Greetings, meteorologist!

In this little book you’ll find clues and information to help you interpret and forecast the weather.

You’ll need to observe the sky and the air closely. Pay attention to what you see, feel, hear, and smell.

Record what you discover on your data pages. It’s best if you can collect and record data twice a day, in the morning and the afternoon or evening. Print and add more data pages as you need them.

But first, assemble your weather journal:

1. Print it, with extra data pages if you like.
2. Fold all pages in half, where it says “fold here,” so the blank sides face each other.
3. Stack and staple all your pages together along the short, solid lines on the left edge.
**SKY**

What color is the sky?
Color can give you a hint about weather or air quality.

- **Deep blue**
  - clean sky or cold front traveling from the north or clean air from the ocean blowing over land

- **Medium blue**
  - water vapor or some dust or particles from power plants, factories, and natural sources in the air

- **Pale blue or white**
  - possibility of severe air pollution

- **Green**
  - severe thunderstorm or tornado is coming!

- **Red**
  - IN THE EVENING: dry weather is coming (high pressure system is pulling dust particles in the air)
  - IN THE MORNING: high pressure system has passed, moisture is probably coming

**TEMPERATURE**

Compare the actual temperature to how it looks and feels outside.

Guess if it’s warm or cold outside without going out.
Look for water. Is it frozen or liquid? Water freezes at 32°F and 0°C. That’s cold!

Go outside and see how warm or cold it feels.
Can you see your breath? If so, it’s 45°F or colder. What you see is condensed water vapor from your breath.

Measure the actual temperature with a thermometer.

**AIR**

How does the air feel?

- **HUMID**
  - air feels sticky
  - if the air is holding a lot of moisture and can’t absorb more, the air feels wet or damp on your skin
  - wooden doors might swell and get stuck
  - pinecone scales are curled up

- **DRY**
  - air feels dry
  - pinecone scales open up

How does the air smell?

- compost or other earthy smells may indicate that rain is coming soon

**WIND**

How fast is the wind?
You can estimate wind speed by observing what’s moving.

- **Calm**
  - LESS THAN 1 MPH
  - smoke rises straight up

- **Light to gentle breeze**
  - 4–18 MPH
  - feel wind on face; leaves rustle; small twigs, dust, and paper are picked up

- **Fresh to strong breeze**
  - 19–31 MPH
  - small trees sway; large tree branches move; can hear whistling

- **Moderate to fresh gale**
  - 32–46 MPH
  - whole trees move, it’s hard to walk against the wind, small branches break

- **Strong to whole gale**
  - 47–63 MPH
  - tiles blown off roofs, trees break, buildings damaged (doesn’t happen often on land)

- **Storm**
  - 64–72 MPH
  - lots of damage (very rarely happens on land)
  - Think the wind is faster than 73 mph? You’re in a hurricane!

**PRECIPITATION**

Precipitation can be rain, snow, drizzle, or hail.

Does the snow accumulate or does it melt away?

- **ACUMULATES**
  - the ground is freezing or colder

- **MELTS**
  - the ground is warm

Do you see a rainbow?

- **RAINBOWS IN THE WEST**
  - there’s moisture in the air and a storm is coming

- **RAINBOWS IN THE EAST**
  - rain is on its way out, expect sunny days ahead
**CLOUDS**

**Do you see any?**
Sometimes clouds look like animals but how they look can also tell you about the weather.

- **Cumulus (puffy)**
  - usually out on sunny, clear days
  - if very tall and gray, they can indicate a storm is coming

- **Cirrus (thin, curly)**
  - expect calm weather for now
  - more or accumulating cirrus clouds can indicate a storm is coming

- **Stratus (flat)**
  - drizzle, light rain, or snow is coming

- **Nimbostratus or Cumulonimbus (thick, grey)**
  - great chance of severe weather or thunderstorms

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**Do you see cumulus clouds?**
You can estimate how high they are in the sky. Hold up your hand to the sky at arm’s length. Look at how big the clouds are compared to your hand.

<table>
<thead>
<tr>
<th>Low-level</th>
<th>Mid-level</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the cloud is about the size of your fist, it’s &lt; 6,500 feet up.</td>
<td>If the cloud is about the size of your thumbnail, it’s 6,500–23,000 feet up.</td>
<td>If the cloud is about the size of your pinky nail, it’s 16,500–45,000 feet up.</td>
</tr>
<tr>
<td>full of water; if they darken, expect rain or snow</td>
<td>full of water; if they darken, expect rain or snow</td>
<td>made of ice crystals, expect a change in weather</td>
</tr>
</tbody>
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Record your weather data here →