



If your cloud has heavy rain with lightning and thunder

-- your cloud is **cumulonimbus**
(a low cloud)



If your cloud has drizzly rain with small raindrops

-- your cloud is **nimbostratus**
(a low cloud)



If your cloud is high, thin and the sun is shining brightly casting distinct shadows

--your cloud is **cirrostratus** (a high cloud)



If your cloud is thicker, the sun is dimmer, and there are no shadows
--your cloud is **altostratus**
(a middle level cloud)

If your cloud is so low that it is hard to see the bottom and it covers most of the sky

--your cloud is **stratus**
(a low cloud)



If your cloud is in a straight-line, then it may be a CONTRAIL. There are three types of contrails that are described on the back page.

-- If your cloud is caused by nature, it is **cirrus**
(a high cloud)



If the puffs are the size of your fingernail (quite small)

-- your cloud is **cirrocumulus** (a high cloud)



If the puffs are the size of your thumb (medium-sized)

--your cloud is **altocumulus**
(a middle level cloud)

if the puffs are the size of your fist (large)

--your cloud is **cumulus**
(a low cloud)



If your cloud is nearly a solid layer of large puffs (the size of your fist or larger).

--your cloud is **stratocumulus**
(a low cloud)

CAUTION: If your cloud puffs are smaller than your fist, check under Flap 5 for altocumulus.



4. Flat layered Clouds

Look at how high and how thick your flat layered cloud is.

Open flap to determine your cloud type.

5. Puffy bumpy Clouds

Hold your hand up toward your cloud at arms length. Look at the size of the individual puffs or mounds. Compare them to your hand.

Open flap to determine your cloud type.

A Semi-Dichotomous Key
By Dr. Tina J. Cartwright (tina.cartwright@marshall.edu)

CONTRAILS

Do you see clouds that are in a straight line?
Your clouds may be caused by an airplane. There are 3 types of contrails.

Short-lived
disappears quickly
behind the plane



Persistent Non-spreading
Remains visible and keeps
shape



Persistent spreading
Remains visible and
spreads out



Visual Opacity

Do you see sunlight passing through the clouds?
There are 3 types of visual opacity for clouds.

If yes,
your cloud is
Transparent
Light passes easily.
Clouds are bluish-
whitish.



If somewhat,
your cloud is
Translucent
Some light passes
through. Clouds are
mostly bright white.



If no,
your cloud is
Opaque
Light does not pass.
Clouds are mostly
gray.



Directions: First time: Fold along the solid lines so this side is the back and the 5 question sections are the front. Use scissors to cut along the dash lines to make 5 flaps that align with the boxes underneath them.

Look up at the part of the sky with the cloud that you want to identify. Your sky may have more than one cloud type. If you see clouds in a straight line, then they may be contrails (See above). For the other natural clouds, begin at Question 1 and ask yourself the questions. Answer yes or no for questions 1 and 2 to see if your cloud is one of these. For Question 3, you must decide if your cloud is a flat cloud, a puffy cloud or a layer of large puffy clouds. If it is a uniform flat layered cloud, open up flap 4 and use the clues to decide which stratus cloud it is. If it is a lumpy puffy cloud, open up flap 5 and look at the size of each little lump, then decide which cumulus cloud it is.



For more information:

<http://wvscience.org/clouds>

Cartwright, T., Miranda R., Herman, R., & Hemler, D. (2012). Clear Skies ahead: Clearing up confusion about clouds. *Science Scope*, 45(10), 61-67.

The Cloud Dichotomous Key

1. Is it raining?

NO – Go to number 2
below.

YES – Open this flap.

2. Is it a high wispy cloud, like a horse's tail?

NO – Go to number 3
below.

YES – Open this flap.

3. Is it flat & layered, puffy & bumpy, or some of both?

It is **flat & layered** – go to
number 4.

It is **puffy & bumpy** – go to
number 5.

It is some of **both** – Open
this flap.