

Kamishibai Stories – The Water Cycle

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The Kamishibai – Application and Use

The original idea of the Kamishibai is to tell stories freely. Use this especially with younger children. Using the story can also be helpful in elementary school for teaching knowledgeable facts and curriculum topics.

1



Mia and Max love to rummage around in the old attic. The children pull a dusty old box into the middle of the room. They're curious to see what's inside, so they open it. Can you see the red umbrella too? Max exclaims: "That's my umbrella! How did it get in here?" Mia shouts: "What's this?" She grabs an old

wooden box, puts it down on the floor and carefully opens the lid. Suddenly, the box starts to shudder and shake, and the lid rattles open and closed. A storm erupts, swirling and whistling around the children, pulling at them. "Oh no! I think we're going to be pulled into the box!" cries Mia. Suddenly, everything goes quiet.

2



Mia and Max look at each other in astonishment. A moment ago they were still in the attic, but now they're in the middle of a rainy landscape. "Ewww!" shouts Max. "I'm getting soaking wet." Laughing, Mia opens her umbrella: "Good thing I've got an umbrella." "But children, rain is a wonderful thing!" chor-

tles a voice suddenly. Bewildered, Mia and Max look around and spot a wobbly figure. "Nice to meet you, my name is Drop." "I've never seen anything like you before!" exclaims Mia in amazement, and Drop giggles: "That's because I can only be found in this story box on my never-ending journey through the water cycle." Max looks at Drop in disbelief: "Never-ending journey – have you been travelling long?" "Yes, my whole life actually. If you're interested, I'll take you for a ride and explain it all to you. Can you see all my watery friends falling to the ground? Let me show you what happens next for us raindrops."

Fun facts:

- A single raindrop contains around 1 million tiny water droplets.
- A drop of water passes through lots of different stops on its journey through the water cycle.



3



“Some of us raindrops fall right into rivers or streams and flow straight towards the sea.” “You travel all the way to the sea?” Mia asks in surprise. “Yes, that’s always where we’re headed!” babbles Drop. “But sometimes it takes a bit longer. If we land on roofs or roads, we first trickle into gutters or street drains

and get taken to water treatment plants. Here, we get thoroughly cleaned and then sent onwards into a river or stream. And where do we go from there?” “To the sea!” yell the children. “That’s exactly right!” shouts Drop in delight, and claps his hands together. “By the way, there are some other exciting detours on the way. I’ll explain those to you at the well on the meadow.”

Fun facts:

- “All water flows to the sea”: sooner or later, every drop of water ends up in the sea.



4



“If we drop onto the soil, we just seep right into it. That’s called percolation. From there, some of us are taken in by plants through their roots. Others percolate deeper and deeper to form an underground stream. What an adventure!” chuckles Drop in excitement. He pushes himself down onto the ground

and disappears with a loud plop. After a while, a voice rises from the depths of the well: “But one day we reach the surface again and our great journey continues.” “But what happens if you get stuck in a puddle?” asks Max, staring at a small pool of water on the floor in front of him. “Ha! We drops can’t be stopped by anything – definitely not any old puddle. I’ll show you what happens next.”

Fun facts:

- Some of the rainwater percolates, and is then absorbed by plants and rises up into their leaves.
- The percolated water collects in watertight places and becomes groundwater. From there it can return to the surface as a spring or through a well.



5



Drop jumps onto Mia's head and ruffles her hair. "This is where the sun comes in!" he explains. "It makes me and my pals evaporate! That's a lot of fun, I can tell you! We become completely invisible and rise up to the sky as water vapour. Look, these puddles are getting smaller and smaller!" "Yes, and the washing

on the line is almost dry!" observes Mia. Max moans: "Eugh, it's too hot here!" and quickly takes off his raincoat. "The sun doesn't just dry out washing or little puddles. The water in the sea, lakes and rivers also evaporates when it's sunny. That creates a lot of water vapour in the air, I can tell you. It gets really busy! I always meet lots of pals I haven't seen in ages... ohhh, I think it's time for me to evaporate. Want to join me?"



Fun facts:

- Most water evaporates over the sea when it's sunny and rises up into the air as invisible water vapour.
- The amount of fresh water on Earth never gets smaller, even though all rivers flow into the salty sea (only the water evaporates, not the salt).
- Plants also release water back into the air in the form of water vapour from their leaves.
- Scientists call these particles of water that rise upwards water molecules.

6



“Definitely!” yells Max excitedly. Mia hesitates, but Drop takes her by the arm and says: “Don’t be scared, I’m right here and I’ll look after you.” “Yip-pee, we’re flying!” shouts Max, pointing downwards with glee: “Mia, look how tiny everything is!” Mia smiles and looks around for Drop, who is now completely

invisible except for his eyes. “Thanks for showing us all this!” she whispers to him. “Do you get it now? I’m still here, but I’m not liquid any more. I’m an invisible water particle and the hot air is carrying me upwards. Isn’t that incredible?” The children continue to hurtle upwards with Drop, and Max says: “Brr, it’s getting colder!” “That’s right!” Drop winks at them both: “Watch what happens now!”

Fun facts:

- On its way up, the invisible water vapour passes through colder and colder layers of air and cools down.
- Cold air has less space for water molecules than hot air.
- When the air can’t take any more molecules, scientists call it saturated air.



7



“The air here is so cold that it even cools down the invisible water vapour. It’s time for me to become liquid again,” says Drop. “But I need some help. Can you see those little grey helpers here in the air?” “Yes!” confirms Mia, nodding, and Max hesitantly taps one of the grey figures with the tip of his finger. “These

are dust particles. Now I just need to find one to attach to and – just like that – I’ll be liquid again. Look around at how many of my friends have already found their own dust particles!” “Oh yes!” says Max in amazement. “Look how many droplets there are up here!” “Why is it getting so hard to see?” asks Mia. “I can hardly even see my own legs any more!”

Fun facts:



- When the air cools, the water vapour turns into tiny water droplets. This is called condensation.
- Water vapour condenses on small dust particles in the air.

8



“It’s getting harder to see because all the tiny water droplets are gathering together again up here. They’re forming clouds. Look at all the water droplets whirling around like crazy!” says Drop. “It looks like they’re dancing together!” laughs Mia. “That’s right, it does!” agrees Drop. “As we whirl around, we

water droplets run into each other over and over again and join together. That makes us get bigger and heavier. Eventually the air can’t carry us any more... sorry, I’m getting carried away by the crowd,” Drop calls out.

Fun facts:

- If the air is saturated, clouds form (out of the condensed water vapour).
- The clouds get bigger, thicker and darker. Wind moves the clouds.
- The water droplets run into each other over and over again and turn into raindrops.



9



“Here I am again, children!” A fully visible and excited Drop jumps up and down in front of Mia and Max. “Now you look just like when we met you on the meadow!” Max stretches out his hand to Drop in excitement. “Of course, that’s exactly right. I’m a wonderfully wobbly raindrop again, and I’m heavy enough to get out

of here! Look out! Here we go!” “We’re raining back down!” laughs Mia as the three hurtle back down towards the ground.

Fun facts:

- Eventually the droplets get so big and heavy that the air can’t carry them any more. It starts to rain.
- The precipitation from the clouds falls back to earth, into streams, rivers, lakes and seas.



10



“Sometimes I don’t rain back down to the ground,” whispers Drop mysteriously. “So what happens then?” Mia looks at Drop curiously. “Mostly in the winter, when it’s really cold up in the sky, I sometimes float to the ground as a snowflake.” “And then we make a snowman out of you and your friends,”

adds Max mischievously. Drop nods and continues: “Or I go through some really cold layers of air on my way down and freeze into ice. Then sometimes I get whirled around in the air so much with the other frozen drops that we turn into great big hailstones. Unfortunately, sometimes things get broken when we land.”



Fun facts:

- Precipitation as snow: Mainly in winter, it gets very cold in the highest layers of clouds, with temperatures below the freezing point of water. When that happens, water vapour condenses into small ice crystals. Many ice crystals come together to form a snowflake. For snow to stay on the ground, it needs to be around 0°C or even colder.
- Precipitation as hail: Sometimes the rain from a warmer layer of air passes a very cold layer of air, and the raindrops freeze into ice. This creates hailstones. As hailstones are swirled further and further upwards through the layers of air, they get bigger and bigger. They can get as big as a fist and cause a lot of damage.



Drop calls out a list: “Rain – snow – hail! Those are the different ways my friends and I can fall from the sky down to the ground.” Proudly, he rocks backwards and forwards on his thin little legs and babbles: “But that’s not all we can be, oh no! Just think of the dewdrops or frost on the grass and flowers. We can even turn into a cloud just above the ground.” “Is that fog?” asks Mia. “Yes, fog is what it’s called!” yells Drop and jumps for joy, his round belly wobbling as he does so.



Fun facts:

- Precipitation as dew: In the spring and autumn, it’s often still warm during the day. At night, though, it gets much colder. The water evaporates during the day and condenses at night on cold things like blades of grass or leaves. If it’s sunny in the morning, the dew is beautiful and sparkly.
- Precipitation as frost: If the ground freezes at night, the water vapour close to the ground does not turn into dew, but condenses on blades of grass and leaves to form small ice crystals. Sometimes this makes the landscape so white with frost that it looks like it’s been snowing.
- Precipitation as fog: In the spring and autumn especially, it gets much colder at night. Water vapour condenses into water droplets on the small particles of dust in the air. Fog is made up of many small water droplets that are so close together that it makes it difficult to see. So fog is a cloud at ground level.

12



“Well, children, that was a trip around the water cycle. I hope you remember all the stops on our journey!” “It was so cool!” shouts Max. “Thank you so much for taking us with you,” says Mia, and hugs Drop. He thrashes around and laughs: “Don’t squash me too hard! Otherwise I’ll burst into lots of water

particles! It was really great to meet you! But now it’s time for me to evaporate and continue on my never-ending journey!” Max looks at his watch: “That’s true, we should make our way back home too!” “Enjoy your trip!” shout the two children and wave goodbye to Drop until they can’t see him any more.

Fun facts:

- The sun shines and the heat evaporates liquid water into water vapour.
- Invisible water vapour rises upwards with the hot air.
- The water vapour cools in colder layers of air and transforms back into drops. The water vapour condenses.
- Clouds form and get bigger, thicker and darker.
- If the drops get too big and heavy, they fall back down to the ground.
- If it is very cold, snow falls.
- Water collects in streams, rivers and lakes. It flows downhill towards the sea.
- Some of the water percolates and becomes groundwater.



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