

## Mentor Models: Features in Read Aloud Books



### *Common Features in Models to Communicate Ideas*

labels	zoom-ins	size
lines	panels	number
arrows	cutaways	shape
symbols + key	symbolic color	quantity

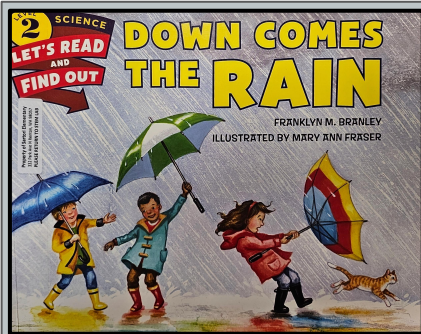
What features did these authors use in their models?  
What does that feature help the author show?

## TEACHER NOTES

Scientists make models to show how or why something happens.

A model is more than just a picture with words. A model shows a change over time or what happens first, next, and last. It uses different features on a drawing to show ideas about how or why something happens. These are things that aren't really there but can help us "see" things that are happening.

Published authors use features in their illustrations to show important ideas. These cards show some of the features books in our weather unit use to show important information.



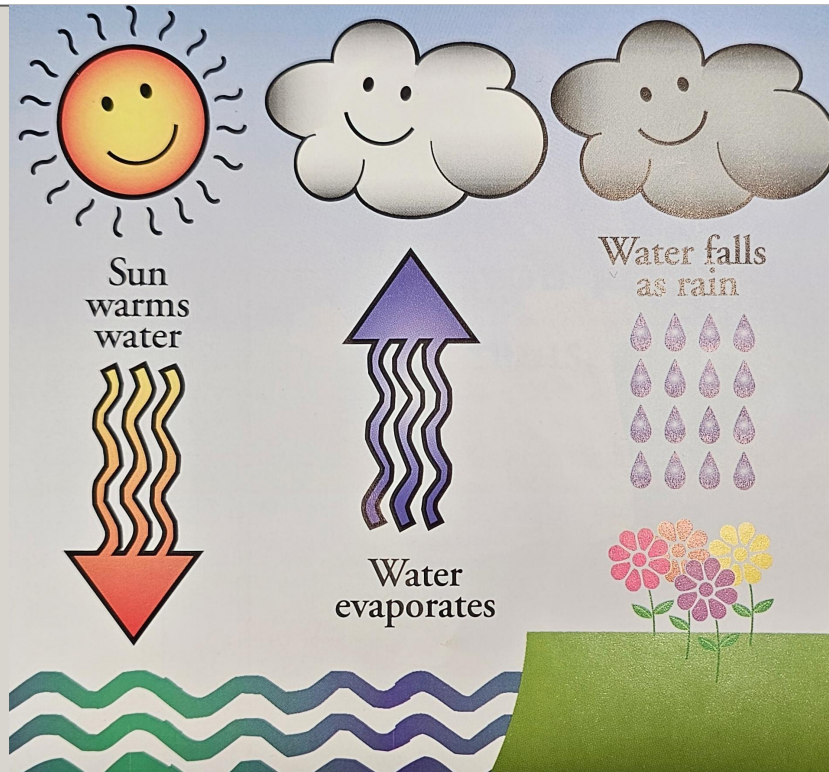
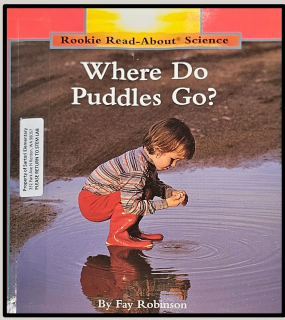
## TEACHER NOTES

This illustration uses realistic drawings and colors. It emphasizes the shining sun as an important part of this scene by showing so many rays of sun. It also includes 3 curvy, thin blue arrows.

These **arrows** show water moving up to the sky. The **symbolic color** blue is a common one people use for water. The thin, curvy **shape** means the water doesn't go directly to the sky quickly, but might meander slowly upward.

**Number of arrows:** Notice how the lake has 2 arrows and the land has 1 arrow. The author uses the number of arrows to show that more water can go up from the lake because it has more water. The land has some water like from mud but not as much water so it only can have 1 arrow to show less water going up from land.





## TEACHER NOTES

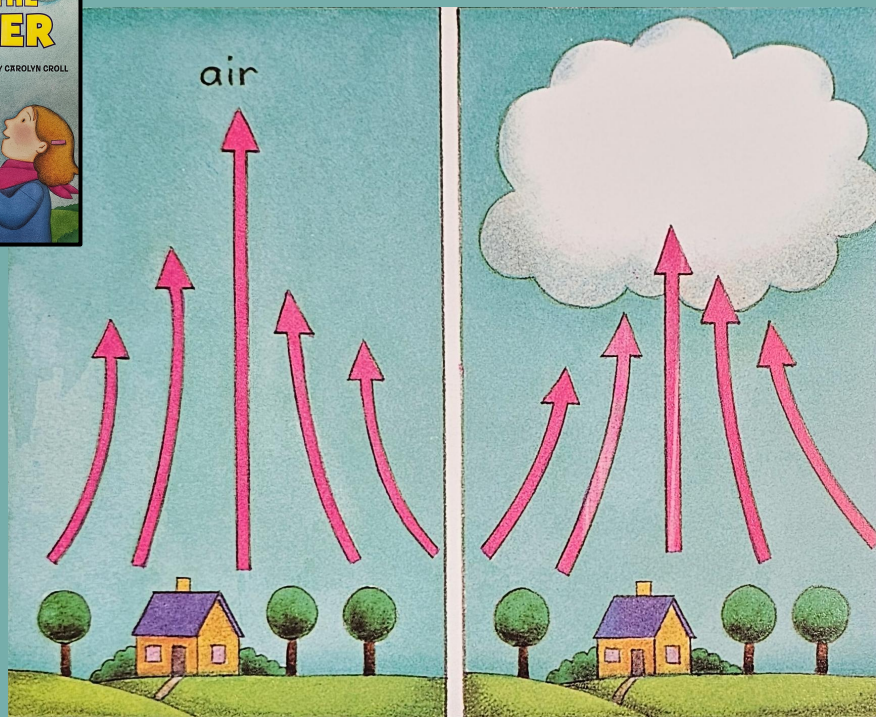
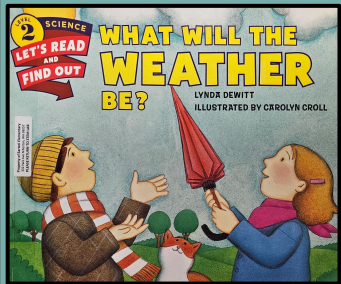
These **arrows** show direction of the heat from the sun going to the Earth. Arrows also show evaporating water moving up to the sky.

The curvy **shape** of the arrows might mean that it's not a direct path or that it happens quickly.

The **symbolic color** on the arrows shows heat from the sun going down (orange/red with label) and water moving up (blue with label).

**Realistic color** on the clouds shows that darker clouds have rain but not lighter clouds.

**Number of clouds:** Notice how there are 2 clouds. Since it's the identical shape and same smile, perhaps this shows the same cloud getting more water, getting darker, and moving with wind over land to rain.



## TEACHER NOTES

These **arrows** show warm air moving up to the sky to help form a cloud. The author likely used pink to show warm air rather than hot or cool air.

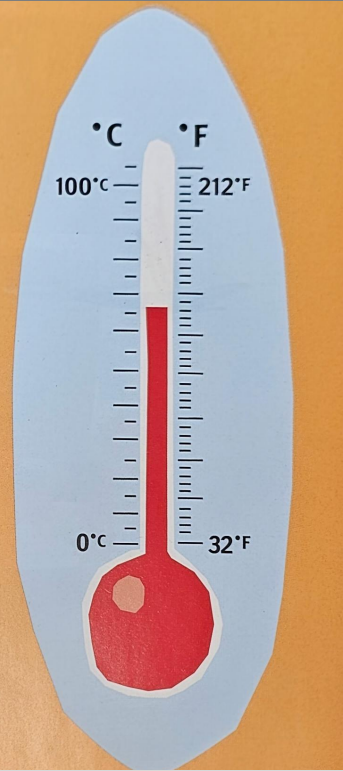
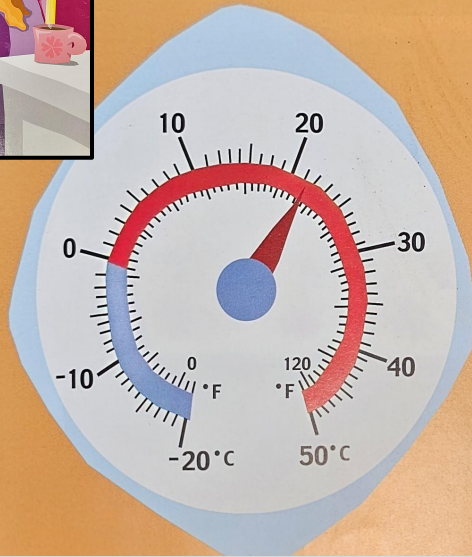
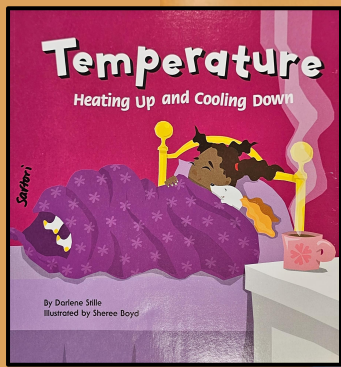
The curvy **shape** of the arrows might mean that it's not a direct path or that it happens quickly.

The **symbolic color** on the arrows shows heat from the sun going down (orange/red with label) and water moving up (blue with label).

**Realistic color** on the trees and house help the reader see that it's the same place and over time a cloud can form.

**Layout** shows 2 panels of the same place over time. First the warm air rises, then something happens to let a cloud form which is shown in the 2nd panel.



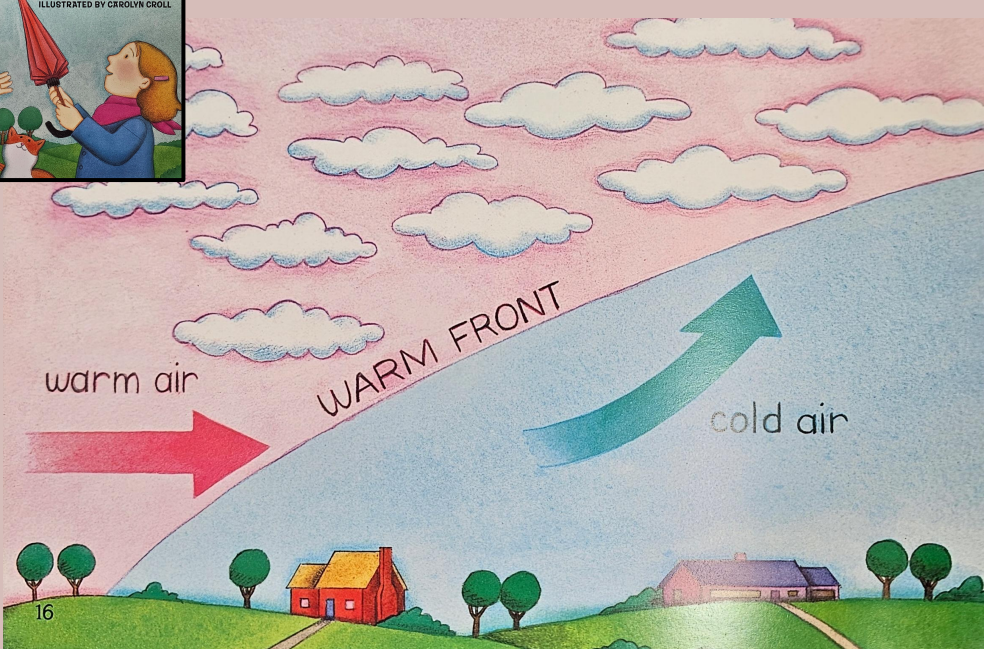


## TEACHER NOTES

This is not a model necessarily; however, we can learn some moves from this illustration to try in our models!

The **symbolic color** helps us see when something is cold, cool, warm, or hot.

The **numbers** can help someone know if a temperature is warmer or colder than another temperature. For example a thermometer under a lamp might read 90 but a thermometer on a table might read 70 to show that the room is 20 degrees cooler than under the lamp.



## TEACHER NOTES

This model shows how different layers of air have different temperatures. We can't see this. The illustration helps us see different layers of air moving around houses and neighborhoods have different temperatures and form different kinds of clouds.

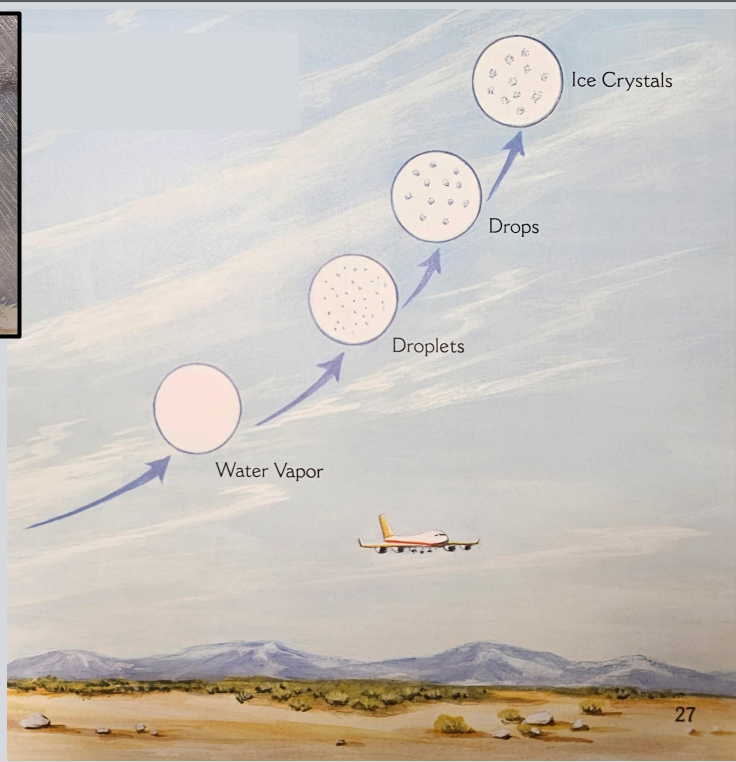
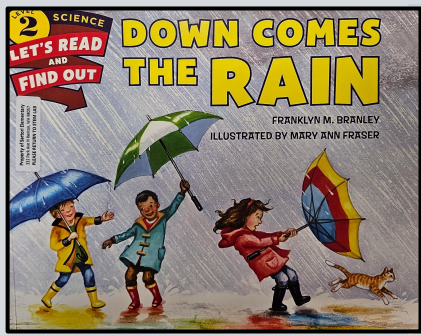
The **symbolic color** helps us see when the air warm (pink) and cold (blue).

The **labels** help the reader understand the colors.

The **arrows** help the reader know where the air is moving.

The **shape and number** of clouds shows that these clouds form with these conditions (page 16). If a cold front moves in to a warm area, there could be more rain with bigger clouds (page 13)





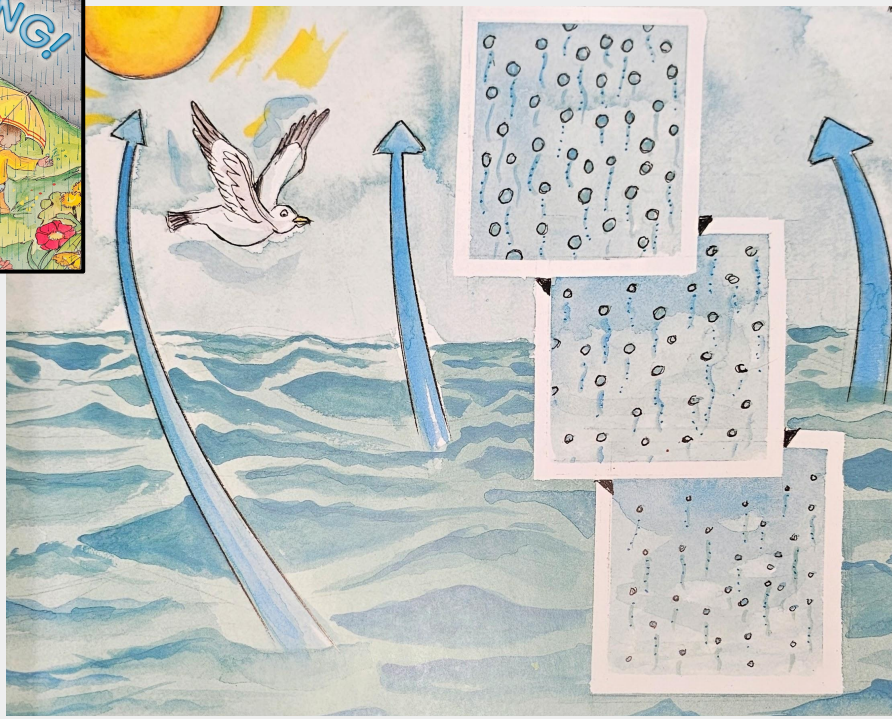
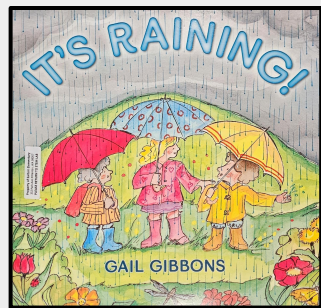
## TEACHER NOTES

This model shows that sometimes the water droplets in the air freeze into ice crystals in the clouds.

The **symbolic color** with **labels** helps us see the author is thinking about water in the air.

The **arrows with zoom-ins** help the reader see what happens over time as the water moves higher.

The **size** of the droplets shows the reader how the vapor gets bigger with more and more water to form droplets, drops, and then crystals if it's cold enough.



## TEACHER NOTES

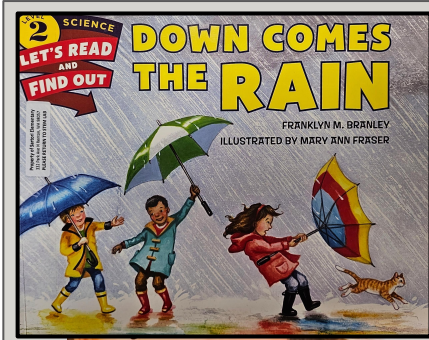
This model shows that sometimes the water droplets in the air freeze into ice crystals in the clouds.

The **symbolic color** helps us see the author is thinking about water moving in the air.

The **arrows with zoom-in boxes** help the reader see what happens over time as the water moves higher.

The **size** of the droplets shows the reader how the vapor gets bigger with more and more water to form droplets and then even bigger drops as more water vapor moves up



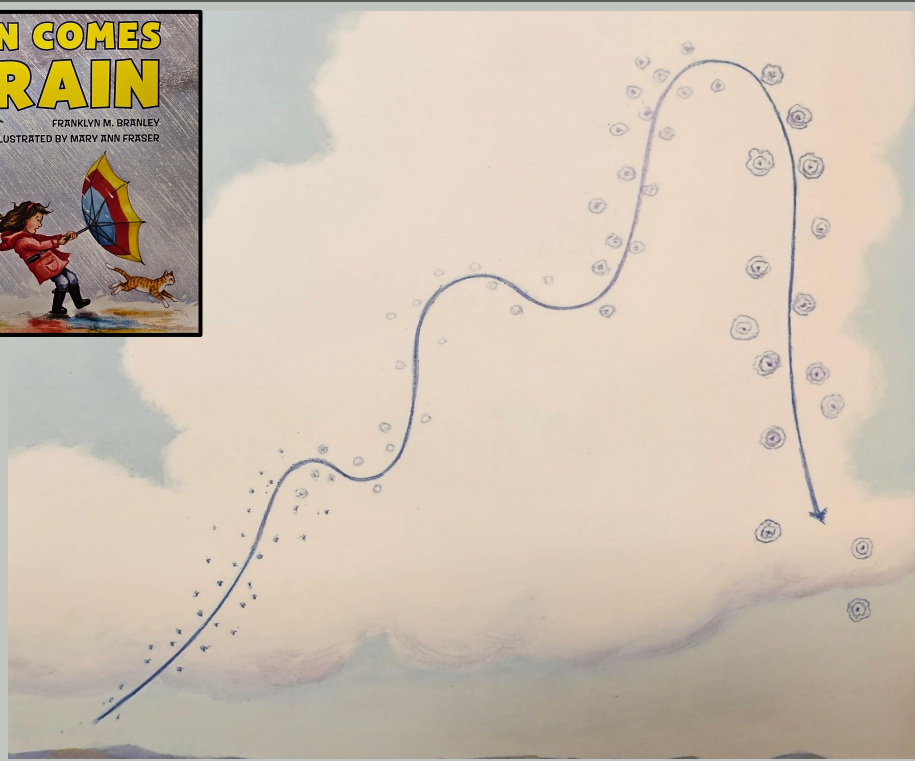
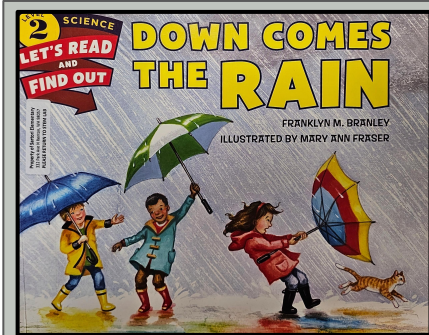


## TEACHER NOTES

This diagram shows the inside of a hailstone.

The **symbolic color** with **labels** helps us see the author is thinking about the frozen layers in a hail storm.

The **cutaway** box shows what's inside something that we may not be able to see. Sometimes we can actually cut something in half to look carefully and draw it. Other times, we can make our best guess about what we think is happening inside something that we may not be able to directly see.



## TEACHER NOTES

This model shows that sometimes the water droplets in the air freeze into ice crystals in the clouds but don't always fall to earth. The words describe how these droplets and crystals move around inside clouds, gathering up layers of droplets and growing bigger.

The **symbolic color** with **labels** helps us see the author is thinking about water in the air.

The **arrow** and **size** of the droplets shows the reader how the vapor gets bigger over time and gets layers as they move around inside clouds.

The location of the last circle in the bottom right shows it outside the cloud. That one seems to be falling as hail!