How to use
Unfolding knowledge

For the minibook:
(1) pass it through your printer using DUPLEX setting with print to fit and page scaling switched OFF (so that you don't get white margins).
(2) fold once across the middle and cut along fold.
(3) staple or hot glue the spine to make a conventional book.
As you make more minibooks, keep the set in a box, and make class sets. Give them out as non-fiction reading units.
Make English comprehensions and summaries about them.
Help children to learn about how to help the planet by using examples like this.

Let's get outside to learn!

This is all about getting outside enjoying learning while you are out there. Every subject you study can be done outside, even if you might have to come inside to write things down. Geographers call it field trips, historians might call it local studies, scientists might call it experimental work.

But what ever it is being outside is all about observation. You look, you think about what you have seen, and then you develop what you have seen, fitting it into your curriculum, so it will enrich your studies. This interactive mat is all about showing you how to do that. Science, English, Maths, History and Geography are all around you. Enjoy them, keep fit and active, stay healthy and learn for your curriculum while you are doing it.

Maths

How much water is in a raincloud?

A large summer cumulus cloud is made up of about 50,000kg of water. How many litre jars will it fill? A litre of water weighs 1kg. It is about the same amount of water as goes over Niagara Falls every 6mins.

How does all that water stay up there? The key is to remember that the water is in the form of billions of tiny drops, not litre jars. Each one is tiny and light enough to be suspended in rising currents of air. You see them in a rainbow!

Finished with me? Pass me to a friend or recycle me.

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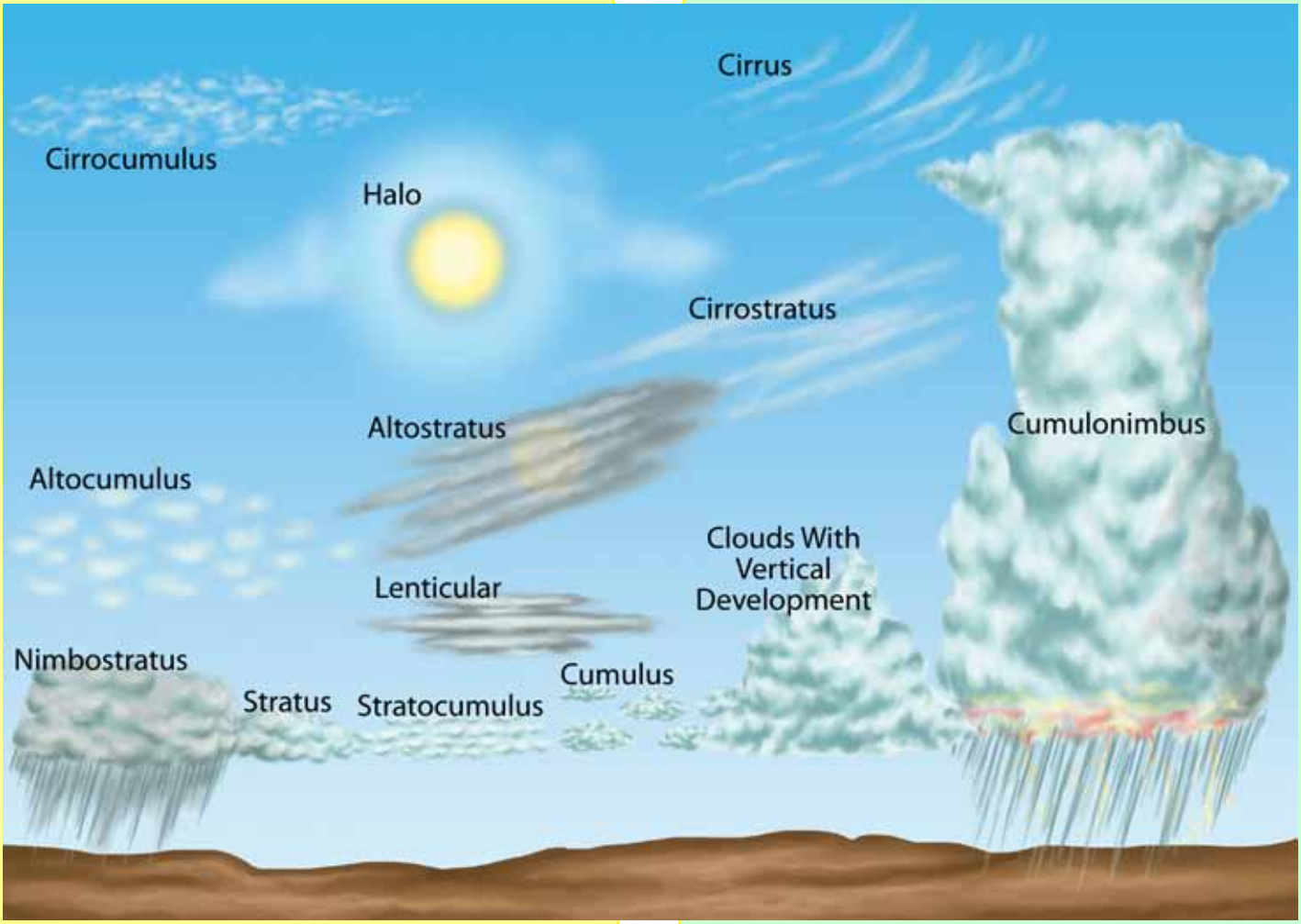
CurriculumVisions

Weather

Cumulonimbus cloud

1. If ever there was a good use of the camera on your phone, then this is it. All of these tasks are connected to the 'Weather



around the world' book. You may care to read it to find out more.

Look at the diagram on pages 4-5. It shows most of the cloud types you might find. The main task of this home field trip is to photograph the sky when it shows each type, so you can make a photo album or slide show of the different kinds of weather. Underneath each photo, give it a label and say what type of weather is connected to which cloud.

There are two reasons that clouds change: on a sunny day pillow-like cumulous clouds form and grow. On a cloudy day sheets of cloud move across the sky. They are connected to a weather front.

2. Look at the weather forecast and choose a day when it will be fine or showery (not a weather front). Take pictures of the sky looking the same way each hour during the day. Put them side by side (on your computer or by printing them out). How did the clouds change through the day? Describe the amount of cloud and shape of each cloud. Were your clouds cumulus clouds?

and

A sunshiny shower
Won't last half an hour.
Rain before seven,
Fair by eleven.
The South wind brings wet weather,
The North wind wet and cold together;
The West wind always brings us rain,
The East wind blows it back again.
March winds and April showers
Bring forth May flowers.
Evening red and morning gray
Set the traveller on his way,
But evening gray and morning red,
Bring the rain upon his head.
Rainbow at night
Is the sailor's delight;
Rainbow at morning,
Sailors, take warning.

Do those traditional poems match your weather observations?

Can you make up your own weather forecasting poem?

4. Now take a picture once a day for a week at the same time, say noon. Write down how the clouds and weather changed. Did you see all three main types of cloud (cirrus, stratus, cumulus)? Which was the most common, and which was the rarest?

5. If you have a barometer in your home, find out how the pressure changed each day while you were doing task 4. Bring the reference needle over the barometer needle each day and record either "pressure increasing" or "pressure decreasing" between each pair of days.

English

Here are two weather poems

Red sky at night - shepherd's delight
Red sky in the morning - shepherd's warning

3. Watch a front pass. The diagram below shows a weather front. It moves from right to left. Find out from the weather forecasters when a front is due to pass. Then take pictures every hour and in 2. Now you should see many different types of cloud pass, but they will all be layer clouds. Try to match your pictures to the diagram.