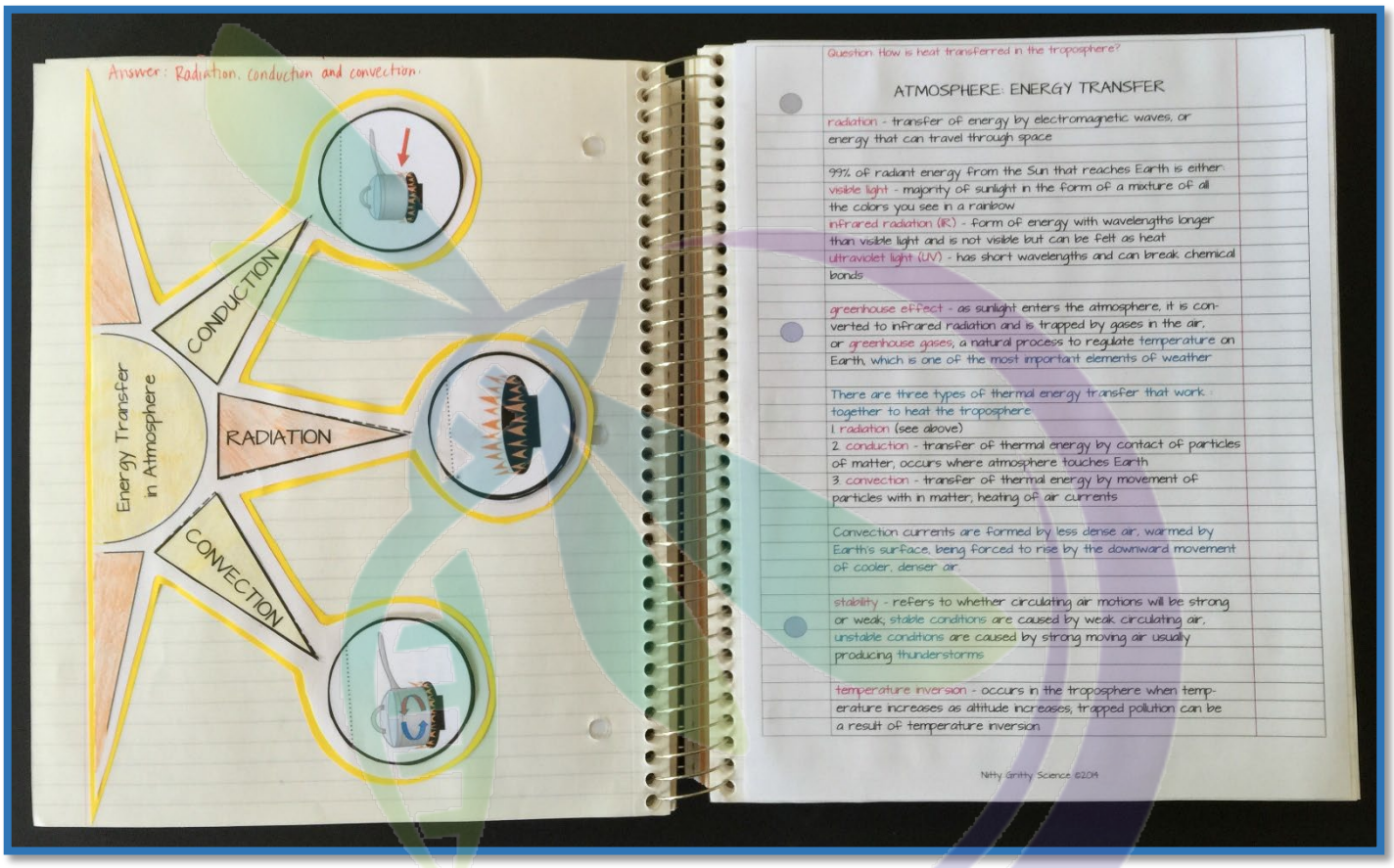


Description:

Students learn the names and order of the layers of Earth's atmosphere with this activity. They are also asked to write a brief description as well as identify objects within each layer. I have included two versions – one has the layers already labeled, and the other has a list of names where the students need to cut out and identify each layer.

A student printable with cut-outs are included, as well as a mini quiz.

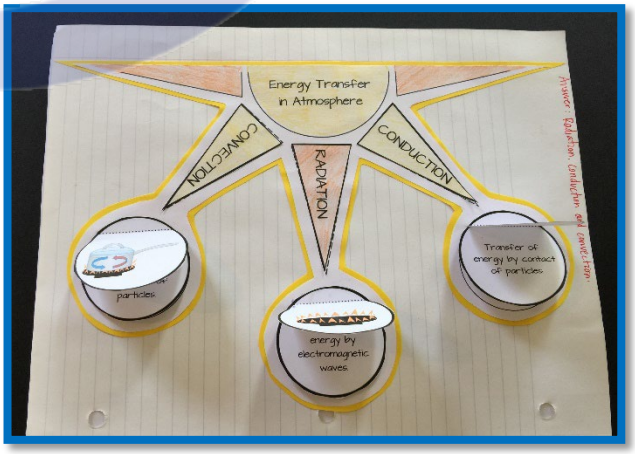
Section 2: Atmosphere: Energy Transfer



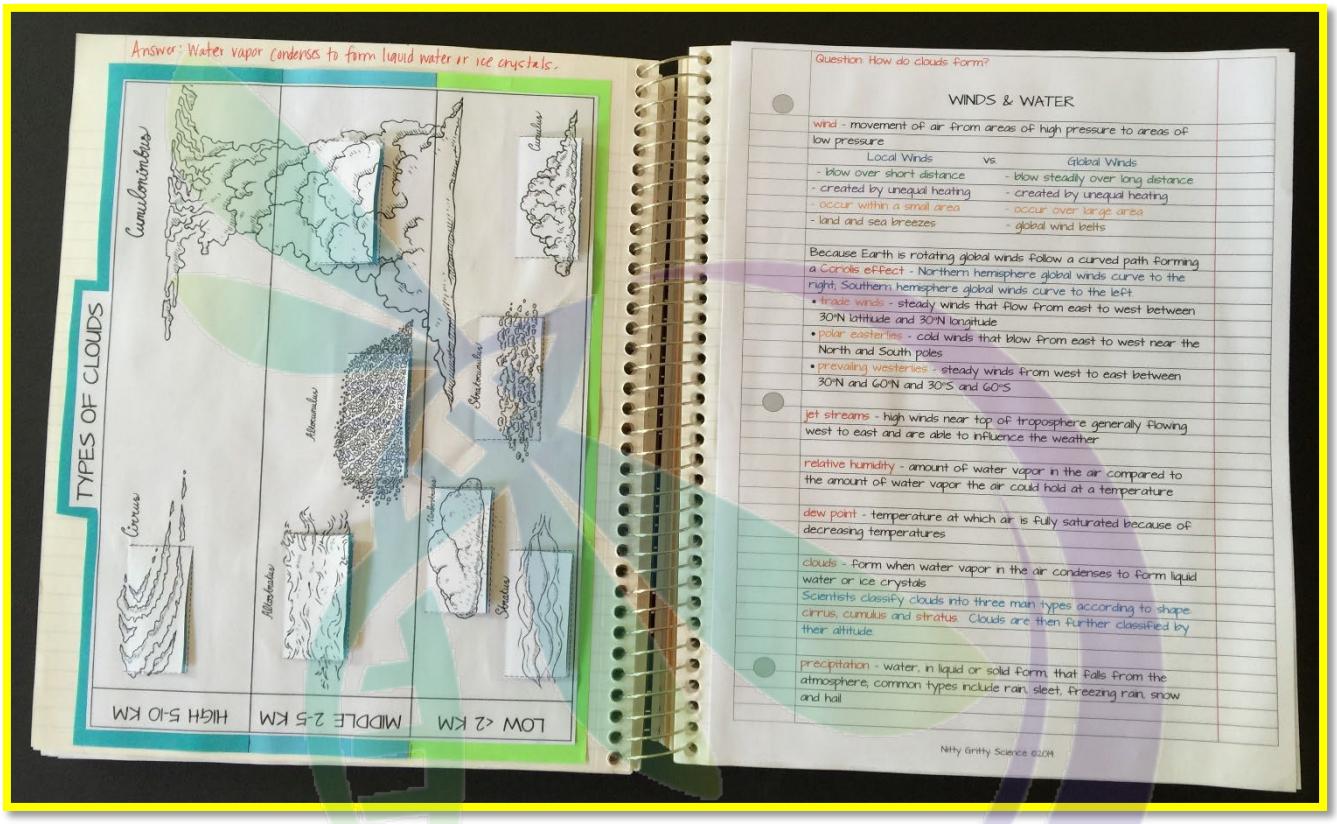
Description:

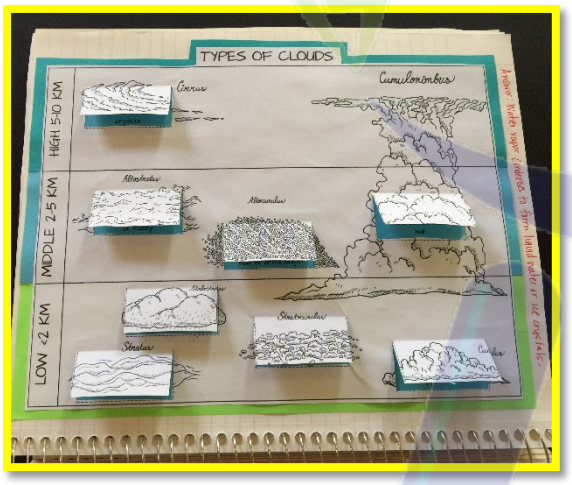
Students will need to review the different forms of energy transfer, identify the definition and diagram for each, and then describe or draw a real-world example of each.

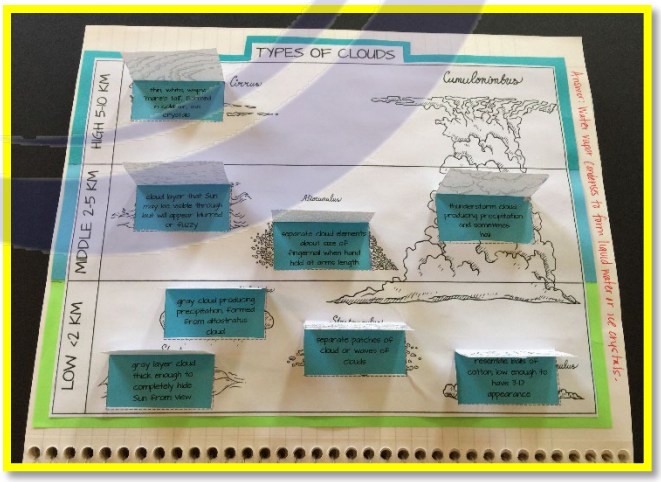
Printable, cut-outs, teacher answer key and a mini-quiz are all included for this concept.



Section 3: Winds & Water







Description:

Students will be able to identify types of clouds based on their shape and their altitude in the troposphere. Each description will be placed behind a flap for each cloud, which will help students self-quiz themselves for review. I have made a version where clouds are already labeled and another where students need to label clouds themselves.

Printables with cut-out flaps, teacher answer key and a mini-quiz are all included for this concept.

Name _____ Date _____

Quiz: Air Quality

Circle the word that makes the statement true.

1. In 1970 the US government set air quality standards called the (Breath Easy Act, Clean Air Act).
2. Particles of carbon that enter the air when wood or coal are burned are called (dust, soot).
3. Over the past 30 years, air quality in the United States has generally (improved, declined).
4. One cause of (acid rain, soot) is the burning of coal that contains a lot sulfur.
5. Harmful substances in air, water, or soil are called (pollutants, particles).
6. (Purple, Green) represents safe air quality on the Air Quality Index.
7. Pollution that comes from a volcano is called (nonpoint-source, point-source).
8. The majority of air pollution comes from (burning fossil fuels, particulate matter).

MINI QUIZZES INCLUDED FOR EACH SECTION

Name _____ Date _____

Quiz: Air Quality

Circle the word that makes the statement true.

1. In 1970 the US government set air quality standards called the (Breath Easy Act, Clean Air Act).
2. Particles of carbon that enter the air when wood or coal are burned are called (dust, soot).
3. Over the past 30 years, air quality in the United States has generally (improved, declined).
4. One cause of (acid rain, soot) is the burning of coal that contains a lot sulfur.
5. Harmful substances in air, water, or soil are called (pollutants, particles).
6. (Purple, Green) represents safe air quality on the Air Quality Index.
7. Pollution that comes from a volcano is called (nonpoint-source, point-source).
8. The majority of air pollution comes from (burning fossil fuels, particulate matter).

EARTH'S ATMOSPHERE

INCLUDES STUDENT SECTION COVERS

Question: How do clouds form?

WINDS & WATER

wind – movement of air from areas of high pressure to areas of low pressure

Local Winds	vs.	Global Winds
– blow over short distance		– blow steadily over long distance
– created by unequal heating		– created by unequal heating
– occur within a small area		– occur over large area
– land and sea breezes		– global wind belts

Because Earth is rotating, global winds follow curved path forming a Coriolis effect

- Northern hemisphere global winds curve to the right; Southern hemisphere global winds curve to the left

- trade winds – steady winds that flow from east to west between 30°N latitude and 30°S latitude
- polar easterlies – cold winds that blow from east to west near the South Pole
- prevailing westerlies – steady winds from west to east between latitude lines 30°N and 60°N and 30°S and 60°S

jet streams – high winds near top of troposphere generally flowing west to east that are able to influence the weather

relative humidity – amount of water vapor in the air compared to the amount of water vapor the air could hold at a temperature

dew point – temperature at which air is fully saturated because of decreasing temperatures

clouds – form when water vapor in the air condenses to form liquid water or ice crystals

Scientists classify clouds into three main types according to shape: cirrus, cumulus and stratus. Clouds are then further classified by their altitude.

precipitation – water, in liquid or solid form, that falls from the atmosphere; common types include rain, sleet, freezing rain, snow, hail

Thank you for sharing NGS Magnified with your students!

Terms of Use

Contact Information:

Email: admin@nittygrittyscience.com

Website: www.NGSmagnified.com

TPT: https://www.teacherspayteachers.com/Store/Nitty-Gritty-Science