Ms. Shall's 2nd grade Water Cycle WebQuest

Introduction

Hi Kids!

My name is Mr. Drip Drop and I always travel through a continuous cycle, but I have stopped here to see you today! I am in need of your help. Are you good at solving mysteries? If you are, do you think you could help me today?

The mystery is that I do not know why I am always traveling through the same cycle (from lake, river, or ocean, to clouds) or why my appearance is always changing form. Sometimes I am water, but other times I am snow, steam, and even ice.

I am very confused and would like to solve this mystery. I could really use your help kids! Will you help me?

Mr. Drip Drop's Task

1. Have your teacher divide you into teams of four. Working in teams is a great way for us to share ideas with one another to solve the mystery!

2. Once you are in teams, each team member must pick a role to have in solving the mystery. Remember that all roles are equally important. The roles to choose from are:

The Task:

Kids, you have an exciting journey that lies ahead of you as you search to solve my mystery! I will be providing you with clues that I discovered along my travels from river, to lake, to ocean, to cloud that will assist you. Move to the next page to find the clues.

1. Primary Investigator

- Makes sure everyone in the group:

  -understands what to do, is involved in the task, is being heard, gets help when needed, and contributes to the discussion

2. Materials Director

- Gets materials for the group, makes sure everyone has materials to complete the task, and contributes to the discussion

3. Records Manager

- Makes sure everyone contributes, records data, organizes data, and contributes to the discussion

4. Clean Up Chief

- Ensure the job is done carefully, organizes the clean up efforts, makes sure all group members help clean up, and contributes to the discussion

Process
Mr. Drip Drop's Clues

Clue #1

Last week I was in California traveling through the air from a river. I heard a bird say the word "e-vap-or-a-tion". That is it, the word was "evaporation!" I do not know what it means but I figure it must be important. You will need to learn all you can about evaporation to help me.

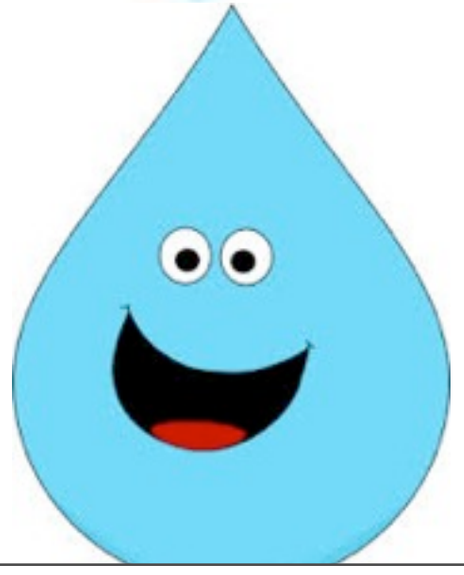
Click here (link to national geographic education) to find out more about evaporation. Once you have read about evaporation, you and a partner from your group will need to write a story about how I might have traveled around the world through the process of evaporation. Click here for your story guide.

Clue #2

Now that you know a little bit about evaporation, here is another clue. I once found myself high in the sky one day and tried to ask a bird what was happening. The bird would not resond, which made me realize that I was invisable in a cloud. However, he was signing a song to himself and this is what he said over and over again, "con-den-sa-tion, pre-cip-i-ta-tion, con-den-sa-tion, pre-cip-i-ta-tion." What could these words mean?

I wonder if those words will help us figure out why I keep changing forms as I travel all over the world. Click to find out more about condensation and precipitation.

Using this worksheet, you and a partner from your group will need to draw 2 examples of condensation and examples of 2 kinds of precipitation. Then write a story of how I might have traveled around the world through the process of condensation and precipitation.



Clue #3

Now you know lots of great information about evaporation, condensation, and precipitation. You are well on your way to helping me find out why I keep traveling all over the world.

One of the last clues I remember has to do with a cycle, but I am not sure what kind of cycle. Click here to find out what kind of cycle.

Now that you have read about the cycle, you and a partner are ready to show the cycle using the template provided here. Be sure to label all of the parts!

Evaluation

As our time together solving this mystery is coming to an end, your teacher will be evaluating you on the following areas:

1. working well as a team member

2. following all of your assigned job tasks

3. completing all assignments for each clue

4. describing the water cycle

I am very grateful for all your help. The last thing I ask of you is to complete this task:

Write a letter to me, Mr. Drip Drop, explaining why I keep traveling all over the world. I will be very excited to receive your letter in the mail and it will also be something I can keep so that I will never forget you and how helpful you were to me! Click here for a letter template that will help you get started.

Click here for a detailed rubric for the letter to Mr. Drip Drop.

Conclusion

Mr. Drip Drop's Mystery is Solved

Well done kids!

All teams have proved to be excellent mystery problem solvers!

I can now understand why I am always traveling through the same cycle, but I couldn't have done it without all of you.

Well I feel myself rising from the lake, so I must be going! One more question: What stage of the water cycle am I in?

Resources

Clue #1: Evaporation

1. Kids Geo

http://www.kidsgeo.com/geography-for-kids/0102-evaporation.php

2. National Geographic Education

http://education.nationalgeographic.com/education/encyclopedia/evaporation/?ar_a=1

Clue #2: Condensation and Precipitation

1. KidZone Science

http://www.kidzone.ws/water/

Clue #3: The Water Cycle

1. USGS Water Cycle for Kids

http://ga.water.usgs.gov/edu/watercycle-kids.html

Note: links for any templates would be attached here as well

Teacher's Page

WebQuest Objective:

The objective of this water cycle webQuest is to build upon the knowledge that students have about water. In the end, they will understand that water is not man-made, but is constantly working in a continuous cycle. Students will investigate each aspect of the water cycle before seeing a picture of the water cycle. Once they gain an understanding about one stage in the water cycle, they will move to the next until they have learned about all of them. The students will be required to transfer what they are learning from each website onto paper using both words and drawings. In the end, using a format of a letter, the student will be able to summarize the process a water drop goes through in the water cycle.

Students should feel comfortable:

1. Using a computer

2. Navigating the internet

3. Taking notes from electronic sources and collecting data from them

4. Synthesizing information across resources

5. Collaborating with their team members

Teacher's Page

Curriculum Standards:

Discipline: Earth Science
Standard: Fluid Earth

E.FE.E.1 Water- Water is a natural resource and is found under the ground, on the surface of the Earth, and in the sky. It exists in three states (liquid, solid, gas) and can go back and forth from one form to another.

E.FE.02.11 Identify water sources (wells, springs, lakes, rivers, oceans).

E.FE.02.14 Describe the properties of water as a solid (hard, visible, frozen, cold) and recognize ice, snow, and hail as water in its solid state. *

E.FE.E.2 Water Movement- Water moves in predictable patterns.

E.FE.02.21 Describe how rain collects on the surface of the Earth and flows downhill into bodies of water (streams, rivers, lakes, oceans) or into the ground.

E.FE.02.22 Describe the major bodies of water on the Earth's surface (lakes, ponds, oceans, rivers, streams).

Discipline: Writing
Standard: Writing Genre

W.PR.02.02 develop a plan narrowing a broad idea for narrative and informational writing including graphic organizers that represent specific organizational patterns (e.g., problem/solution, sequence, description, or compare/contrast).

W.PR.02.03 draft focused ideas in written compositions using paragraph clusters, each containing a main idea and some supporting details.

METS:

PK-2.RI. Research and Information Literacy—By the end of grade 2 each student will:
PK-2.RI.1. interact with Internet based resources

PK-2.CT. Critical Thinking, Problem Solving, and Decision Making —By the end of grade 2 each student will:
PK-2.CT.2. use digital resources (e.g., dictionaries, encyclopedias, search engines, web sites) to solve developmentally appropriate problems, with assistance from teachers, parents, school media specialists, or student partners