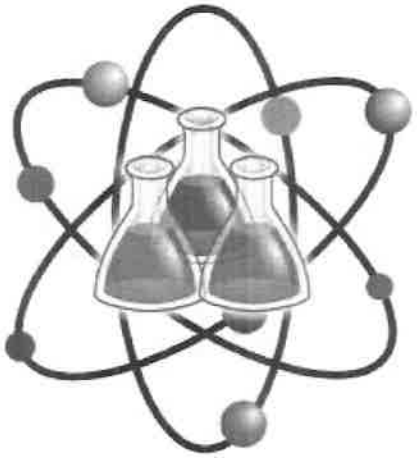
My Science Journal
(Water & Climate)

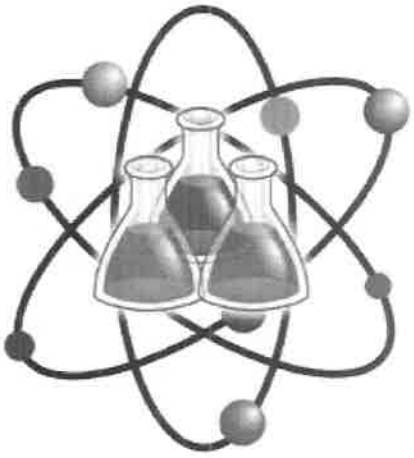
Name_____



3rd Grade

My Science Journal
(Water & Climate)

Name _____

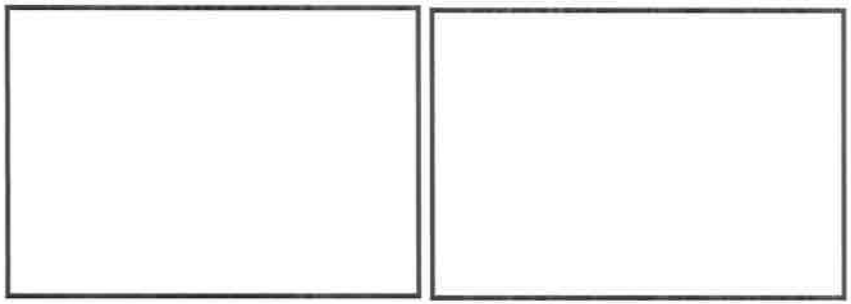


3rd Grade

What happens when water falls o
different surfaces?

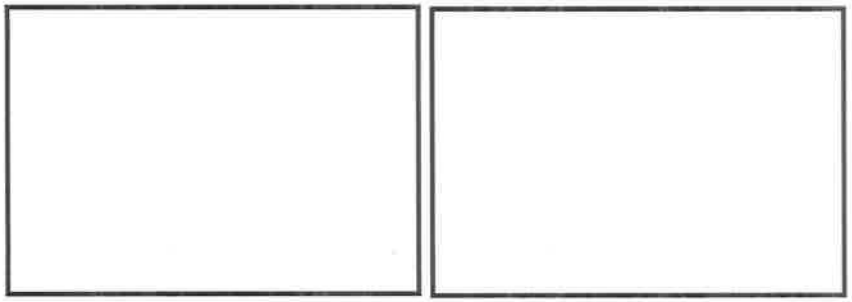
What happens when water falls or
different surfaces?

Water on Surfaces



Waxed paper

Paper towel



Writing paper

Aluminum foil

Water on Surfaces

Waxed paper

Paper towel

Writing paper

Aluminum foil

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Water and Climate Module
Investigation 1: Water Observations
No. 1—Notebook Master

"A Report from the Blue Planet" Review Questions

1. Why did the space visitor call Earth the blue planet?
2. What percentage of Earth is covered by water?
3. What are some of the properties of water that the space visitor described?
4. According to the space visitor, what percentage of Earth's water is in the ocean?
5. What percentage is frozen?
6. What percentage is usable liquid water?
7. Could this imaginary story be true?

"A Report from the Blue Planet" Review Questions

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Water and Climate Module
Investigation 1: Water Observations
No. 2—Notebook Master

How does water move on a slope?

How does water move on a slope?

Water on a Slope

1. What rule describes the direction that water domes move?

2. What is the cause-and-effect relationship between the size of a water dome and the speed at which it moves?

3. What is the cause-and-effect relationship between the slope of a surface and the speed at which a water dome moves?

Water on a Slope

1. What rule describes the direction that water domes move?

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Water and Climate Module
Investigation 1: Water Observations
No. 3—Notebook Master

How much water can a dry sponge soak up?

How much water can a dry sponge soak up?

Soaking Sponges

1. **Weigh the dry sponge.**

   The mass of the dry sponge is _____.

2. **Make a guess.**

   I think the mass of the water that a sponge can pick up will be _____.

3. **Soak the sponge with water.**

4. **Weigh the water-soaked sponge.**

   The mass of the soaked sponge is _____.

5. **Find the mass of the water.**

   Subtract the mass of the dry sponge from the mass of the soaked sponge. Show your math.

6. **How many times the mass of the sponge is the mass of the water?** Show your math.

Were you surprised by the mass of water your sponge could pick up? Why or why not?

Soaking Sponges

1. **Weigh the dry sponge.**

   The mass of the dry sponge is _____.

2. **Make a guess.**

   I think the mass of the water that a sponge can pick up will be _____.

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Were you surprised by the mass of water your sponge could pick up? Why or why not?

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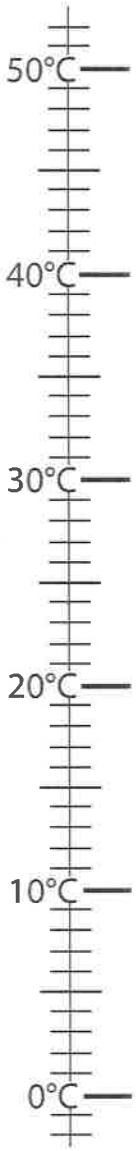
Water and Climate Module
Investigation 1: Water Observations
No. 4—Notebook Master

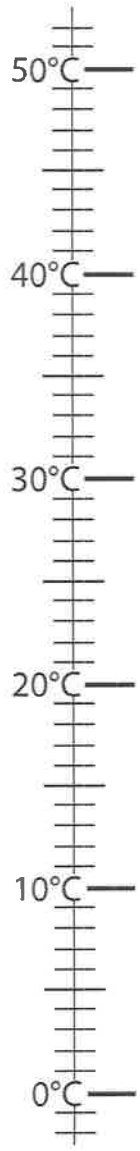
What happens outdoors when rai
falls on natural materials?

What happens outdoors when rai
falls on natural materials?

Measuring Temperature—Number Line



Measuring Temperature—Number Line



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Water and Climate Module
Investigation 2: Hot Water, Cold Water
No. 5—Notebook Master

How can you measure temperature accurately?

How can you measure temperature accurately?

Measuring Temperature—Procedures

On the left side of the number line,

- write **A** by the temperature of the water in cup A.
- write **B** by the temperature of the water in cup B.
- write **C** by the temperature of the water in cup C.

On the right side of the number line,

- write **Hot** by the temperature of the hot water.
- write **Cold** by the temperature of the cold water.
- write **P** by the temperature you predict for the mixture of hot and cold water.
- write **Mixture** by the temperature you measured for the mixture of hot and cold water.

Measuring Temperature—Procedures

On the left side of the number line,

- write **A** by the temperature of the water in cup A.
- write **B** by the temperature of the water in cup B.
- write **C** by the temperature of the water in cup C.

On the right side of the number line,

- write **Hot** by the temperature of the hot water.
- write **Cold** by the temperature of the cold water.
- write **P** by the temperature you predict for the mixture of hot and cold water.
- write **Mixture** by the temperature you measured for the mixture of hot and cold water.

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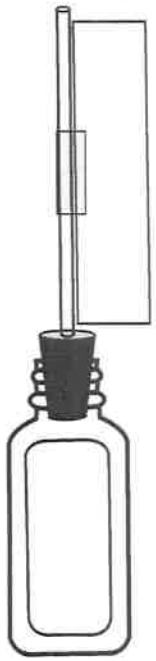
Water and Climate Module
Investigation 2: Hot Water, Cold Water
No. 6—Notebook Master

What happens to water when it gets hot? cold?

What happens to water when it gets hot? cold?

Bottle-and-Pipe System

Record and label water levels here.



Part 1

Where did you put the bottle system?

What did you observe?

Part 2

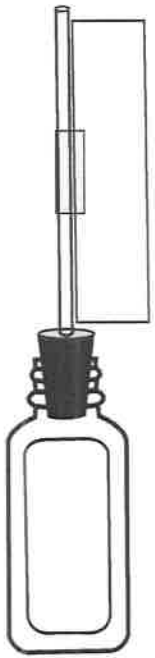
Where did you put the bottle system?

What did you observe?

Explain your observations.

Bottle-and-Pipe System

Record and label water levels here.



Part 1

Where did you put the bottle system?

What did you observe?

Part 2

Where did you put the bottle system?

What did you observe?

Explain your observations.

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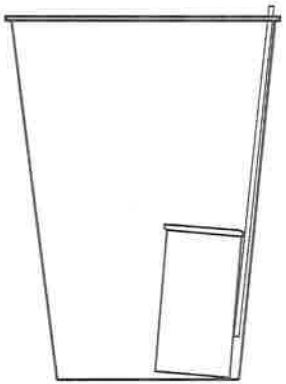
Water and Climate Module
Investigation 2: Hot Water, Cold Water
No. 7—Notebook Master

What happens when hot or cold water is put into room-temperature water?

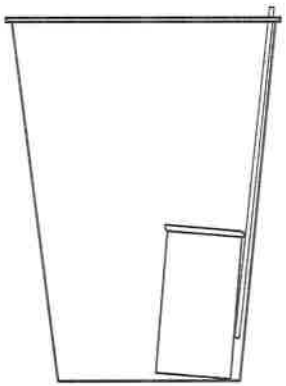
What happens when hot or cold water is put into room-temperature water?

Sinking and Floating Water

1. Draw a picture of what happened when you lowered a vial of **hot** water into a cup of room-temperature water.



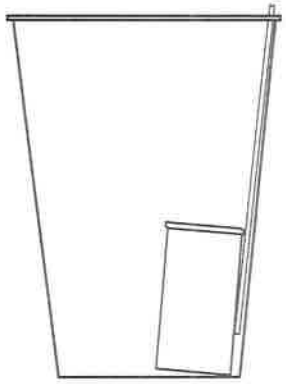
2. Draw a picture of what happened when you lowered a vial of **cold** water into a cup of room-temperature water.



- Which water was
  - more dense than room-temperature water?
  - less dense than room-temperature water?
- Which is more dense, hot water or cold water?

Sinking and Floating Water

1. Draw a picture of what happened when you lowered a vial of **hot** water into a cup of room-temperature water.



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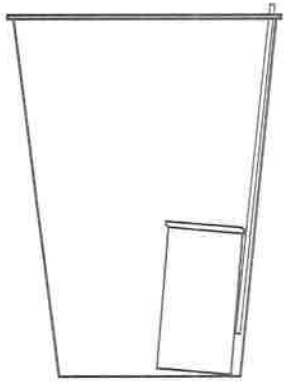

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Water and Climate Module
Investigation 2: Hot Water, Cold Water
No. 8—Notebook Master

How does water change when it gets really cold?

How does water change when it gets really cold?

Ice and Water

1. You put water in a vial and a syringe, and placed them in the freezer. What did you learn?

2. You put a plain ice cube in a cup of water. What did you learn?

3. You put a blue ice cube in water. What did you learn?

Ice and Water

1. You put water in a vial and a syringe, and placed them in the freezer. What did you learn?

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Water and Climate Module
Investigation 2: Hot Water, Cold Water
No. 9—Notebook Master

Where should an animal go to stay warm or to stay cool?

Where should an animal go to stay warm or to stay cool?

Response Sheet—Investigation 2

Your aunt puts a pot of water on the stove to cook some noodles. The water at the bottom of the pot gets heated.

Explain what happens as the water on the bottom of the pot gets heated.

Response Sheet—Investigation 2

Your aunt puts a pot of water on the stove to cook some noodles. The water at the bottom of the pot gets heated.

Explain what happens as the water on the bottom of the pot gets heated.

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Water and Climate Module
Investigation 2: Hot Water, Cold Water
No. 10—Notebook Master

Weather Data—Observed

Location _____

Date	Time	Condition	Temperature (°C)	Wind Direction	Precipitation

Weather Data—Observed

Location _____

Date	Time	Condition	Temperature (°C)	Wind Direction	Precipitation

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Water and Climate Module
Investigation 3: Weather and Water
No. 11—Notebook Master

What does the weather forecast tell us?

What does the weather forecast tell us?

Weather Data—Forecast, Actual, Average

Date	Condition	High (°C)	Low (°C)	Wind (km/hour)	Precipitation		Actual Temperatures (high/low) °C	Average Temperatures (high/low) °C

Weather Data—Forecast, Actual, Average

Date	Condition	High (°C)	Low (°C)	Wind (km/hour)	Precipitation		Actual Temperatures (high/low) °C	Average Temperatures (high/low) °C

Water and Climate Module
Investigation 3: Weather and Water
No. 12—Notebook Master

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Updated 5/2017

What happens to wet paper towels overnight?

What happens to wet paper towels overnight?

"Studying Weather" Review Questions

1. Who are meteorologists and what do they do?
2. How do we measure air temperature? wind direction? precipitation?
3. What do meteorologists use weather balloons for?
4. Why is it important for meteorologists to be able to forecast the weather?
5. You learned about different kinds of dangerous weather. Have you experienced any of this kind of weather? What did you do to stay safe?

"Studying Weather" Review Questions

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Water and Climate Module
Investigation 3: Weather and Water
No. 13—Notebook Master

How does surface area affect evaporation?

How does surface area affect evaporation?

Surface-Area Table

	Water starting volume	Water ending volume	Evaporated water volume	Ranking (1 = most evaporated)
Graduated cylinder				
Beaker				
Dome lid				
Flat lid				

Surface-Area Table

	Water starting volume	Water ending volume	Evaporated water volume	Ranking (1 = most evaporated)
Graduated cylinder				
Beaker				
Dome lid				
Flat lid				

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	Water starting volume	Water ending volume	Evaporated water volume	Ranking (1 = most evaporated)
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Dome lid				
Flat lid				

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Water and Climate Module
Investigation 3: Weather and Water
No. 14—Notebook Master

What else affects how fast water evaporates?

What else affects how fast water evaporates?

Evaporation Data

Part 1: Evaporation Data

Letter of location	Amount of evaporation (mL)	Average temperature of location (°C)
A		
B		
C		
D		

Part 2: Evaporation Comparison

Order	Amount of evaporation	Letter of location	Average temp. of location	Letter of location
1	Most evaporation		Highest temperature	
2				
3				
4	Least evaporation		Lowest temperature	

Evaporation Data

Part 1: Evaporation Data

Letter of location	Amount of evaporation (mL)	Average temperature of location (°C)
A		
B		
C		
D		

Part 2: Evaporation Comparison

Order	Amount of evaporation	Letter of location	Average temp. of location	Letter of location
1	Most evaporation		Highest temperature	
2				
3				
4	Least evaporation		Lowest temperature	

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Water and Climate Module
Investigation 3: Weather and Water
No. 15—Notebook Master

Response Sheet—Investigation 3

My friend wears a T-shirt when he goes swimming so he won't get sunburned. After swimming, he hangs up the wet shirt. After a while it is dry.

My friend said, "I've always wondered how the wet shirt gets dry."

1. What would you tell my friend to help him understand how the shirt gets dry?
2. What would you suggest that my friend do to get the shirt dry as fast as possible?
3. Explain why your suggestion would make the shirt dry quickly.

Response Sheet—Investigation 3

My friend wears a T-shirt when he goes swimming so he won't get sunburned. After swimming, he hangs up the wet shirt. After a while it is dry.

My friend said, "I've always wondered how the wet shirt gets dry."

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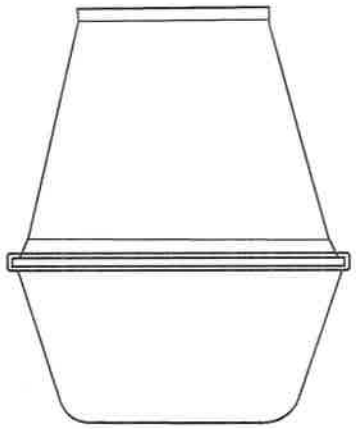
Water and Climate Module
Investigation 3: Weather and Water
No. 16—Notebook Master

What causes moisture to form on the side of a cup?

What causes moisture to form on the side of a cup?

Condensation Observations

1. Draw the experiment and label the picture to show what you observed.

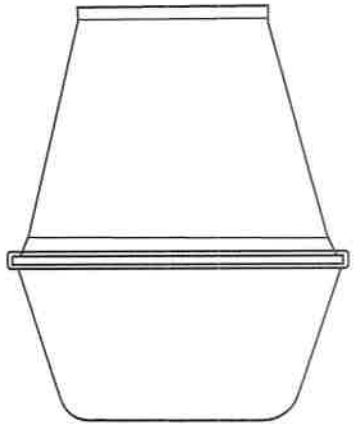


2. Why did condensation form on the inside surface of the chamber?

3. Where did the water come from that condensed on the sides of the cup?

Condensation Observations

1. Draw the experiment and label the picture to show what you observed.



2. Why did condensation form on the inside surface of the chamber?

3. Where did the water come from that condensed on the sides of the cup?

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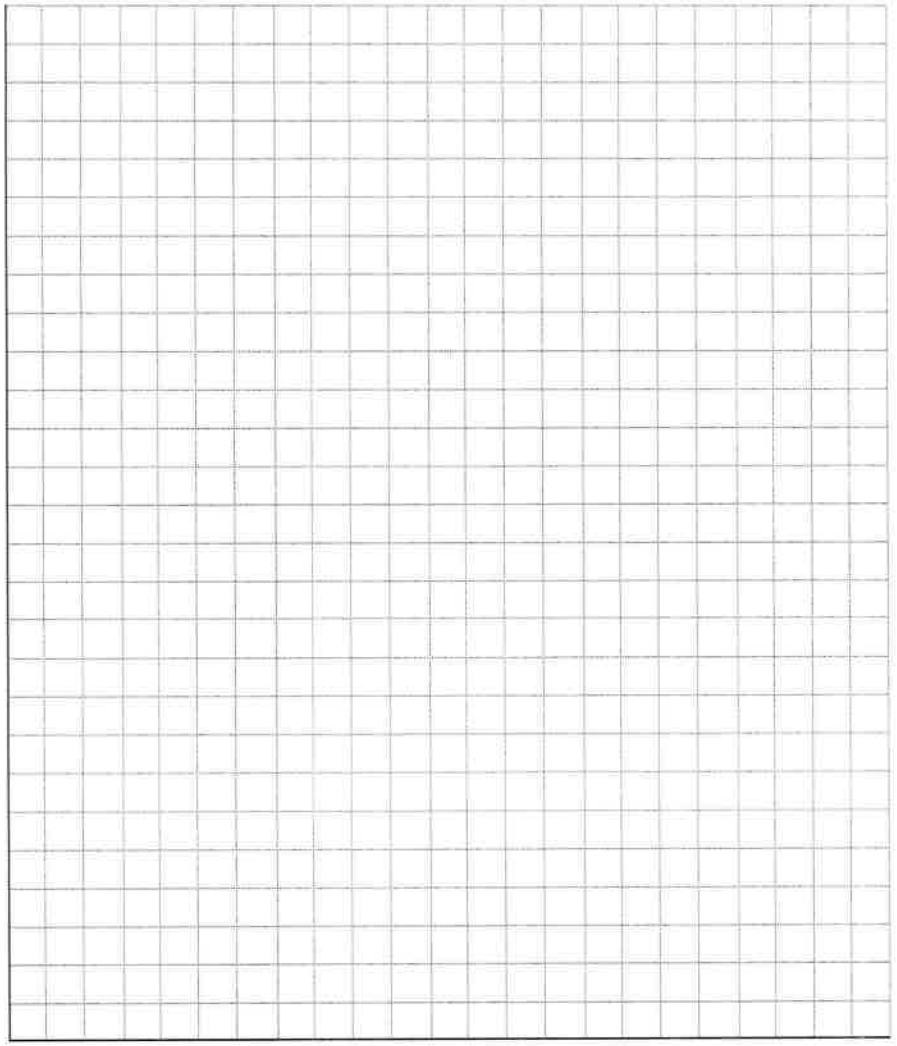
Water and Climate Module
Investigation 3: Weather and Water
No. 17—Notebook Master

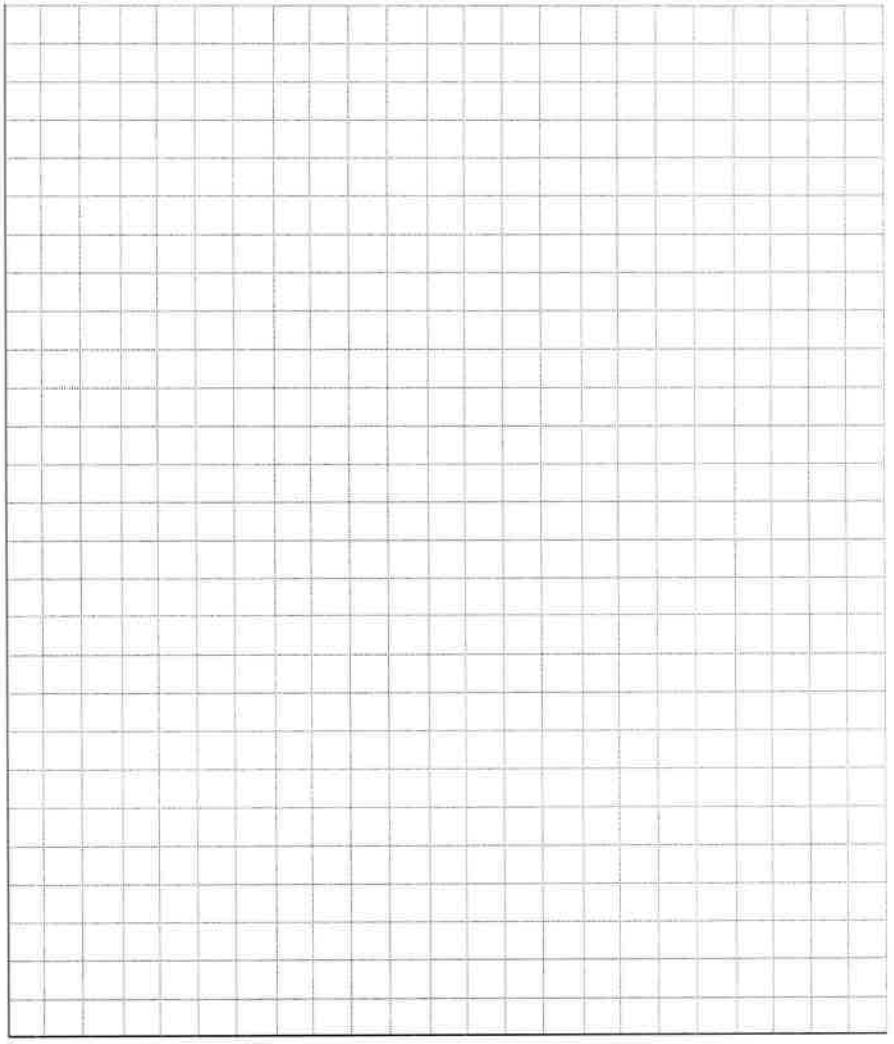
What are typical weather conditions in our region?

What are typical weather conditions in our region?

Weather Graph



Weather Graph



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Water and Climate Module
Investigation 4: Seasons and Climate
No. 18—Notebook Master

How do we describe different climates?

How do we describe different climates?

Water in Earth Materials

Materials

- 1 Cup with gravel
- 1 Cup with soil
- 2 Filter cups with holes
- 2 Filter papers
- 2 Plastic cups
- 2 Large plastic cups
- 1 Balance and mass pieces
- 1 Syringe, 50 mL
- 1 Graduated cylinder
- 2 Hand lenses
- 1 Container of water

Procedure for investigating water in earth materials

1. Place a filter paper in each filter cup with holes.
2. Measure 75 grams (g) of soil. Transfer it to one filter cup.
3. Measure 75 g of gravel. Transfer it to the other filter cup.
4. Place the filter cups in plastic cups with no holes.
5. Use a syringe to carefully squirt 75 mL of water over the soil and 75 milliliters (mL) of water over the gravel.
6. When the soil and gravel are soaked, move the filter cups to large plastic cups. Transfer the water in the plastic cups to the large drain cups, too.
7. After the water stops draining into the large cup, use the graduated cylinder to measure the amount of water that drained into the large cups. Record your answers in a table.

Water in Earth Materials

Materials

1 Cup with gravel
1 Cup with soil
2 Filter cups with holes
2 Filter papers
2 Plastic cups
2 Large plastic cups
1 Balance and mass pieces
1 Syringe, 50 mL
1 Graduated cylinder
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7. After the water stops draining into the large cup, use the graduated cylinder to measure the amount of water that drained into the large cups. Record your answers in a table.

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Water and Climate Module
Investigation 5: Waterworks
No. 19—Notebook Master

How do people deal with natural hazards such as floods?

What happens when water is mixed with earth materials?

How do people deal with natural hazards such as floods?

What happens when water is mixed with earth materials?

Response Sheet—Investigation 5

My neighbor is planting violets. Violets grow best in soil that drains well. My neighbor is testing three different brands of potting soil to see which kind drains best.

Explain, step-by-step, how my neighbor can test the soils to see which brand drains best. Be sure to tell how she will know which soil she should use.

Response Sheet—Investigation 5

My neighbor is planting violets. Violets grow best in soil that drains well. My neighbor is testing three different brands of potting soil to see which kind drains best.

Explain, step-by-step, how my neighbor can test the soils to see which brand drains best. Be sure to tell how she will know which soil she should use.

Response Sheet—Investigation 5

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Response Sheet—Investigation 5

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Explain, step-by-step, how my neighbor can test the soils to see which brand drains best. Be sure to tell how she will know which soil she should use.

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Water and Climate Module
Investigation 5: Waterworks
No. 20—Notebook Master

Do soils in the schoolyard drain water at the same rate?

Do soils in the schoolyard drain water at the same rate?

What is needed to make a waterwheel system function well?

What is needed to make a waterwheel system function well?