



head in the clouds activities for families

Did you know that clouds have names? During a National Children’s Museum “Head in the Clouds” PreK-2 field trip experience, students explore the different names and types of clouds and use observation and reasoning skills to create a three-dimensional representation of a particular cloud type.

Below is a list of hands-on activities covering topics ranging from clouds, weather, observations, and measurement and data that you can do at home with children.

climate action challenge

Are you a Mighty Meteorologist or a Water Warrior? Visit climate-heroes.org to find your inner superhero persona and to see some awesome resources to help save the planet. Join us each week on our Facebook page for a new mission—complete each one to win a prize and to be entered for a chance to win a membership. Visit nationalchildrensmuseum.org/steamwork for more #STEAMwork video challenges and resources for children, families and educators.

read aloud

Books like the NASA GLOBE Education Program—Elementary E-Book [Did You Know that Clouds Have Names?](#) can help children understand that there are different types of clouds and spark discussion about the differences between each type of cloud.

This e-book (available in English and Spanish) provides an in-depth description of different cloud classifications and their qualities and function. It also contains educator notes for fuller context. The corresponding site offers additional activities for further investigation.

make a cloud in a jar

Clouds are formed when warm air rises, expands and then cools. Cool air can’t hold as much water vapor as warm air. The vapor will then begin to condense and form itself around dust particles that are floating in the air. When billions of these particles come together, they form a cloud. Investigate this phenomenon using the cloud in a jar experiment. <https://www.hgtv.com/design/make-and-celebrate/handmade/cloud-in-a-jar-science-experiment>

topics: clouds,
weather, observations,
measurement + data

grades: pre-k
through 2nd grade

additional weather-related activities:

make a suncatcher
<https://whereimaginationgrows.com/stained-glass-rainbows-spring-crafts/>

homemade rain stick
<https://climatekids.nasa.gov/rainstick/>

sensory snow
<https://www.kidsplayandcreate.com/pretend-fake-snow-recipes-for-kids-how-to-make-snowpaint-snow-clay-for-kids/>

name that cloud

Get some fresh air each day by identifying the type of clouds that are present in the sky using the cloud viewer from the UCAR Center for Science Education. <https://scied.ucar.edu/activity/cloud-viewer>

You can also practice identifying clouds when you download this Cloud Catcher Trivia game. <https://scied.ucar.edu/sites/default/files/images/short-content-type/Spark-cloud-catcher.pdf>

keep a weather journal

Using an ordinary spiral notebook or using a template, such as the pages included below, you can make a daily routine out of describing the day's weather. Complete at least 10 days in your journal, bring it to the museum on your next visit and receive a prize from the admissions desk!

visual representation

You can create your own clouds using paint, yarn, glue, ribbon and other materials around the house. Read, listen and act out the adjectives that describe specific types of clouds before making your own creation.

cirrus

thin, wispy, feathery, curl of hair

altocumulus

puffy, patchy, ripples, in a group

altostratus

smooth, gray, sheet, can see the sun

nimbostratus

rain, gloomy, thick, dark

cumulus

fluffy, pile, round top, flat bottom

stratus

thin, large, horizontal, blanket

altitude is everything

Using this NASA Cloud Chart, explore the different types of cloud by classifying them by altitude: lowlevel, mid-level, or high-level. Assemble clouds (either ones you made yourself or cut-out images) in the proper height-order. https://www.nasa.gov/pdf/312992main_CombinedCloud2.pdf

need to know

educational activities support the following standards:

common core state standards

- CCSS.ELA-Literacy.SL.K.4/ CCSS.ELA-Literacy.SL.1.4: Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.
- CCSS.ELA-Literacy.SL.K.5 / CCSS.ELA-Literacy.SL.1.5: Add drawings or other visual displays to descriptions as desired to provide additional detail.

next generation science standards

- K-ESS2-1 Earth's Systems: Use and share observations of local weather conditions to describe patterns over time.
- K-ESS3-2 Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.

what are clouds?

A cloud is a large collection of very tiny droplets of water or ice crystals. The droplets are so small and light that they can float in the air. <http://www.weatherwizkids.com>

how are clouds formed?

All air contains water, but near the ground it is usually in the form of an invisible gas called water vapor. When warm air rises, it expands and cools. Cool air can't hold as much water vapor as warm air, so some of the vapor condenses onto tiny pieces of dust that are floating in the air and forms a tiny droplet around each dust particle. When billions of these droplets come together they become a visible cloud. <http://www.weatherwizkids.com>

what is weather?

From sunny and clear, to wet and rainy, the weather is what happens in our atmosphere at any given time or place. All weather is driven by the Sun. The Sun's heat changes temperatures in our atmosphere causing water to evaporate and air to move from place to place. <https://naaweb.org/images/STEMGems-CloudinBottle.pdf>

There are six main components, or parts, of weather. They are temperature, atmospheric pressure, wind, humidity, precipitation, and cloudiness. Together, these components describe the weather at any given time. These changing components, along with the knowledge of atmospheric processes, help meteorologists—scientists who study weather—forecast what the weather will be soon. <https://www.nationalgeographic.org/encyclopedia/weather/>

Daily Weather Journal

Grades K-2



Today is:

The weather outside is:

What kind of clouds do you see outside?

Draw a picture of the sky here:

A large, empty rectangular box with a dark blue border, intended for a child to draw a picture of the sky.

Name:

Daily Weather Journal

Grades 3-5



Date: _____

Temperature: _____ °F

Describe the weather outside:

Describe the clouds in the sky:

Cloud Type: _____

Cloud Altitude: _____

Cloud Cover:
(Circle One)



CLR

Clear

Less than 1/10 of sky covered by clouds



SCT

Scattered

1/10 to 5/10 of the sky is covered by clouds



BKN

Broken

5/10 to 9/10 of the sky is covered by clouds



OVC

Overcast

Over 9/10 cloud coverage



X

Obscured

Fog, dust or snow prevents cloud coverage reading

Draw a picture of the sky here:

Name: _____