WATER, WATER EVERYWHERE
水， 水 到處都是水

Module Overview

Target Language: Chinese	**Grade Level**: 2
Proficiency Level: Junior Novice Low	
Summary: Students will discover that much of the Earth is made up of water. They will identify various bodies of water and name the three states of water.	
Enduring Understanding: There is more water than land on Earth and water can be found in different places and forms.	
Essential Questions: Where can we find water? What happens to water?	

Standards Targeted	
5C – World Language Standards	**5E – STEM Standards**
Communication • Students understand spoken and written language on very familiar topics in the target language that promote the learning of basic linguistic structures. (1.2A) • Students engage in brief exchanges about personal interests. (1.3A) **Connections** • Students access new information and reinforce existing knowledge of other content areas through the target language (3.1A)	**2.ECS Earth's Changing Surface** Students who demonstrate understanding can: a. Obtain and communicate information that water exists in different forms within natural landscapes and determines the variety of life forms that can live there. **Technology** 1. A.1 Use and understand how technology enhances learning 3. C.1 Use and understand how technology increases productivity 4. A.1 Identify and understand how technology is used for communication 4. B.1 Identify and understand how technology is used to express ideas **Math Common Core** 1. MD. 4 Organize, represent, and interpret data with up to three categories. K. MD. 2 Describe and Compare measurable attributes. K. MD. 3 Classify Objects and count the number of objects in each category.

WATER, WATER EVERYWHERE
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	PK. MD. 4 Compare categories using words such as more or same using words such as more or same.

Knowledge: Students will know…	**Skills: Students can…**
Vocabulary • Bodies of water • 3 states of water • Water cycle Expressions and patterns: • Where and what patterns • More or less • Be able to make simple statements • Be able to ask and answer simple questions	1. Identify and name bodies of water. 2. Name the 3 states of water (solid, liquid and gas states) 3. Express that there is more water than land on Earth

Module Duration and Lessons: Five 30-minute lessons

Lesson 1 – Where in the World is Water? 水在哪儿？

Lesson 2 – Where Does Water Go? 水去哪儿了？

Lesson 3 – Is Water Always Water? 水总是水吗？

Lesson 4 – How Does Water Change? 水怎么变化？

Lesson 5 – Assessment Task 评估

Performance Assessment:	What culminating performance tasks will provide evidence that students have achieved the program learning objectives? Consider providing opportunities for students to be assessed for each mode of communication through interpretive, interpersonal and presentational performance tasks. However, for students at this age group, assessment may be integrated.

Materials/Resources

- World map or globe, preferably in blue and green
- Puppet/mascot
- Plastic duck
- Map of Maryland (ocean, rivers are in blue and lands are in green color)
- Smart Board (optional)
- Blue and green crayons
- Blue and green sticky notes
- Computers with drawing program
- Paper
- Pencils
- Slide show: “Little Duck is Hungry”
- *Itsy Bitsy Spider songs*
  - English: http://bit.ly/oSAGG4
  - Spanish: http://bit.ly/r7u0kg
  - Arabic: http://bit.ly/A2ILir
- Worksheet 1a
- Worksheet 2a, 2b, 2c, 2d
- Worksheet 3a, 3b, 3c

WATER, WATER EVERYWHERE
水， 水 到處都是水

- Worksheet 4a, 4b

STEM Background for teachers: (identified and provided by a STEM teacher/resource person)

Water: Almost 70% of Earth's surface is covered by water.

Water Cycle: The water cycle begins with heat from the sun. Land and water on Earth absorb the heat's energy. Some of that energy warms the air above the surface of the earth. When air gets cooler, water vapor in the air **condenses**. That means that it changes to tiny droplets of **liquid** water. As the water droplets increase, they clump together to form a cloud. When the drops become too heavy to stay suspended in the air, they fall to Earth's surface. Water that falls to Earth's surface is called **precipitation—**known as **rain water**. Once on Earth's surface, rainwater may enter various bodies of water or the soil, or be used by millions of living organisms. Rainwater can also **evaporate** and change to **gas**. This gas is called water vapor. The water vapor, or gas, will then enter the air above Earth's surface. The heat from the sun speeds up the process of evaporation. At this point, the water cycle is completed.

Bodies of Water: Water can be found as ice in polar icecaps and glaciers. Fresh water can be found in streams, lakes, rivers, ponds, swamps, and marshes. Oceans and seas contain salt water. Oceans, seas, and bays cover much of the earth's surface and hold over 97% of Earth's water.

Phases of Water: Below 0°C (32°F) water molecules hold together and form a **solid** block we call **ice.** Heat melts ice and turns it back to **liquid** we call **water**. If more and more heat is added, the liquid will eventually turn to **gas**.

Note to teacher about the overall approach to introducing new vocabulary:

In general we suggest that it is best to avoid the question "What's this?" even if the teacher immediately supplies the answer. For that matter, it is best never to ask a question for which the only possible student answer would be in English. Instead, the teacher creates a context for introducing the vocabulary item, an approach common to Natural Approach and TPRS. For example, "I'm thirsty, and I want some water. Oh look! Here is some water. (Drinking) Good water. I like to drink water." Teacher takes a glass half full of water and hands it to a child: "Here, take the water. Don't spill the water! Give the water to (name of another child)." And so on. This way the learners associate the new vocabulary with an experience. Then the teacher can go on to point to different examples and ask if they are water or not (some should be water, some not). Then it is an easy transition to the globe and the map: ("This is a globe/map. The globe/map gives us a picture of the water and the land on the Earth. Look: the blue on the globe/map is a picture of the water. Look, this isn't blue. Is it water? Right—it isn't water. This is land. We can stand on land. Can we stand on water?" And so on.)

WATER, WATER EVERYWHERE
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Lesson 1 - Where in the World is Water? 水在哪儿？

<table>
<tr><td colspan="2">Lesson 1 of 5 Duration: 30 Minutes</td></tr>
<tr><td>Objectives</td><td colspan="2">I Can:
Oral language:
• Name Earth, land, and water.
• Tell that there is more water than land on Earth.

Literacy:
• Recognize the words water and land.

STEM and Other Subject Areas:
• Identify water and land on Earth.
• Show more and less as related to water and land on Earth.</td></tr>
<tr><td>Performance Assessment</td><td colspan="2">Students make a presentation about their findings: (1) locate water and land on the Earth; (2) there is more water on Earth.</td></tr>
<tr><td rowspan="2">Vocabulary and Expressions</td><td>Recycled</td><td>New</td></tr>
<tr><td>什么

这是什么。。。？
颜色
蓝
绿
对
是
不</td><td>这是。。。吗？
这是

哪儿？
这儿是。。。

地球
地球仪
地图
土地
水
多
少</td></tr>
<tr><td>Materials / Resources</td><td colspan="2">○ Plastic balloon globes or maps
○ Visuals of water (Worksheet 1a)
○ 2 clear plastic glasses of water: one full, one not
○ Blue and green crayons
○ Blue and green sticky notes (enough to cover world map)
○ Puppet</td></tr>
</table>

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Key Elements	Lesson 1 Procedures
Engagement ● Object, event or question used to engage students. ● Connections facilitated between what students know and can do	**Introduce *water* and *land*** T: (Gesturing thirst) 我很渴，我想喝水 (Sees half glass of water on the desk) 哦，这儿有水。 T: (Taking another glass half full of water and hands it to a student) _____ [Student Name], 请过来，拿这杯水，别打翻了。请把水給_____ [name of another student]. T: (Directing the children to pass the water around in this way, sometimes varying with *Give* _____[student name] *the water,* and finishing the activity with 请把水给老师) T: 哪儿还有水？ (Pointing at one of the pictures from **Worksheet 1a**) 这儿有水吗？ T: (Have a volunteer point to the water. If there is water in the classroom, such as fish tank or a sink, inviting a volunteer to look for water in the classroom. While they look, lead the class in a chant.) 水，水，哪儿有水？ **Students identify *water* and *land* on the map or globe** T: (Looking at the map): 这是地图。地图告诉我们哪儿是水，哪儿是土地。 T: (Pointing at water on the map) 你看，这是什么颜色？ S: 蓝色。 T: 地图上是不是有很多蓝色？对，蓝色就是水，在地图上蓝色就是水。 T: 那这是什么颜色呢？ S: 绿色 T: 绿色是水吗？不是。蓝色是水，绿色不是水，绿色是土地。你们看，我们站在土地上。(Stamping feet) 我们可不可以站在水上？ T: (Looking at the map and asking puppet. Call out the puppet's name) _____，告诉大家地图上还有哪儿是水？ P: (Puppet pointing at the water) 这儿。 T: (Looking at the map and asking puppet) 告诉大家地图上还有哪儿是土地？ P: (Puppet pointing at the land) 这儿。 • Repeat sequence with students

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Key Elements	Lesson 1 Procedures
Exploration ● Objects and phenomena are explored. ● Hands-on activities, with guidance.	**Re-introduce colors green and blue** T: (Holding a blue crayon and asking puppet)_____，这是什么颜色？ P: 蓝色。 T: 谁穿蓝色的衣服？ (Indicating students who're wearing something blue.) 你穿蓝色，你穿蓝色，。。。 T: 请穿蓝色衣服的人站起来。 T: (Holding a green crayon and asking students) 这是什么颜色？ S: 绿色。 T: 请穿绿色衣服的人站起来。 Have students hold up different blue/green objects Have volunteers find something blue/green in the classroom. **Make the color connection to *water* and *land*** T: (Referring to a map or a globe) 你们看，老师有什么？老师有地图/地球仪。 地图上有蓝色和绿色。你们记得蓝色是什么？ S: 水， 对， 水是什么颜色？ T: 对了，蓝色，水是蓝色。地球仪/地图上有很多蓝色。 T: (Pointing to green land) 土地是什么颜色？ S: 绿色 T: 对了，绿色。绿色是土地。土地是绿色。 **Invite a few individual students to point to water/land on the map.** T: (Modeling) 这是水/土地，水是蓝色/绿色。 S: (Pointing and saying) 这是水/土地，水是蓝色/绿色。
Explanation ● Students explain their understanding of concepts and processes. ● New concepts and skills are introduced as conceptual clarity and	**Introduce the concept of *more* and *less*** T: (Pouring water in two clear plastic containers, one with more water and one with less, far apart from each other) 哪一杯的水比较多？(Pointing to the glass with more water.) T: (Switching containers back and forth) 哪一杯的水比较多？ (Point to the glass with more water.) T: (Switching containers back and forth) 哪一杯的水比较少？ (Point to the glass with less water.) T: (Help students to become familiar with the concept and vocabulary by comparing various quantities of classroom materials.)

Key Elements	Lesson 1 Procedures
cohesion are sought.	**Students identify water and land on the map with sticky notes.** T: (Modeling by putting a sticky note on the map) 这是蓝色。这是水。 T: (Looking at the map and putting the blue sticky note on water) .这是水。 T: (Modeling by putting a sticky note on the map) 这是绿色。这是土地。 T: (Looking at the map and putting the green sticky note on land) 这是土地。 Ask volunteer students to place additional blue/green sticky notes on water/land on the map. While the student puts the sticky note on the map, he/she also identifies its color and explains what it represents. • Repeat this activity until the map is covered.
Elaboration ● Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.	**Discuss *more* and *less* as related to water and land** T: (Going to the map and asking students to predict) 小朋友，你们觉得蓝 色多还是绿色多？ T: 觉得蓝色多的人请举手。 T: 觉得绿色多的人请举手。 Invite students to answer. Tally their answers on the board. (To be used for discussion with students later) **Transfer and count all the blue and green sticky notes to show that there is more water than land** T: (Taking one blue sticky note and placing it on the board - one column for blue/water and the other for green/land. Modeling while transferring the notes) 这是蓝色，这是水。 T: (Invite students to continue to transfer the notes. Ask them to explain the color and what it represents. Put the colored sticky note under the appropriate column). T: 蓝色是水，绿色是土地。 S: 蓝色是水，绿色是土地。
Evaluation ● Students assess their knowledge, skills and abilities.	**Guide students to come to a conclusion that there is more water than land on the Earth** T: (Pointing at the board with sticky notes) 我们大家来看，蓝色的粘纸多，还是绿色粘纸多？ S: (Probably) 蓝色的。

Key Elements	Lesson 1 Procedures
Activities permit evaluation of student development and lesson effectiveness.	T: (Pointing to the tally to verify) 是的。蓝色的粘纸比绿色的多。 认我们来看看我们的地图。 T: (Pointing at the map) 这是水，这是土地，哪个多？ S: 水多。 T: (Pointing the map) 这是水，这是土地，地球上水比土地多。 • Invite students to come to front to present their findings.

Teacher Reflections on Lesson 1 – *Where in the World is Water?*	
What worked well?	
What did not work well?	
What would I do differently?	
Other comments or notes	

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Lesson 2 – Where Does Water Go?
水去哪儿了？

Lesson 2 of 5	Duration: 30 Minutes
Objectives	***I Can:*** Oral language: • Name the bodies of water: stream, river, bay, ocean • Use the word duck in short expressions Literacy: • Recognize the words 小溪， 大河， 海湾， 海洋, 食物, 鸭子. STEM and Other Subject Areas: • Identify bodies of water
Performance Assessment	Students will demonstrate how water flows from Maryland streams to rivers, the bay, and the ocean.
Vocabulary and Expressions	小溪, 大河, 海湾, 海洋 鸭子, 游泳, 食物, 住, 饿, 渴
Materials/Resources	○ Plastic globe or world map ○ Map of Maryland with ocean, rivers, and bay in blue and land in green. ○ Slide show – “Little Duck Is Hungry” (**Worksheet 2a**) ○ Toy duck or puppet ○ Little Duck story (**Worksheet 2b**, group sets) ○ Vocabulary flash cards (**Worksheet 2c**) ○ Maryland Waterways map(**Worksheet 2d**)

Key Elements	Lesson 2 Procedures
Engagement • Object, event or question used to engage students. • Connections facilitated between what	**Introduce map of Maryland** T: (Reviewing water/land on globe or map.) 这是水吗？这是土地吗？ S: (Answer accordingly) T: (Asking the puppet) 哪儿是马里兰州？ P: (Puppet answers, pointing to the map of Maryland) 在这儿。 T: (Pointing at the map of Maryland) 地图上这儿马里兰州，我住在这儿。 T: (Putting teacher-made cut out drawings of houses and stick figures of

Key Elements	Lesson 2 Procedures
students know and can do	people on the map) 你住在马里兰州吗？ S: 是的。 T: (Holding globe/or pointing to the map) 在地图上，你可以指出你住在哪儿吗？ S: (Pointing) 这儿。 **Introduce flow of water from stream to ocean** T: (Pointing to increasingly smaller bodies of water on the map of Maryland) 这是水/海洋/海湾/大河/小溪。 **Reintroduce more by asking Which has more water, the ocean or the bay? The stream or the river?** T: 小朋友，谁还记得水/土地是什么颜色？ S: 蓝色/绿色。 T: 谁知道海洋/海湾/大河/小溪是水还是土地？ S: 水。 T: 那么海洋/海湾/大河/小溪是什么颜色？ S: 蓝色 T: (Pointing to the map) 这是水还是土地？ S: (Students answer accordingly) • Repeat this action/sequence a few times. Invite students to come to the map to point to water, and respond, yes, that's water. That's the ocean/bay/river/stream. If they seem ready, invite volunteers to play teacher, point to the map and ask a question or make a statement.
Exploration ● Objects and phenomena are explored. ● Hands-on activities, with guidance.	**Introduce the story, "Little Duck Is Hungry"** T: (Putting a hand into a pocket or a magic box.)这是什么？ (Pause, pulls out a toy duck or puppet) 哦，你们看，这是鸭子。 (Teacher acts very surprised.) Where did this duck come from? 这只鸭子是从哪儿来的呢？ T: (Holding the duck and walking among students) Is this your duck, (Student name)? (Repeat with several students.)这是你的鸭子吗？ S: No (Most likely) 不是。 T: (Still holding the duck) 我猜这是我的鸭子。这只鸭子不大， 我们就叫它小鸭子好了。 T: (Talking to the duck) 小鸭子，跟小朋友好问好。

WATER, WATER EVERYWHERE
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Key Elements	Lesson 2 Procedures
	P: 小朋友好。 T: 小朋友，跟小鸭子问好。 S: 小鸭子，你好。 **Show students different possibilities where Little Duck might live.** T: 小鸭子住在马里兰州吗？他住在哪里？它住在土地上？它在地上还是在水上？ S: (Answering according to question) T: 答对了，小鸭子可以住在地上，也可以住在水上。
Explanation ● Students explain their understanding of concepts and processes. ● New concepts and skills are introduced as conceptual clarity and cohesion are sought.	**Introduce the story to show students how water flows from stream to ocean.** T: (Showing picture of stream) 小鸭子住在小溪边， 它是怎么从小溪到大河里呢？ (Pausing) 它游泳去的。 (Gesturing or using TPR to facilitate understanding) 我会游泳。(Calling a student) _____, *can you swim? Who can swim, raise your hand.* _____你会游泳吗？还有谁会游泳？会游泳的请举手。 T: (Holding the duck on the map and demonstrating the trip) 你们都跟小鸭子一样，会游泳。你们看，小鸭子从小溪游到大河, 游到海湾， 然后游到海洋。 T: (Gesturing or using TPR to facilitate understanding) 小鸭子饿了， 它要去哪儿呀？ Teacher will show the story “Little Duck Is Hungry,” in which a little duck goes from his home in a Maryland stream to the Chesapeake Bay and on to the Atlantic Ocean. The story is translated into the target language and read aloud. Teacher asks guiding questions (using TPR gestures) while turning pages for a book walk. Student gesture or answer. 小鸭子住在哪儿？ 小鸭子餓了，它想要什么？ 它要去哪兒？这是大河还是小溪？ 河里有什么？河里有食物吗？ 它能在那里找到食物吗？ Read story out loud to students, including content based questions such as those asked during the book walk.

WATER, WATER EVERYWHERE
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Key Elements	Lesson 2 Procedures
Elaboration ● Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.	**Show how water flows from streams to the ocean.** T: 小鸭子去哪儿？它从小溪到大河吗？ S: 它从小溪到大河。 T: (Holding duck or puppet,) 认我们一起来看看小鸭子去哪儿了？ (Demonstrate using toy duck and map.) T: (Pointing to a student) 你可以指给我看吗？ T: (Giving each student a packet of photos from the Little Duck story **Worksheet 2b**, students show Little Duck's trip through the waterways.)
Evaluation ● Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and lesson effectiveness.	**Use the story pictures and show Maryland waterways on the map.** • Students will line up the pictures (**Worksheet 2b**) according to how the water flows to the Bay (**Worksheet 2d**).

Suggestions/ ideas:
Explanation: Introduce a story to show students how water flows from stream to ocean

Teacher can put blue construction paper, representing bodies of water, on the floor, and ask students to show Little Duck's trip.

Teacher Reflections on Lesson 2 – *Where Does Water Go?*	
What worked well?	
What did not work well?	
What would I do differently?	
Other comments or notes	

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Lesson 3 - Is Water Always Water?
水总是水吗？

Lesson 3 of 5	Duration: 30 Minutes
Objectives	***I can:*** Oral language: • Name the phases of the water cycle • Describe the weather in simple sentences. • Use the word *spider* in short expressions. Literacy: • Recognize the words that describe the water cycle and related vocabulary*:* 晴天*,* 雨天*,* 阴天*, and* 下雪天。 STEM and Other Subject Areas: • Identify phases of the water cycle.
Performance Assessment	Students will describe the phases of the water cycle.
Vocabulary and Expressions	蜘蛛 太阳/晴天, 雨/雨天, 阴/ 阴天, 雪/下雪天 天, 天气, 热, 冷水循环, 这些 今天天气怎么样？
Materials/Resources	○ **Worksheet 3a** or Weather wheel ○ **Worksheet 3b** ○ **Worksheet 3c** ○ Small plastic spiders ○ Enlarged visual made from **Worksheet 3c** ○ *The Itsy Bitsy Spider* song ○ English: http://bit.ly/oSAGG4 ○ http://www.youtube.com/watch?v=JYZTOdwE9eg&feature=related

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Key Elements	Lesson 3 Procedures
Engagement ● Object, event or question used to engage students. ● Connections facilitated between what students know and can do	**Introduce weather changes** T: 今天天气怎么样？ (Pause, looking out the window) 今天是下雪天/晴天/阴天/雨天。 (Depending on the weather on that day and holding up the appropriate pictures.) T: (Engaging students in question) 今天天气怎么样？ S:今天是下雪天/晴天/阴天/雨天, 今天天气很冷/很热 T: (Using visuals of weather, Ask and answer the same questions.)今天天气怎么样？今天天气很冷/很热**(Worksheet 3a,** or **Worksheet 3b)** S: (Answer according to the visuals) 今天天气。。。 T: (Holding up the visuals, ask either/or questions.)这是晴天还是阴天, 天气很冷/很热? Optional: The URL of this video can be use as base for weather-related activities using TPR http://www.youtube.com/watch?v=KgHe_I1x9W4 T: (Showing the video about weather, narrate through the first set of pictures.) 哦， 你们看，今天是下雪天/晴天/阴天/雨天, 今天天气很冷/很热
Exploration ● Objects and phenomena are explored. ● Hands-on activities, with guidance.	**Sing the Itsy Bitsy Spider song** Before class, “hide” several small plastic spiders around the classroom in obvious places. T: (Using TPR gestures and visuals, reinforce sun, cloud and introduce new vocabulary spider) T: (Pretending to “find” one of the spiders.) 哦， 你们看，这儿有一只小蜘蛛，看看你的四周， 还有没有其他的小蜘蛛？还有谁找到小蜘蛛？ T: (Calling on a volunteer to find another spider, praise the child and hold up the two spiders.) 我的手上有一只还是两只小蜘蛛？ T: (Continue with additional volunteers and additional spiders. After several times of asking an either/or question) 现在我的手上有几只小蜘蛛？ (When all spiders have been found or enough to continue) 我知道一首蜘蛛的歌，你们听过这首歌吗？ 这是歌是是在唱一只小蜘蛛，歌名就叫小蜘蛛。 **Draw a rough picture of a water spout on the board.** T: (Using one of the spiders, the picture of the water spout, and pictures of the rain and the sun, sing the song and dramatize the action with the visuals)一只蜘蛛 T: (Sing the song again, instead using familiar gestures for each line. Invite the children to do the gestures with you while you sing, and repeat several times.)

Key Elements	Lesson 3 Procedures
	一只两只蜘蛛爬呀爬上去呀， 大雨下下来，蜘蛛也下来； 太阳出来了，照着它身体呀， 一只两只蜘蛛爬呀爬上去。 Teacher asks guiding questions (using TPR gestures). Students gesture or answer. 蜘蛛呢？ 什么东西往上爬？ 什么下来了？ 太阳出来后，怎么样？ 蜘蛛后来呢？ T: Lead the students in singing the song again. Show students the Itsy Bitsy Spider video if available) http://www.youtube.com/watch?v=JYZTOdwE9eg&feature=related
Explanation ● Students explain their understanding of concepts and processes. ● New concepts and skills are introduced as conceptual clarity and cohesion are sought.	**Reinforce the concept of evaporation** Teacher asks follow-up questions (using TPR gestures). Students gesture or answer. T: 这首歌是唱一只小蜘蛛，也是唱下雨的歌。(Hold up visual for rain.) 雨是水吗？是的，雨也是水。 T: (Hold up visual for snow) 这是雪吗？ (Pause for student response. Maybe ask students to vote.) 雪是水吗？ 是的。雪也是水。 T: (Hold up visual for clouds.) 这是云。云是水吗? (Pause)是的, 云也是水。 T: (Holding up visual for sun.) 太阳出来后呢？ (Pause to see if children can complete the line) 太阳怎么了？ T: 雨水去了哪儿？
Elaboration ● Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.	**Introduce the concept that water can look different** T: (Holding pictures of clouds and sun, depicting heat energy) 这些都是云。云是水吗？ S: 是的，云是很多小水滴集在一起的。 T: (Pointing to picture of clouds) 天上很多很多小水滴聚在一起的时候，就变成云，可是小水滴越来越多，云就变的很重，云就变成了水从天上下来了。(Pause) 水从天上下来的时候，我们就叫它雨。 T: 小朋友，水从天上下来的时候，叫做什么？

Key Elements	Lesson 3 Procedures
	S: 雨。 T: 但是如果天气很冷很冷的话，从天上下来的水，就变成白花花的，我们叫它雪。 • Teacher repeats sequence as necessary for comprehension. • Teacher uses enlarged picture of **Worksheet 3a** to repeat the stages of the water cycle, using the same sentences as those present on the worksheet, with some variations. After modeling, have several volunteers point to the part of the picture that fits the statement.
Evaluation • Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and lesson effectiveness.	**Students will identify the order of the phases of the water cycle** Students will use picture to describe the water cycle. **Worksheet 3a**

Teacher Reflections on Lesson 3 – *Is Water Always Water?*	
What worked well?	
What did not work well?	
What would I do differently?	
Other comments or notes	

WATER, WATER EVERYWHERE
水， 水 到處都是水

Lesson 4 - Why Does Water Change?
水怎么变化？

Lesson 4 of 5	Duration: 30 Minutes
Objectives	***I Can:*** Oral language: • Name the 3 states of water. Literacy: • Recognize the words: *solid, liquid, and gas* STEM and Other Subject Areas: • Name the states of water • Tell why water changes
Performance Assessment	Students will categorize the different states of water.
Vocabulary and Expressions	固体 气体 液体 冰 空气 变成
Materials/Resources	○ Real examples of liquids other than water: such as paint, glue, juice, soda, baby oil, shampoo, and cooking oil. ○ Real examples of solid, crayons, wooden blocks, books, etc. ○ One large mirror and several small mirrors ○ Visuals representing three states of water (**Worksheet 4a**) ○ (Each student has one set, prepared ahead of time in envelopes) ○ One enlarged set for teacher to use ○ Chart (**Worksheet 4b**)

WATER, WATER EVERYWHERE
水， 水 到處都是水

Key Elements	Lesson 4 Procedures
Engagement ● Object, event or question used to engage students. ● Connections facilitated between what students know and can do	**Review the Itsy bitsy Spider song and phases of the water cycle** T: (Leads students to sing the song with gestures) 当太阳出来时，雨水呢？ (Using TPR gestures) 太阳把雨水晒干了吗？ S: 是的。 T: 那么太阳把雨水晒干了。雨水又去哪儿呢？它回天上吗？(Using TPR gestures) S: 雨水回天上去了。 T: 水在天上我们叫它什么？ (Using TPR gestures) S: 云。 T: 什么时候下雪？是天气冷的时后，还是天气热的时后？ (Using TPR gestures) S: 天气冷的时后/冷天时。 T: 当太阳出来时，雪去哪儿了？ S: 雪化了/雪变成水了。
Exploration ● Objects and phenomena are explored. ● Hands-on activities, with guidance.	**Introduce three states of water –liquid** (rain or other), **solid** (ice/snow), **gas** T: (Showing visuals of the three states of water) 这是水吗？ (Pausing) 是的，这是水。水是液体，液体会流的。 (Continuing with pictures of different states of water) T: (Modeling TPR gestures for *solid*, *liquid,* and *gas*, teach vocabulary for the states of the water.) T: (Pointing to a particular picture) 这是什么？ (Pausing) 这是固体。水很冷很冷的时候，就会变成固体，水是固体的时候，就是冰和雪。冰和雪是固体。 T: (Pointing out other solids in the classroom and naming them, invites students to point out other solids in the classroom) 这是固体。 T: (Going back to the pictures and having students point out water as a solid) 哪个是固体？ T/S: 冰/雪/其他固体。 T: (Pouring water from one glass to another.) 这是液体，还有什么是液体？ T: (Holding up other items, including paint, cooking oil, baby oil, shampoo, lotion, but also including some solids from the classroom)这是液体还是固体？

Key Elements	Lesson 4 Procedures
	To further illustrate water as a gas. T: 空气里也有水， 你看得到吗？（Blow in the air.) S: 看不到。 T: (Blow into your hand.) Can you feel it? 你感觉得到吗？ S: (Students follow the example of blowing into their hands.) 感觉到到。 T: (Bring out and demonstrate with a mirror. After modeling, have students breathe on a mirror and see the water condense on the mirror.)现在你看到吗？ S: 看到了。 T: The gas became a liquid on the mirror, but you couldn't see it before. There is water in the air. 平常我们在空气里面看不到水，可是如果 我们对着镜子吹气，我们就可以看到水。本来水是气体，碰到镜子的时候，水汽就变成水，又变成液体了。 T: (Post signs representing the 3 states of water on a wall of the classroom, such as a snowman for 固体, rain for 液体**,** and one for 气体). T: (Modeling the vocabulary and gestures, students repeat the gestures) 这是雪，雪是固体 (Model making an imaginary snowball and throwing it.) 这是雨，雨是液体 (Imitate raindrops falling with the fingers, or drinking water out of a glass.) 这是气体，可是我们看不到气体(Model puffing air out of the mouth.) T: (Leading students to walk to posted symbols of the 3 states of water, demonstrating their understanding by using the appropriate gesture, adding the words as they become more confident.) 这是什么？ S: 这是固体/气体/液体。
Explanation ● Students explain their understanding of concepts and processes. ● New concepts and skills are introduced as conceptual clarity and cohesion are	**Students explain their understanding of the concept of the states of water** T: (Pointing to the snow or ice) 为什么水是固体？ (Pause) 因为天气很冷，水结冰了，变成了固体。 T: (Ask students chorally individually) 水为什么变成固体？ S: 因为天气很冷，水结冰了，变成固体。 T: (Pointing to water coming from the faucet) 这时候，水是固体还是液体？ S: 是液体。 T: 答对了，是液体，液体会流，没有结成冰，我们看得到液体。

Key Elements	Lesson 4 Procedures
sought.	
Elaboration • Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.	**Students explain when water is solid, liquid or gas** T: (Displaying enlarged pictures from **Worksheet 4a**) 这是固体还是液体？我们看得到吗？ S: (With teacher direction, students answer accordingly.) T: 这是水吗？ S: (With teacher direction, students answer accordingly.) T: 很冷吗，结冰了是吗？ S: 很冷，变成冰了。 T: (Continue using picture prompts to elicit vocabulary.) Students use pictures cut from **Worksheet 4a** and organize them according to the temperature. Depict cold, temperate, and hot on the drawings of the thermometers. Post on wall or board. Students put pictures of states of water beneath the appropriate temperature. T: (Pointing to a thermometer) 这是冷还是热？ S: (Answer accordingly.) T: (Continue with other two thermometers) T: (Showing students how to match the pictures with the thermometer) S: (Take a cut out picture and place under appropriate thermometer.) T: (Pointing to worksheet) 这冷吗？这是固体吗？这是冰吗？ S: (Answer accordingly.)
Evaluation • Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and lesson effectiveness.	**Students identify examples of the three states of water** • Cut up the 12 pictures on **Worksheet 4a** • Instruct students to glue the pictures in the 3 different groups as indicated (solid, liquid, gas) on **Worksheet 4b** • Students present findings to teacher and class.

Teacher Reflections on Lesson 4 – *Why Does Water Change?*	
What worked well?	
What did not work well?	
What would I do differently?	
Other comments or notes	

WATER, WATER EVERYWHERE
水， 水 到處都是水

Lesson 5 - Assessment Task

Lesson 5 of 5	Duration: 30 Minutes
Objectives	Students can demonstrate their understanding of the Water, Water, Everywhere Module including: • There is more water than land on earth. • Bodies of water in Maryland flow from the streams to the bay to the ocean. • Water has different states. • Water circulates from the land to the sky and back again.
Vocabulary and Expressions	No new vocabulary or expressions
Performance Assessment	Students will graphically demonstrate their understanding of water and describe their graphic using limited vocabulary and short phrases.
Materials/Resources	○ Globe and/or map of earth ○ Map of Maryland ○ Ice cube in zip lock bag – 1 bag per student, labeled with student names ○ 1 transparent glass or plastic container of water ○ Picture of Itsy Bitsy Spider on the water spout

Key Elements	Lesson 5 Procedures
Engagement ● Object, event or question used to engage students. ● Connections facilitated between what students know and can do	**Conduct overview of previous lesson by engaging students in hands-on experiment** T: (Showing ice cube in zip lock bag) 这是冰，冰是固体还是液体？ S: 固体。 T: 对，冰是固体。 T: 如果冰变成了水呢？ 它是固体还是液体？ S: 它会是液体。 T: 答对了！来，我们来看看袋子里的冰块。 (Preferably a sunlit window sill or shelf) 如果把冰块放在这儿，冰块会怎么样？

Key Elements	Lesson 5 Procedures
	S: (Varied response, i.e. 冰块会变成水/气体/液体). T: (Taking tally on pre labeled chart or board: ice/water/ gas.) 你们猜，冰块会怎么样？它们会变成液体吗？或是变成气体？ (Students raise hands to indicate choice of answer. Teacher tallies numbers, counting out loud with the students.) 我们看看冰块会变成什么？
Exploration ● Objects and phenomena are explored. ● Hands-on activities, with guidance.	**Students demonstrate understanding bodies of water** T: (Pointing to globe or map) 这是地球仪，地球仪有什么颜色？ 你们记得这些颜色是/代表什么吗？ 地球上有什么。 T: (Pointing to blue /green areas) 这是什么颜色? 这个颜色是什么？ S: 蓝色，蓝色是水。 绿色，绿色是土地。 T: (Continue questioning.) 我们可以从地球仪上看出来，地球上有很多的水。但是有时候水看起来并不像水。当水是固体的时候，我们叫它什么？ S: 冰/雪。 T: 是的，如果天气很冷的话，水就变成冰/雪。 T: 如果很热呢？ S: 水会成液体。 T: 非常好，当天气很热的时候，水变成液体。 T: 后来太阳出来，天气很热很热的时候，把水变成什么体？小水珠回到哪里去了？ S: 气体。 到天上了。 T: 如果水像这杯里的一样？我们说它是什么？固体，液体，还是气体？ T: (Pointing to Maryland map) 我们住在哪儿？我们住在马里兰州吗？ S: 是，我们住在马里兰州。 T: 让我们看看我们还记不记得水去哪儿了？ (Show pictures starting with stream and elicit oral responses.) S: 从小溪到大河，再到海湾，最后到海洋。 T: 很好。水就是这样流到海洋的。谁会指给我们看？ 谁能说说看？ S: (Student volunteers point out stream, river, bay and ocean on map) 水从小溪到大河，再到海湾，最后到海洋。 T: 如果水从小溪到大河的时候，天气变得很冷很冷，水会怎么样？ (With gestures)

Key Elements	Lesson 5 Procedures
	S: 变成冰。 T: 但是如果很热很热呢? (With gestures) S: 水会变成液体或气体。 T: 对了，水会变成气体。小水珠到天上以后，就变成什么了？ S 云.
Explanation ● Students explain their understanding of concepts and processes. ● New concepts and skills are introduced as conceptual clarity and cohesion are sought.	**Students explain different states of water** T: 现在我们能不能说，水总是液体吗？ S: 不能。 T: 水还有哪些状态？ (Holds up pictures of different forms of water **Worksheet 4a**) S: 固体和气体。 T: 好极了。来，我们一齐说 (showing pictures and perform with actions) 水是液体，水是固体，水也是气体。 水有三体，液体固体和气体， 雨雪冰或云， 都是水。 (Lead students to recite the chant.)
Elaboration ● Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.	**Students demonstrate their understanding of the water cycle** T: (Pointing to picture of spider on the water spout) 这是什么？ S: 这是蜘蛛。 T: 蜘蛛爬呀爬，为什么会从高处掉到地面？ S: 下雨了。 T: 对， 下雨了，蜘蛛被雨冲下来了。雨是固体，液体，还是气体？ S: 是液体。 T: 非常好。后来太阳出来，水到哪儿去了？ S: 天上。 T: 水到天上变成什么？ S: 云。 Lead students to sing the Spider song.
Evaluation ● Students assess their knowledge, skills and abilities. Activities permit evaluation of student	**Students will discover what happened to their ice cubes** T: 小朋友们，我们大家来看看我们的实验，有几个人说冰块还是冰块？ (Continue questioning with water). T: 让我们来看看我们的记录。 (Teacher re-counts the numbers in the tally).现在我们再来看看冰块是不是还是冰块。

Key Elements	Lesson 5 Procedures
development and lesson effectiveness.	Each student retrieves his own pre-labeled zip lock bag. T: 冰块呢？到哪里去了？它熔化了吗？ S: 是的，它溶化了。 T: 袋子里还有冰块吗？ S: 有/没有。 S: (Answer accordingly) T: 让我们来算一算，有几个人说冰块还是固体，还是冰块，？有几个人说冰块会变成液体，变成水？有几个人说冰块会变成气体？ (Count with students). (Continue with numbers of those who guessed steam/gas). S: (Repeating numbers with teacher) T: 很多人答对，还是很多人答错？ S: 很多人答对。 T: 是的。很多人答对了。很好。很热的时候冰就化成水了。 (Possible additional activity. Pour the water from the bag into a flat, shallow dish and leave it until the next day, or until later in the class. The water should evaporate. 老师这时问学生： 水怎么了？水变成固体了吗？还是气体？你看得到吗？为什么看不到？看不到是因为是气体。）

Teacher Reflections on Lesson 5 – *Assessment Task*	
What worked well?	
What did not work well?	
What would I do differently?	
Other comments or notes	