

# Cloud Spotting

This pack will help you to learn more about clouds and what they can teach us about the weather. All the activities in this pack can be done at home, from a window or in the garden.

## Background Science

The weather tells us the story of what is happening in the air that makes up our atmosphere. Different sections of this air are referred to as 'air masses' - all of which have different temperatures and hold different amounts of water. An air mass can cover thousands of square miles. When you observe a change in weather from one day to the next, it is due to the movement of these air masses.



A 'front' is an area where two air masses meet and do not mix. The reason the air masses do not mix is because they are different temperatures and therefore different densities. Fronts are associated with changes in the weather. There are four different kinds of front: cold front, warm front, occluded front and stationary front

Clouds are a useful indicator of what weather fronts are doing and can give us a good idea of what weather we should expect next. Check out '[The Battle of the Weather Fronts](#)' video on the BBC website for a useful explanation of how these work!

All clouds are made of water vapour that has cooled as it rises high in the atmosphere and condensed to form water droplets or ice crystals. Certain types of cloud contain much more water than others. Fluffy cumulus clouds are fairly light at around 98,000kg (about the weight of 18 elephants) but a cumulonimbus cloud that is just about to pour down can be as much as 48,000 000kg (or 9,000 elephants!).

Use the cards at the end of this pack to identify the clouds you can see from your window.

## Useful Weather Websites

[Met Office](#)

[Royal Meteorological Society Weather and Climate](#)

[The Great British Weather, BBC Clips](#)

[Cloud Appreciation Society](#)



## Cloud Identification

One of the first steps in appreciating how interesting clouds are is recognising the variety of different clouds that can appear in the sky. Use the cloud spotting window included at the end of this pack. Cut out the middle so it can be used as a window to the sky. Go to your nearest outdoor spot or look out of the window and spend some time looking at the sky and identifying the different types of cloud you can see. Make sure you do not look in the direction of the sun.

Once you have identified some clouds you can also use the information cards included below to work out what weather they might be bringing. Do you need to put your raincoat on or not?!

## Activity: Create a cloud

Creating cloud images is a very simple and easy craft.

### All you need is the following:

- Card - different shades can be useful particularly blue and white
- Cotton wool
- Glue
- Watercolour paints
- Images of different cloud types (included at the end of this pack)

### What to do:

1. Get each child to choose a cloud type
2. Use the materials to create an image of their cloud type thinking carefully about all the characteristics of their cloud - What shape is it? How high in the sky is it found? What colour does it usually look? What colour is the sky when this cloud is present?

## Activity: Cloud spotting tig

This is a great game to play once you have created cloud pictures and a useful way to consolidate cloud I.D. skills.

- Set up an area where the photographs of the different clouds (at the end of this pack) are put up around the space. This could be indoors or out.
- Each person then takes it in turns to hold up their cloud picture. Everyone else has to decide what type of cloud the picture is and run to stand next to the matching image.
- The person who's cloud it is then reveals who is standing next to the correct cloud.
- For an extra bit of fun you can have a 'penalty' where the people who get it wrong get 'rained' on. A plant spray bottle works well for this as it only 'rains' a light mist!
- You could also do this activity with photographs of clouds.

## Cumulonimbus



What do they look like?

Low in the sky  
Towering, thick clouds which reach up high into the sky  
Flat bottoms with high rounded tops  
Grey - dark grey colour underneath

Likelihood of precipitation?

High

What do they tell us about the weather?

Usually mean heavy rain and thunderstorms  
Often with thunder, lightning and hail

## Cirrostratus



What do they look like?

High in the sky  
Very thin clouds which often make a layer across the sky  
They can make the sky look bright white

Likelihood of precipitation?

None

What do they tell us about the weather?

Often mean precipitation will fall in the next 24 hours especially if followed by clouds lower in the sky

## Altostratus



What do they look like?

Medium height in sky  
Clouds make fluffy patches or lines but smaller than the ones made by stratocumulus  
White and or grey in colour

Likelihood of precipitation?

Very low

What do they tell us about the weather?

Sometimes they mean there will be thunderstorms later in the day  
Usually followed by the weather getting worse

## Nimbostratus



What do they look like?

Quite low in the sky  
They make a thick layer across the sky  
Grey - dark grey in colour

Likelihood of precipitation?

High

What do they tell us about the weather?

Often make lots of light rain  
Can sometimes get heavier

## Stratocumulus



What do they look like?

Low in the sky  
They make clumps or patches which are about the same size and line up in bands across the sky  
Grey - white in colour

Likelihood of precipitation?

Low

What do they tell us about the weather?

These clouds can mean the weather will stay nice and if bigger patches of blue sky start to appear it could even get nicer

## Cumulus



What do they look like?

Low in the sky  
Puffy clouds which sometimes look like floating cotton wool  
Flat bottoms and rounded tops  
White - very light grey underneath

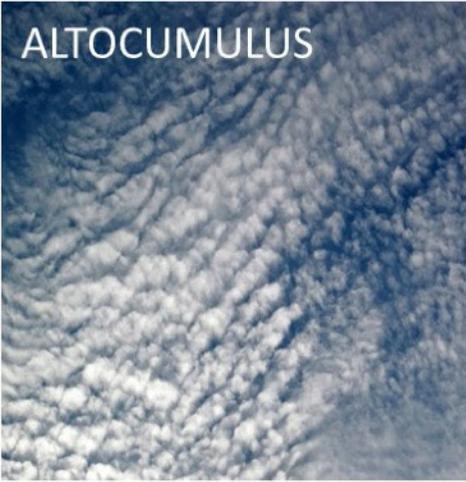
Likelihood of precipitation?

Low

What do they tell us about the weather?

Often known as fair weather clouds but can grow into cumulonimbus rain clouds

ALTOCUMULUS



CIRRUS



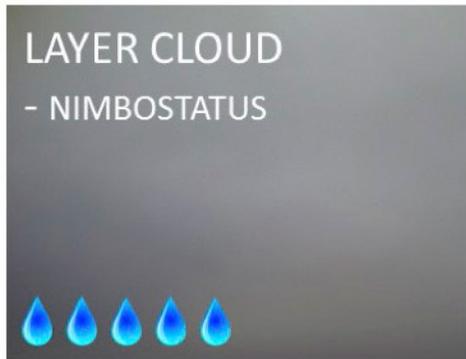
CUMULONIMBUS



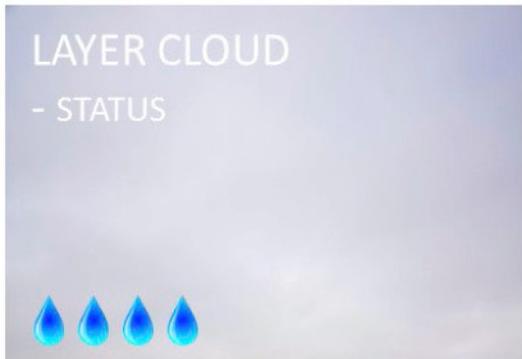
STRATOCUMULUS



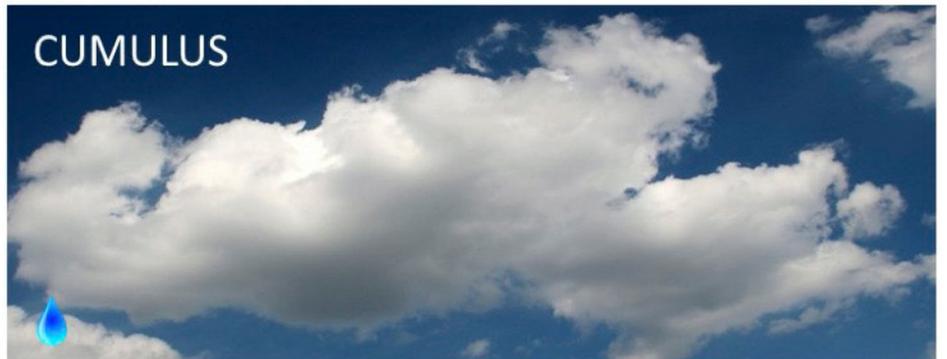
LAYER CLOUD  
- NIMBOSTATUS



LAYER CLOUD  
- STATUS



CUMULUS



CUMULUS



# STRATOCUMULUS



LAYER CLOUD

- NIMBOSTRATUS



# LAYER CLOUD

- STRATUS





CUMULONIMBUS

CIRRUS



ALTOCUMULUS

