Target Language: Chinese 中文  |  Grade Level: 4 and 5

Proficiency Level:
Junior Novice Low – Junior Novice Mid

Context and Storyline:
There is a new club in school called the World Weather Watchers. Club members learn about weather patterns and natural hazards around the world. They share information with their community on how to be prepared for severe weather, and what to do after a natural disaster.

Enduring Understanding:
Natural hazards are unavoidable, but humans can take steps to prepare for them and reduce their impact.

Essential Question:
How can we prepare for natural hazards and provide help to people after a disaster?

Module Lessons:
Lesson 1: 欢迎参加世界天气俱乐部
Lesson 2: 我们怎么预测天气？
Lesson 3: 飓风是怎么形成的？
Lesson 4: 怎么预防自然灾害

Note to teacher:
In Lesson One, the World Weather Watchers receive a weather journal where they can keep track of the weather during this module. At the beginning of each lesson, there are instructions to the teacher that the club members should share their weather journal reports. It is advisable to have the students share what they have recorded in their journals throughout the unit, especially because they are comparing the weather where they live to the weather in a city somewhere else. This allows the entire class to learn about weather around the world, identify similarities and differences among the cities, and look for patterns in weather.

Standards Targeted

<table>
<thead>
<tr>
<th>5 Cs– World Language Standards</th>
<th>5E – STEM Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communication</strong></td>
<td><strong>NGSS</strong></td>
</tr>
<tr>
<td>• Students engage in conversations, provide and obtain information, express feelings and emotions, and exchange opinions about natural hazards and disasters.</td>
<td>• 4-ESS3-2 Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.</td>
</tr>
<tr>
<td>• Students understand and interpret written and spoken language on natural hazards and disasters.</td>
<td>• 3-5-ETS1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.</td>
</tr>
<tr>
<td>• Students present information, concepts,</td>
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</tbody>
</table>
and ideas to an audience of listeners or readers on natural hazards and disasters.

Cultures
- Students demonstrate an understanding of the relationship between the practices and perspectives of the culture studied related to preparing for natural hazards, and helping others after a natural disaster.
- Students demonstrate an understanding of the relationship between the products and perspectives of the culture studied related to natural hazard preparation information.

Connections
- Students reinforce and further their knowledge of STEM through the foreign language.
- Students acquire information and recognize the distinctive viewpoints related to STEM that are only available through the foreign language and its cultures.

Comparisons
- Students demonstrate understanding of the nature of language through comparisons of the language studied and their own.
- Students demonstrate understanding of the concept of culture through comparisons of the cultures studied and their own.

Communities
- Students use the language both within and beyond the school setting.
- Students show evidence of becoming life-long learners by using the language for personal enjoyment and enrichment.

STEM
- Apply integrated science, technology, engineering, and mathematical content to answer complex questions, to answer global issues, and to develop solutions for challenges and real world problems (2B).
- Communicate effectively and precisely with others (3F).
- Ask questions to identify and define global issues, challenges and real world problems (4A).
- Engage in critical thinking (5A).
- Apply science, technology, engineering, and mathematics content to construct creative and innovative ideas (5C).
- Listen and be receptive to ideas of others (6C).
## Knowledge: Students will know...

### Content obligatory language:
- 摄氏温标
- 华氏温标
- 天气预报
- 温度
- 赤道
- 气压系统（高，低）
- 汞
- 气象学家
- 科学家
- 数学家
- 发明家
- 晴雨表
- 温度计
- 恶劣天气
- 龙卷风
- 飓风/台风/飓风
- 飓风眼
- 涡
- 风暴潮
- 暴雪
- 洪水
- 野火，森林火灾
- 干旱
- 火山
- 自然灾害，灾害
- 风暴
- 玻璃管

### Content compatible language:
- 然后，最后
- 加，减，乘，除
- 总是
- 有很多，最
- 数字 1-100
- 预测
- 窗户
- 在室内，室外
- 疏散
- 应急包，生活用品

## Skills: Students can...

- Convert Celsius temperatures to Fahrenheit and Fahrenheit temperatures to Celsius.
- Make predictions about the weather.
- Identify different types of natural hazards and where they occur in the world.
- Make a simple comparison to show the difference between a natural hazard and a natural disaster.
- List steps to prepare for a natural hazard.
- Suggest ways to help people after a natural disaster.
World Language-STEM MODULE COVERSHEET
World Weather Watchers Club: Humans and Natural Hazards

- 手电筒
- 电池
- 开罐器
- 罐头食品
- 书
- 棋牌游戏
- 毯
- 瓶装水
- 零食
- 换洗衣物
- 电台
- 急救箱
- 牙刷，牙膏

Expressions and patterns:
- 天气看起来怎样？
- 这是...
- 下雨
- 阳光，部分时间有阳光
- 阴天，晴间多云
- 下雪
- 多风
- 闪电
- 热，温，凉，冷
- 有太多的（雨，雪，风。）

Materials/Resources:
- PPT 1 - 56
- 世界地图
- 温度计有包括华氏和摄氏的度数
- individual dry erase boards, markers, and erasers (one per student)
- flashcards with numbers 1 – 100
- online video of a tornado, hurricane, tornado, cyclone, and/or blizzard
- online video: Big Idea 8: Natural Hazards Affect Humans
- online video: How a hurricane is born – the science of superstorms
- podcasts and online videos of weather forecasts
- video camera
- crayons or colored pencils
- barometer
- tape
- balloons
- wide-mouth glass jars
World Language-STEM MODULE COVERSHEET
World Weather Watchers Club: Humans and Natural Hazards

- rubber bands
- plastic drinking straws
- construction paper
- pens
- scissors
- 2-liter empty plastic soda bottles
- sand
- paper clips
- small stones
- rulers
- funnel
- duct tape
- Resource 1a: Cards for Give-One-Get-One Activity
- Resource 1b: Weather Symbols Flashcards
- Resource 1c: Cities for Smartphone Weather Forecast
- Worksheet 1a: 今天加拿大的天氣是什么？
- Worksheet 1b: 今天美国各地的气温是多少？
- Worksheet 1c: 世界各地氣溫記錄表
- Worksheet 1d: 智能手机天气预报
- Worksheet 1e: 今天世界上的气溫是多少？
- Worksheet 1f: 評估：氣溫報告
- Resource 2a: Pinch cards for Video
- Resource 2b: Natural Hazards Cards for Memory Game
- Worksheet 2a: 托里切利的气压计
- Worksheet 2b: 我的預測天氣晴雨表
- Worksheet 2c: 評估：什么样的自然灾害
- Worksheet 3a: 我的龙卷风实验
- Worksheet 3b: 哈利和飓风
- Worksheet 3c: Foldable Zine for Storyboard
- Resource 4a: The Worst Natural Disasters of 2013
- Resource 4b: Flashcards for Emergency Disaster Kit and template
- Worksheet 4a: 2013 年的世界灾害

STEM Background for Teachers:
Definitions:
- **Barometer**: an instrument that measures air pressure; can predict changes in the weather
- **Natural hazard**: any naturally occurring event that poses a danger to human life or property
- **Natural disaster**: any natural hazard that affects human lives or property

**Hurricane**: Before hurricanes could be spotted by satellites from space, people would keep a wary eye on their barometers during hurricane season. If the air pressure dropped, that was usually a good time to board up windows and head further inland!
As hurricanes pass over coastal areas, air pressure can drop significantly. At sea level air pressure is normally around 1013.25mb (29.92 inches of mercury). Extremely strong hurricanes are accompanied by
air pressure drops of between 30 and 70mb. The greater the difference in pressure between a low pressure area and a high pressure area, the stronger the winds! Wind is the natural result of having a low pressure area next to a higher pressure area since the air molecules in the higher pressure zone will migrate to the “more spacious” surroundings of the low pressure area.

**Celsius vs. Fahrenheit:**
Most of the world now uses the Metric system. Except in the United States and Burma, Fahrenheit degrees have been replaced by Celsius. The decimal metric system makes calculations simple—in short, it makes it easier to juggle numbers.

**Temperature:**
Although the first real thermometer was invented in 1654, it was nothing but a unmarked tube of liquid that rose and fell as the temperature changed. No degrees or increments existed until 1701, when Isaac Newton suggested marking the tube “0” at the melting point of ice and (predictably enough, since Newton lived in England) 12 at body temperature.

In 1714, the German scientist Gabriel Fahrenheit replaced the existing water and alcohol thermometers with a mercury-based instrument. Not only did he improve the accuracy of thermometers, he expanded the range of the instrument (a water-based thermometer obviously cannot measure temperatures below the freezing point of water, and alcohol will boil on a hot summer day).

Fahrenheit set his “zero” at the lowest temperature he could create in his laboratory, which was equivalent to a fiercely cold winter night. At first he set body temperature equal to 12, as Newton had done. But Fahrenheit’s thermometers were so sensitive; he decided to divide his scale into much finer increments. Keeping zero where it was, the freezing point of water on the Fahrenheit scale turned out to be 32 degrees, and the boiling point of water, 212. The difference between the two was a perfect 180 degrees, a number easy to work with mathematically (half a circle, for instance, is 180 degrees of arc), so Fahrenheit was pleased.

In 1742, a Swedish astronomer named Anders Celsius created a new scale for the mercury thermometer. Celsius set the boiling point of water equal to zero and the freezing point at 100. (A year later he reversed these numbers, so that the temperature went up instead of down as heat increased.) The interval between freezing and boiling was thus a convenient 100 degrees. He called his invention the Centigrade scale, derived from the Latin for “a hundred steps.” Today the scale is named in honor of its inventor, and we speak of “degrees Celsius.”

Though most of the world uses the Celsius scale, the Fahrenheit scale may be better suited to meteorology. For one thing, it is more precise and less coarse simply because each degree represents a smaller interval.

More importantly, the range in temperature from 0 to 100 degrees Fahrenheit almost perfectly demarcates the extremes found in the climates of the United States and Europe; it seldom gets any hotter or colder. The convenience of a perfect 100 degree interval encompassing the temperatures in which most of us live seems a pity to lose. (The same range on the Celsius scale is a clumsier -18 to +38 degrees.)

However, the advantages of the Celsius scale in other aspects will win out in the end. (For instance, a Celsius degree is the same “size” as a degree Kelvin, making conversions and calculations much easier. Zero on the Kelvin scale equals absolute zero—the coldest temperature theoretically possible.

Online resources: [http://cirrus.sprl.umich.edu/wxnet/](http://cirrus.sprl.umich.edu/wxnet/)
Lesson 1 - Welcome to the World Weather Watchers (WWW) Club

<table>
<thead>
<tr>
<th>Lesson 1 of 5</th>
<th>The World Weather Watchers Club meets for the first time and learns about predicting the weather.</th>
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</thead>
<tbody>
<tr>
<td><strong>Objectives</strong></td>
<td>I Can:</td>
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<td></td>
<td>Oral language:</td>
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<tr>
<td></td>
<td>• describe the weather.</td>
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<td></td>
<td>• say the temperature in different cities.</td>
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<td>Literacy:</td>
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<tr>
<td></td>
<td>• follow a simple sequence: first, next, then, finally.</td>
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<td>• record the weather in a weather journal.</td>
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<tr>
<td></td>
<td>STEM and Other Subject Areas:</td>
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<tr>
<td></td>
<td>• change Celsius to Fahrenheit temperatures and Fahrenheit to Celsius temperatures.</td>
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<tr>
<td></td>
<td>• predict weather based on location.</td>
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<tr>
<td><strong>Vocabulary and Expressions</strong></td>
<td>Prior Knowledge:</td>
</tr>
<tr>
<td></td>
<td>• 日历词汇（星期几，月，季）</td>
</tr>
<tr>
<td></td>
<td>• 0-100 号</td>
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<td>• 加，减，乘，除</td>
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<td></td>
<td>Content obligatory language:</td>
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<td></td>
<td>• 天文台</td>
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<td>• 天气</td>
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<td></td>
<td>• 温度计</td>
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<td>• 温度</td>
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<td>• 度</td>
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<td>• 摄氏度</td>
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<td>• 华氏</td>
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<td>• 闪电</td>
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<td>• 龙卷风</td>
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<td>• 漩涡</td>
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<td>• 飓风/台风/飓风</td>
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<td>• 天气预报</td>
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<td></td>
<td>Content compatible language:</td>
</tr>
<tr>
<td></td>
<td>• 半球</td>
</tr>
</tbody>
</table>
### Expressions and patterns:
- 下雨
- 晴天
- 阴天
- 部分时间有光/阴天
- 下雪
- 多风
- 热
- 暖
- 冷

### Materials/Resources
- PPT 1-23
- Wall map of the world
- thermometer
- individual dry erase boards, markers, and erasers (one per student)
- flashcards with numbers 1 – 100
- World Weather Watchers Journal Cover
- Resource 1a: Cards for Give-One-Get-One Activity
- Resource 1b: Weather Symbols Flashcards
- Resource 1c: Cities for Smartphone Weather Forecast
- Worksheet 1a: 今天加拿大的天气是什么？
- Worksheet 1b: 今天美国各地的气温是多少？
- Worksheet 1c: 世界各地気温記録表
- Worksheet 1d: 智能手机天气预报
- Worksheet 1e: 今天世界上各地的気温是多少？
- Worksheet 1f: 評估：気温報告

### Lesson Storyline and Core Text
Students are welcomed to the first meeting of the World Weather Watchers Club (WWW). They are going to learn how to convert temperatures between the Celsius and Fahrenheit scales, identify weather conditions, and create a forecast.

### Key Elements

<table>
<thead>
<tr>
<th>Engagement</th>
<th>Lesson 1 Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object, event or question used to</td>
<td>今天温度什么？我們來算算看，从摄氏到华氏。</td>
</tr>
<tr>
<td></td>
<td>PPT 1</td>
</tr>
</tbody>
</table>
engage students.● Connections facilitated between what students know and can do

| T: 我们属于世界天气看守俱乐部的会员。它的主要任务是看世界各地的
| 天气变化。
| Distribute The World Weather Watchers Club Journal Cover. T: 我们将把我们所收集的数据集合起来，编成一本天气俱乐部的日记。
| 现在把你的名字写在这里。
| Collect the WWW Journal Cover.

PPT 2
T: 你这张图片上你看到了什么？
Students respond.
T: 这是在夏威夷州的天气观测站。天文台是科学家们观察或看天气的地方。

NOTE: The observatory on this slide is the NOAA (National Oceanic and Atmospheric Association.)

Note: To introduce temperatures, you may need to review numbers 0-100.

PPT 3
T: 让我们来看看我们住在这北半球的天气。Point out and chorally repeat the names of the continents, oceans, and countries on the map.
T: 看左边的地图上的数字。这些数字代表的温度。纽约的温度是多少？
Students respond.
Repeat this question with several other cities.

T: 在此地图上的右侧，有一个“C”的温度后。这 C 是什么意思？
Students respond.
T: 没错！C 是摄氏。有些人用摄氏来测量温度。

Point to several locations and ask students to identify the temperatures.

Hold up a thermometer.
T: 看看这个温度计。有一个温度计两个尺度。在一度的顶部有一个 C 代
表摄氏度和顶部的另一侧为“F”。F 又是什么意思？
Students respond.
T: F 是什么意思呢？
Students respond.
T: F 为华氏温标。当我们在这里说的温度，我们使用的摄氏或华氏？
Students respond.
T: 美国采用华氏温标。世界大部分用摄氏温度。虽然它们的数字不同，
但是都代表同一个地方的温度。

Move the temperature to 32 degrees on the thermometer.
T: 我们说，“这是华氏 32 度。”或是“这是摄氏 0 度。”

Hand the thermometer to several students and ask them to select a temperature. The class will respond with, 这是华氏__度。

PPT 4
T: 这里是我们的摄氏和华氏的温度计。当水结冰，它可以是摄氏 0 度，但在华氏 32 度。

PPT 5
T: 如果我们看一下在世界各地的气象预报，我们会看到大多数国家都使用摄氏温标。只有美国采用华氏温标，我们需要将温度从摄氏转换到华氏。下面是我们做什么：

Invite a student to calculate the conversion on the board as you model each step.
这是西班牙马德里。它是 18 摄氏度。现在，让我们来看怎么把摄氏改成华氏。
  * 首先，我们先乘以九，答案是多少？
  * Students respond: 162。
  * 然后，把 162 除以五。
  * Students respond: 32.4。
  * 再把刚才算出的数目加 32。
  * Students respond: 64.4。

PPT 6
Review the expressions It is cold/warm/hot.
  * 所以 64.4 度是华氏的度数。马德里是热还是冷呢？
  * Students respond.
  * Repeat with a different city and student volunteer.

Distribute individual dry erase whiteboards, markers, and erasers.
T: 我们需要把温度转换摄氏华氏非常快。所以我们先来练习！谁可以计算出最快？
  * 我将跟你们说一个城市和它的温度。
  * 当我说“开始！马上开始把摄氏温度转换成为华氏。
  * 当您完成，举起你的手。
  * Repeat several times. For each city, ask Is it hot, cold, or warm?

T: 你知道，我们的邻居，加拿大，今天北部的温度是多少？
<table>
<thead>
<tr>
<th>Exploration</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Objects and phenomena are explored.</em></td>
<td><em>Students explain their understanding of</em></td>
</tr>
<tr>
<td><em>Hands-on activities, with guidance.</em></td>
<td><em>What’s the weather?</em></td>
</tr>
</tbody>
</table>

Distribute **Worksheet 1a**.

- Pair students.
- Explain the directions and complete the model with the students.
- Assist as needed.

Collect **Worksheet 1a** for inclusion in the WWW Journal.

**What’s the temperature? Converting from Fahrenheit to Celsius**

**PPT 7**

Distribute white boards, markers, and erasers.

T: 我们已经学会了如何从摄氏温度改变为华氏。我们现在要来学习如何从华氏改成摄氏。让我们看一下迈阿密的温度。

- 迈阿密的温度是多少？
  - Students respond.
  - 首先，78减去32，答案是什么？
  - Students respond: 46
  - 接下来，我们46乘5，答案是什么？
  - Students respond: 230
  - 最后，230除以9。答案是？
  - Students respond: 25.6
  - 迈阿密的温度是多少？
  - Students respond: 78°F或25.6°C
  - 迈阿密是热的，冷的，还是温暖的天气？
  - Students respond.

T: 让我们算另一个一个。让我们看一下芝加哥。

Follow the above steps.

T: 芝加哥的天气怎么样？

Students respond: 37°F或2.8°C.

T: 芝加哥天气冷还是热、

Distribute **Worksheet 1b**.

T: *Here is a weather report for the United States. Work with your partner and have fun calculating the Fahrenheit temperatures to Celsius.*

Assist students as needed.

Review responses.

Collect **Worksheet 1b** for inclusion in the WWW Club Journal.
new concepts and processes. *New concepts and skills are introduced as conceptual clarity and cohesion are sought.*

| the strips from Resource Sheet 1a. (one per student) |
| Display a world map for students to attach names of cities. |

**PPT 8-13**
T: 让我们来看看天气在世界各地的天气。
- Use choral repetition and scaffolded questioning techniques to practice the weather vocabulary in each slide.
- Distribute one strip to each student from Resource Sheet 1a.
- Model the Give-One-Get-One activity. Students should ask and answer the question, 今天的天气是多少? With the appropriate response based on their strip: 在 ___, 今天气温 ___ 度.
- Before moving to the next partner, instruct students to exchange strips.
- After students have completed this activity, instruct them to fold their strip so that the name of the city is showing.
- Invite students to come to the world map and attach their city in its proper location as they say, 在 ___, and 今天气温 ___ 度.

**PPT 14-15**
T: 你看到什么?
Students respond.
T: 今天的天气很好还是很不好?
Practicing the vocabulary on each slide using choral repetition and scaffold questioning techniques.

**PPT 16**
T: 作为世界天气的观察人员，我们的工作就是让人们了解天气情况，尤其是风暴或是其他天气的变化。

**PPT 17**
T: 这里有三种类型的风暴 - 飓风，台风和气旋。有什么区别?
Students respond.

**PPT 18-19**
Engage students in conversation about the equator, the names of the oceans, the continents, weather vocabulary, and the direction that each storm rotates.

**PPT 20**
T: 这是好天气还是坏天气?
Students respond.
T: 你看到什么? (Prompt if necessary with black clouds, and/very windy.)
Students respond.
T: 这就是所谓的龙卷风。
Note: A tornado occurs when a rotating column of air comes in contact with both a vertical cloud and the earth.

PPT 21
T: 这里还有一个天气情形。这是好天气还是坏天气？
Students respond.
T: 你看到的是什么天气? (Prompt if necessary with windy, snowing, cold)
Students respond.
Note: A blizzard is a severe snowstorm characterized by strong sustained winds of at least 35 mph and lasting for three hours or more.
Optional:
Show video clips of a tornado, hurricane, and/or blizzard.

T: 现在我们知道怎么谈的温度和天气状况，让我们记录今天和预测未来两天的天气。

- Distribute Worksheet 1c.
  o Review the information needed. Instruct students to select one other location in addition to their own city. (Suggest a location where a relative lives, or a target language city of their choice.)
  o You may wish to complete the first entry with today’s weather.
  o This worksheet will be used in Lesson 3.

Elaboration
- Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.

Students use authentic resources to share the weather forecasts in various locations around the world.

NOTE: Prepare one flashcard set per student from Resource 1b.
Prepare one forecast template per pair of students from Resource 1d, preferable on card stock.

T: 今天的天气怎么样?
Review weather vocabulary.
T: 我们来听听______(city or country of your choice.) 的天气。这在报告气象的人我们叫气象科学员。他的工作是气象预报。
- Distribute one set of flashcards to each student. (Resource 1b)
- Play a podcast, or the audio only of a video clip of a weather forecast.
- Instruct students to hold up the corresponding flashcard for the weather conditions that they hear.

T: 如果你在看电视上的气象学家，他/她用什么来帮助描述的天气？
Students respond.

PPT 22
T: 对，气象学家可以使用像这样的天气图。你看到了什么符号？
Students respond.
T: 当气象学家，使有关天气预测，被称为天气预报。
Direct students’ attention to the temperatures. Introduce 高 and 低. Ask for the high and low temperatures for the days listed.

PPT 23
T: 我们还有什么地方可以找到天气报告？ (Hold up a smart phone, iPad, or tablet.) What can this smartphone tell us? (Days of the week, city, time, weather, temperatures.)

T: 我们也可以是一个气象学家呢！
- Arrange students into pairs.
- Using Resource 1c, assign a city to each pair of students.
- Distribute Worksheet 1d to each pair of students and review these instructions with the class:
  - 我们的工作是创造天气预报智能手机应用程序。
  - 每对收到来自世界各地一个城市。
  - 使用平板电脑或计算机上，找到你所在的城市预测今天的天气。
  - 写和使用该模板画出您所在城市的天气预报。
  - (Worksheet 1d) Include:
    - the name of the city
    - the date
    - high temperature
    - low temperature
    - the current weather condition
    - a drawing of the current weather condition

完成后，和其他同学分享我们的结果。

世界气象俱乐部。
- Assign computers or tablets and instruct students to access a weather website to find the information needed to prepare their forecast.
- Distribute colored pencils.
- Assist students as needed.
- When complete, distribute Worksheet 1e.
  - Each group will share their smartphone forecast with the class. One student will share the forecast while the other student locates the city on the world map with the correct weather symbol.
  - Instruct students to label the map of the world as they watch and listen to the forecasts.
- Collect Worksheet 1e for inclusion in the WWW Journal.
- Display the smartphone forecasts in the classroom.

**Evaluation**
- *Students assess their knowledge, skills and abilities.* Activities permit evaluation of

<table>
<thead>
<tr>
<th>Interpretive and Presentational Writing Performance Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Distribute Worksheet 1f.</strong></td>
</tr>
<tr>
<td>- For Part 1, instruct students to listen to the forecasts and circle the correct visual.</td>
</tr>
<tr>
<td>- Review the model.</td>
</tr>
</tbody>
</table>
student
development and
lesson
effectiveness.

- Read the following statements twice.
  1. 今天在巴尔的摩，阳光明媚 80°F。
  2. 今天在芝加哥 63 °F，是一个有风的高温天气。
  3. 今天在纽约，气温将达到 10 度，下雪。
- Part 2: Using visual cues, students will write the script for a weather forecast for their school's morning announcements.

<table>
<thead>
<tr>
<th>Teacher Reflections - Lesson 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>What worked well?</td>
</tr>
<tr>
<td>What did not work well?</td>
</tr>
<tr>
<td>What would I do differently?</td>
</tr>
<tr>
<td>Other comments or notes</td>
</tr>
</tbody>
</table>
Lesson 2 of 5

| **Objective** | **I Can:**  
| | **Oral language:**  
| | ● describe how a barometer works.  
| | **Literacy:**  
| | ● use the sequence words *first, next, then,* and *finally* when describing how to construct a barometer.  
| | **STEM and Other Subject Areas:**  
| | ● show how a barometer can predict weather conditions.  
| | ● identify the difference between a natural hazard and a natural disaster.  

| **Vocabulary and Expressions** | **Content obligatory language:**  
| | ● 晴雨表  
| | ● 空气压力  
| | ● 高压系统  
| | ● 低压系统  
| | ● 闪电  
| | ● 太多...（雨，雪，风）  
| | ● 地震  
| | ● 火山  
| | ● 干旱  
| | ● 山坡落石  
| | ● 灰  
| | ● 海啸  
| | ● 洪水  
| | ● 森林火灾  

| | **Content compatible language:**  
| | ● 数学家  
| | ● 科学家  
| | ● 汞  
| | ● 玻璃管  
| | ● 露管  
| | ● 爆发  
| | ● 熔岩  
| | ● 熔化的岩石  

Lesson 2- How Can We Predict the Weather?  
我们怎么预测天气？
### World Language-STEM MODULE COVERSHEET

**World Weather Watchers Club: Humans and Natural Hazards**

<table>
<thead>
<tr>
<th>Materials/Resources</th>
<th>PPT 24-39</th>
</tr>
</thead>
<tbody>
<tr>
<td>barometer</td>
<td></td>
</tr>
<tr>
<td>world map</td>
<td></td>
</tr>
<tr>
<td>glue sticks</td>
<td></td>
</tr>
<tr>
<td>For each team of two or three students:</td>
<td></td>
</tr>
<tr>
<td>1 balloon</td>
<td></td>
</tr>
<tr>
<td>1 jar</td>
<td></td>
</tr>
<tr>
<td>1 rubber band</td>
<td></td>
</tr>
<tr>
<td>1 straw</td>
<td></td>
</tr>
<tr>
<td>1 piece of construction paper</td>
<td></td>
</tr>
<tr>
<td>1 pen</td>
<td></td>
</tr>
<tr>
<td>1 pair of scissors</td>
<td></td>
</tr>
<tr>
<td>1 ruler</td>
<td></td>
</tr>
<tr>
<td>tape</td>
<td></td>
</tr>
<tr>
<td>Resource 2a: Pinch cards for Video</td>
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</tr>
<tr>
<td>Resource 2b: Natural Hazards Cards for Memory Game</td>
<td></td>
</tr>
<tr>
<td>Worksheet 2a: 托里切利的气压计</td>
<td></td>
</tr>
<tr>
<td>Worksheet 2b: 我的预测天气晴雨表</td>
<td></td>
</tr>
<tr>
<td>Worksheet 2c: 評估：什么样的自然灾害</td>
<td></td>
</tr>
</tbody>
</table>

### Lesson Storyline and Core Text

The Weather Watchers know how to record the weather each day. Now they are going to learn about natural hazards. They will learn about Torricelli who invented the barometer, and make their own barometer, record air pressure for three days, and predict the weather.

### Key Elements

#### Lesson 2 Procedures

**Using a Barometer to Measure Air Pressure**

**NOTE:** If you prefer, pre-cut the visuals and captions from Worksheet 2a (one set per student) and place in baggies.

T: 小朋友，拿出你的天气日记。现在的天气怎么样？有没有什么城市有天气变化？

Invite students to share their forecasts from **Worksheet 1c** with a partner.

T: 如果我们是气象学家。我們現在來录制的天气。我们来预测两天，可以看到温度和天气模式吗？

Students respond.

**PPT 24**

T: 让我们来看看另一个世界的气象图。这是地图显示什么？

Ask students to identify the colors. (Review the colors, if needed.)

T: 什么颜色表示温度? Point out the equator, and ask students to predict
the temperatures.
Students respond.
T: 哪种颜色代表寒冷的温度？Point to the North and South Poles.
Students respond.

T: 字母 H 和 L 是什么意思？
Students respond.
T: 没错！高和低的意思，气象学家用高和低来预测天气 中空气压力系统。

PPT 25
T: 气象学家用专门的仪器测量空气压力 晴雨表。从高压系统上预期未来的好天气。如果气压低表示风暴和雨的来了。

PPT 26-34
Invite students to read the text on the slides.
Check for understanding by asking questions such as:
- 托里切利住在哪里？
- 他发明什么？
- 为什么？
- 他用什么来创建晴雨表？
- 当压力下降是什么意思？
- 当压力上升是什么意思？

Distribute Worksheet 2a and glue sticks to each student.
Instruct students to create a storyboard about Torricelli’s invention using the visuals and captions.
Collect Worksheet 2a for inclusion in the WWW Journal.

T: 托里拆利发现气压是什么?(A drop below 30” in air pressure = bad weather. A rise above 30” in air pressure = good weather.)
Students respond.

PPT 35-36
Invite students to read the text on the slides.
T: And, the further below the 30-inch mark, the worse the storm.

PPT 37
T: 气象学家到仍使用水银气压表来测量空气压力的变化。这就是为什么今天压力系统有 HS 和 LS。？

Invite students to identify the region/state where the high and low pressure systems are indicated.

Exploration
- Objects and phenomena are explored.

PPT 38
T: 我们来看看世界天气看守俱乐部给我们送来的材料。
Hands-on activities, with guidance.

Invite a student to read the message on the slide.
T: 我们每一组一起做。以下是你必需准备的。
Hold up the individual items as you name them:
- 1 balloon
- 1 jar
- 1 rubber band
- 1 straw
- 1 piece of construction paper
- 1 pen
- 1 ruler
- 1 pair of scissors
- tape

PPT 39
T: 仔细听，看我怎么做：
- 首先，从中切开气球。
- 然后，把一半的气球套在罐子的顶部。
- 用橡皮筋周围把气球定位。
- 接下来，将吸管整个罐子的顶部，这样 3 “的稻草挂出了瓶子的边缘。
- 用胶带将吸管从吸管的边缘 1 英寸的地方。
- 用尺在纸半厘米外的中间画出三条线，标签上面一行“高”，“中”，而底线“低”。
- 最后，用胶带将纸在墙上，把吸管线放在“中间”。
- 现在，看看每一天你的晴雨表看吸管指向“高”“中等”或“低”。
- 接下来的三天里我们将尝试预测天气看到我们的气压计。

Distribute Worksheet 2b.
Assist students as needed.

NOTE: Instruct students to record predictions and actual measurements over the next three days on the board as they observe their barometers.

Explanation
- Students explain their understanding of concepts and processes.
- New concepts and skills are introduced as conceptual clarity and cohesion are sought.

氣象學家怎么預測壞天氣。什麼是惡劣天氣?

Discuss students’ findings from their barometer experiment. (This worksheet will be used again in Lesson 3.)
T: 什麼樣的天氣都氣象學家預測時，会出现高气壓？
Students respond.
T: 什麼樣的天氣都氣象學家預測時，会出现低气壓？
Students respond.

PPT 40
T: 當氣壓表下降，呈現一個低氣壓系統，氣象學家預測壞天氣。什麼是惡劣天氣？
Students respond.
T: 有時，當壓力上升或下降，天氣預測會有什么變化
(Review *tornado* and *blizzard*.)
T: *These are called natural hazards.*

**PPT 41**
T: 還有許多其他種類的自然災害。
Introduce and discuss the vocabulary *drought, earthquake, and volcano.*
Remind students that volcanos and earthquakes often occur without
warning.
T: 下次，我們會看如何自然災害影響我們的生活和社區。
Collect *Worksheet 2b* for inclusion in the WWW Journal.

**Elaboration**
- Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.

**How Natural Disasters Affect Humans**

**NOTE:** Cut one pinch card for each student from Resource 2a.

Write “自然災害” on the board in large letters.
T: 我們來看看自然災害的意思
Hold up visuals of a tornado and a blizzard and ask students to identify them.
T: 龍捲風和暴風雪的自然災害。如果沒有人受傷，沒有被破壞的龍捲風
或暴風雪，它仍然是一個自然災害。

**PPT 42-46**
T: 沒錯！然而，人類常常去因為天災，自然災害而受到傷害，或是建築
物也受損壞。

Chorally repeat “自然災害.” Introduce the new vocabulary on these slides,
chorally repeating the natural hazard, discussing weather conditions
associated with each hazard, and explaining the disasters that they cause.

T: 我們看看自然災害造成災後的情形。
Access the online video, *Big Idea 8: Natural Hazards Affect Humans.* Show
the video once.
Ask students to identify the hazards they saw in the video.
Distribute one pinch card with the words only from Resource 2a to each
student.
T: 讓我們再次觀看視頻。當你看到自然災害中的視頻，拿起和災害相同
的卡片。
Hold up a visual of lightning.
T: 你有沒有看到這種危害？雷電是一種自然災害嗎？
Students respond.
T: 森林火災呢？
Students respond.
T: 是的，有時人可以造成森林火災。如果人們露營在森林中，他們可能
不小心用營火而意外造成森林火災。尤其是如果很久沒有下雨。我們稱
這樣的乾旱時期，更容易造成火災。

T: 什麼樣的天氣導致乾旱？大雨還是小雨？
Students respond.

Place the visual on the board.
Repeat this series of questions with 颶風/洪水，地震/山崩和地震/海嘯.
Place each visual on the board.

Hold up a visual of a volcano.
T: 當山爆發，並將熱融化的岩石下它的側面，這是一座火山。他們為什麼危險？
Students respond.

NOTE: Prepare one set of the memory cards from Resource 2b for each pair of students.

Distribute one set of cards to each pair of students. Model these directions:

- Your task is to match the picture with the name of the hazard.
- Mix up the cards.
- Lay them out on the desktop face down.
- Pick two cards and see if they match. (The name and the picture must match.)

Evaluation

Students identify and classify visuals as either natural hazards or natural disasters.

Distribute Worksheet 2c. Students should complete this assessment without notes.
Collect the worksheets for inclusion in the WWW Journals.

Teacher Reflections - Lesson 2

<table>
<thead>
<tr>
<th>What worked well?</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>What did not work well?</td>
<td></td>
</tr>
<tr>
<td>What would I do differently?</td>
<td></td>
</tr>
<tr>
<td>Other comments or notes</td>
<td></td>
</tr>
<tr>
<td>Lesson 3 of 5</td>
<td>The WWW Learns About Hurricanes</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------</td>
</tr>
</tbody>
</table>
| **Objectives** | **I Can:**  
Oral language:  
- Give examples of how a meteorologist knows that a hurricane is forming.  
- Describe a hurricane.  
- Tell the difference between a hurricane and a typhoon and a cyclone.  
- List steps to prepare for a hurricane.  

**Literacy:**  
- Interpret a graph about hurricanes.  
- Create a storyboard about a family who prepared for a hurricane.  

**STEM and Other Subject Areas:**  
- Show how hurricane winds move in a circular motion very quickly.  
- Give suggestions about how to be safe during a hurricane.  

| **Vocabulary and Expressions** | **Content obligatory language:**  
- 颱風  
- 颱風  
- 旋風  
- 颱風眼  
- 漩渦  
- 熱帶風暴  
- 風暴潮  

**Content compatible language:**  
- 窗戶  
- 疏散  
- 在室內  
- 需要物品  

| **Materials/Resources** |  
- PPT 47-52  
- online video: *How a hurricane is born—The science of superstores*  
- 2-liter empty plastic soda bottles  
- sand  
- paper clips  
- small stones  
- rulers  
- funnel  
- duct tape |
## World Language-STEM MODULE COVERSHEET
### World Weather Watchers Club: Humans and Natural Hazards

<table>
<thead>
<tr>
<th>Lesson Storyline and Core Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hurricanes are natural hazards for people who live near a body of water. People can prepare for hurricanes in advance so that they stay safe. The World Weather Watchers learn about hurricanes because they occur frequently on the east coast of the United States. Hurricanes cause more damage than any other kind of natural disaster.</td>
</tr>
</tbody>
</table>

### Key Elements

**Engagement**
- **Object, event or question used to engage students.**
- **Connections facilitated between what students know and can do.**

<table>
<thead>
<tr>
<th>Lesson 3 Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>飓风是怎么形成的？</td>
</tr>
</tbody>
</table>

**PPT 47**
- **T:** 让我们来看看美国的地图。这些绿色星星的州有什么共同点？
- **Students respond.**
- **T:** 好的。让我们来看看：佛罗里达州，阿拉巴马州，密西西比州，路易斯安那州，佐治亚州，得克萨斯州，南卡罗来纳州，北卡罗来纳州。
- **Invite a student to point to the states as you lead the class in choral repetition.**
- **T:** 还有一个原因，他们都有著绿色的星星。它们是美国最常发生飓风的州。
- **T:** 你知道不知道在哪个季节发生的飓风？
- **Students respond.**
- **T:** 夏季是飓风最常发生的季节，飓风发生在六月，七月，八月，九月，十月，十一月，这儿有几个月是发生夏天？
- **Students respond.**
- **T:** 你知道為什麼這些是最流行個月的飓风？
- **Students respond.**
- **T:** 飓风需要溫暖的海水裡，超過 80 °F 和凉爽的空氣。

**Exploration**
- **Objects and phenomena are explored.**
- **Hands-on activities, with guidance.**

<table>
<thead>
<tr>
<th>What is a hurricane？</th>
</tr>
</thead>
</table>

**NOTE:** Prepare materials needed for the hurricane in a bottle experiment. (Worksheet 3a)

- **T:** 让我们一起看看關於飓风是如何产生的。
- **Play video, How a hurricane is born—the science of superstorms.**
- **T:** 当你看，想想为什么會談關於一個小女孩的故事。
- **T:** 飓风从哪里开始？為什麼会有飓风？让我们来看视频。

After viewing, make a list on the board of the conditions that are needed...
for a hurricane as students respond. Possible responses:

- Ocean water needs to be over -80°C.
- Air must be cold.
- Wind must blow in the same direction and speed to force air to rise from the ocean surface.
- Wind blows out of a hurricane, forcing the air from the ocean to rise.

PPT 48
T: 下面是飓风的产生。

飓风是高达 600 英里宽。
风在 75 - 200 海里时速。
一个飓风可以持续一个或多个星期。
当飓风来的时候，带来的暴雨、强风，社会造成很大的损失。

T: 你想不想做个小飓风实验？
Distribute Worksheet 3a. Show the materials as you model the directions. Assist as needed.
Record student responses from the two experiments. Discuss what the paper clip, stones, and sand represent.
Collect the worksheet for inclusion in WWW Journal.

PPT 49
T: 现在让我们回顾一下一件事，我们对飓风的了解。
Point to and name the bodies of water. Ask students for the correct name of the storm.

Explanation
- Students explain their understanding of concepts and processes.
- New concepts and skills are introduced as conceptual clarity and cohesion are sought.

哈利和飓风
T: 我们已经看到飓风如何影响我们。世界天气的俱乐部需要我们在告诉其他人有关飓风的准备。我们来看看一个从北卡罗莱纳州的家庭故事，他们做了什么准备。

PPT 50-52
- Read the story to the students, pausing as you refer to the visuals for the following unfamiliar vocabulary on the slides to aid comprehension:
  window, cabin, bolts of lightning, thunder, sink, bathtub, fell, strong, radio, shutters, hallway, flashlight.
- After reading, assess for understanding by asking:
  o 男孩的名字是什么？
  o 他从窗口看到什么？
  o 它的父亲呢？
  o 他的母亲呢？
  o 他们是怎么准备的？
<table>
<thead>
<tr>
<th>World Language-STEM MODULE COVERSHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Weather Watchers Club: Humans and Natural Hazards</td>
</tr>
<tr>
<td>世界天气俱乐部</td>
</tr>
</tbody>
</table>

| | o 他們安全嗎？
| | o 他們做了什麼，以保證安全？
| | Distribute Worksheet 3b.
| | T: 現在跟你的同學一起閱讀這個故事。因為沒有圖片，所以我們得我們的想像力。想想當時的情形。|

| Elaboration |
| Activities allow students to apply concepts in contexts, and build on or extend understanding and skill. |
| 做一本故事書 |
| T: 我們現在要設計一本書給年幼的孩子。你還記得發生了什麼事哈利和他的家人？他的家人有没有准备？我們怎麼能告诉发生在他們的故事？
| Distribute Worksheet 3b and colored pencils or crayons. |
| • Instruct students to fold and cut the template as directed. (This foldable is called a zine. Directions for its assembly are readily available online.) |
| • Assist students in the assembly of their zine. |
| • Instruct students to write the title, Harry and the Hurricane and their name on the first page. |
| • As time permits, direct students to share their storybook with a partner. |
| OPTION: If resources are available, allow students to create a digital storybook. |

| Evaluation |
| Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and lesson effectiveness. |
| 我们大家分享“哈利和飓风”的故事 |
| Options: |
| • Students participate in a gallery walk of their storybooks, either in print or digitally. Students provide feedback to their peers and select their favorite storybook. |
| • Students share their storybooks with classmates. |
| • Students share their storybooks with younger students in the school. |
| Collect the storybooks for inclusion in the WWW Journal. |

| Teacher Reflections - Lesson 3 |
| What worked well? |
| What did not work well? |
| What would I do differently? |
| Other comments or notes |
Lesson 4-WWW Learns How to Help Others in a Natural Disaster

<table>
<thead>
<tr>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I Can:</strong></td>
</tr>
<tr>
<td><strong>Oral language:</strong></td>
</tr>
<tr>
<td>• Tell people what to do if a hurricane is coming.</td>
</tr>
<tr>
<td>• List what is in a disaster emergency kit.</td>
</tr>
<tr>
<td>• Give suggestions on how to help people after a natural disaster.</td>
</tr>
<tr>
<td><strong>Literacy:</strong></td>
</tr>
<tr>
<td>• Write a list of supplies for a disaster emergency kit.</td>
</tr>
<tr>
<td><strong>STEM and Other Subject Areas:</strong></td>
</tr>
<tr>
<td>• Give examples of the damage that natural disasters create.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vocabulary and Expressions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Content obligatory language:</strong></td>
</tr>
<tr>
<td>• 災難應急包</td>
</tr>
<tr>
<td>• 手電筒</td>
</tr>
<tr>
<td>• 電池</td>
</tr>
<tr>
<td>• 開罐器</td>
</tr>
<tr>
<td>• 罐頭食品</td>
</tr>
<tr>
<td>• 本書</td>
</tr>
<tr>
<td>• 棋牌</td>
</tr>
<tr>
<td>• 毯</td>
</tr>
<tr>
<td>• 瓶裝水</td>
</tr>
<tr>
<td>• 點心</td>
</tr>
<tr>
<td>• 换洗的衣服</td>
</tr>
<tr>
<td>• 電台</td>
</tr>
<tr>
<td>• 急救箱</td>
</tr>
<tr>
<td>• 牙刷和牙膏</td>
</tr>
<tr>
<td>• 志願者</td>
</tr>
<tr>
<td>• 筹款</td>
</tr>
<tr>
<td>• 捐贈</td>
</tr>
<tr>
<td><strong>Content compatible language:</strong></td>
</tr>
<tr>
<td>• 有很多，最</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Materials/Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>• PPT 53-56</td>
</tr>
<tr>
<td>• a disaster emergency kit (See Resource 4b for the suggested items.)</td>
</tr>
<tr>
<td>• materials to assemble the WWW Journals</td>
</tr>
<tr>
<td>• glue sticks</td>
</tr>
<tr>
<td>• optional: internet access for researching disaster relief agencies</td>
</tr>
<tr>
<td>• Resource 4a: The Worst Natural Disasters of 2013</td>
</tr>
<tr>
<td>• Resource 4b: Flashcards for Emergency Disaster Kit and template</td>
</tr>
<tr>
<td>• Worksheet 4a: 2013年的世界灾害</td>
</tr>
</tbody>
</table>
### Lesson Storyline and Core Text

| Harry’s family knew what to do in severe weather. It is important that people know what to do if there is a hurricane, tornado, flood, or other natural disaster in their community. Everyone needs to be prepared and needs to help others after the disaster. |

### Key Elements

<table>
<thead>
<tr>
<th>Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Object, event or question used to engage students.</td>
</tr>
<tr>
<td>● Connections facilitated between what students know and can do</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Natural Disasters Around the World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display a map of the world.</td>
</tr>
<tr>
<td>T: 我们已经知道为什么会有是飓风。在 2013 年，有世界各地的许多其他自然灾害。这灾难，你认为是最常见的？ (Review hurricane, tornado, typhoon, earthquake, tsunami, flood, drought, etc.)</td>
</tr>
<tr>
<td>Distribute the cards from Resource 4a and Worksheet 4a.</td>
</tr>
<tr>
<td>● Instruct students to draw a symbol for each natural disaster next to their corresponding words in the KEY on Worksheet 4a. Students will use these symbols as they listen and watch their classmates locate the disasters on the map.</td>
</tr>
<tr>
<td>● As you say and point to each continent or country, instruct students with the words to come to the map with their card and place it in the correct area of the map.</td>
</tr>
<tr>
<td>● Next, instruct the students with the visuals to place their cards next to a corresponding card on the map and you repeat each country/continent.</td>
</tr>
<tr>
<td>● When complete, ask students if they see any patterns. Ask questions such as:</td>
</tr>
<tr>
<td>o 在一月，二月，等发生有多少灾害？</td>
</tr>
<tr>
<td>o 哪个月/季有最多灾难？</td>
</tr>
<tr>
<td>o 在中国/美国等发生多少灾害？</td>
</tr>
<tr>
<td>o 哪个国家有最多的灾害？</td>
</tr>
<tr>
<td>o 地震/台风/是如何发生？</td>
</tr>
<tr>
<td>o 最常见的灾难是？</td>
</tr>
<tr>
<td>● Collect Worksheet 4a for inclusion in the WWW Journal.</td>
</tr>
</tbody>
</table>

PPT 53

| T: 这些灾害造成十亿美元的损失以及数百人的生命。所以最重要的是准备工作。 |
Preparation for Natural Disasters

**Exploration**
- Objects and phenomena are explored.
- Hands-on activities, with guidance.

**Making a Disaster Emergency Kit**

Distribute the students’ flashcards from the previous segment.

T: **Now it is your turn to create a disaster emergency kit.**

- Distribute the prepared disaster emergency kits from the template on Resource 4b, page 2. (one per student)
- Instruct students to write their names on the front of the kit.
- Model the activity by demonstrating with your emergency kit as you place the items in the container, *I need water to drink. I need a book to read.*
- Instruct student to work with a partner using the sentence starter, 我需要__________. Direct students to be as descriptive as possible.

**Explanation**
- Students explain their understanding of concepts and processes.
- New concepts and skills are introduced as conceptual clarity and cohesion are sought.

**Preparing for Natural Disasters**

NOTE: Prepare one set of flashcards from page 1 of Resource 4b for each student (including the blank cards.) Prepare one template from page 2, aligning the shapes and stapling the sides and bottom edges. (The top edge will be open so that students can place the flashcards in the “kit” during a communicative activity.)

T: 自然灾害不断增加。重要的是要为这些灾害准备，以帮助人们在灾难发生后。

Show the disaster emergency kit. Identify and chorally repeat each item, asking appropriate questions about each such as its size, color, etc.

Distribute the flashcards, word cards and glue sticks from Resource 4b.

- Instruct students to glue the word on the back of its corresponding visual. (There are blank cards for later use.)
- Then instruct students to work with a partner in which they must ask questions such as:
  - 这是什么？
  - 它是什么颜色？
  - 我们能做什么呢？
- Collect the flashcards in envelopes or baggies labeled with students’ names for use in the next segment.

**Exploration**
- Objects and phenomena are explored.
- Hands-on activities, with guidance.
### World Language-STEM MODULE COVERSHEET
**World Weather Watchers Club: Humans and Natural Hazards**

<table>
<thead>
<tr>
<th>Elaboration</th>
<th>Taking the Next Steps – Helping During A Disaster</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.</strong></td>
<td><strong>T</strong>: 现在，你有一个灾难应急包。一定要拿你的家人看。我们每一个家都要有一个灾难应急包。</td>
</tr>
</tbody>
</table>

**PPT 53-54**

**T**: 自然灾害发生后帮助人们对自然灾害正在准备的另一个重要组成部分。描述这些幻灯片上的四个机构。

**T**: 有很多机构和许多人一样，在美国和世界帮助人们。当自然灾害发生在世界的另一部分，你觉得自己能做什么？

学生回答。

选择一个机构，并分享一个突出显示其活动的在线视频或网站。

**OPTION**: 将学生分为四人小组，指导他们研究其中一个参与灾害救济的众多机构。向全班报告他们的发现，回答问题如下：

- 机构名称是什么？
- 他们在哪里？
- 他们提供什么？（食物、水、衣物等）
- 他们援助哪类灾害？（对美国或世界）

**PPT 55-56**

**T**: 我们可以做的是在灾难发生后帮助他人给他们一些生活用具或是办慈善活动？（慈善步行/运行，柠檬水摊子，服装驱动器，驱动器，食品，玩具驱动器等）

写学生回答在黑板上。

**T**: 我们可以帮他们卖，给他们钱来重整家园。

讨论筹款的概念，并询问学生学校如何筹款。写学生回答在黑板上。

**NOTE**: 根据班级的想法和他们对支持全球某处灾难捐款的想法，班级可以组织他们的项目并确定帮助的组织。

### Evaluation
**Students assess their knowledge, skills and...**

1. 再分发本模块中完成的成果。

20
abilities. Activities permit evaluation of student development and lesson effectiveness.

<table>
<thead>
<tr>
<th>abilities. Activities permit evaluation of student development and lesson effectiveness.</th>
<th>WWW Journal covers. Assist students in assembling the journals using the materials of your choice. Allow time for students to share their journals with a partner.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Students will select a presentational tool of their choice to demonstrate their knowledge of how to prepare for a natural disaster. They may choose:</td>
<td></td>
</tr>
<tr>
<td>• a brochure</td>
<td></td>
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<tr>
<td>• a video</td>
<td></td>
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<tr>
<td>• a digital presentation, such as iMovie, Voki, etc.</td>
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</tr>
<tr>
<td>• a skit with a partner</td>
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</tr>
<tr>
<td>• a poster, either on paper or digitally</td>
<td></td>
</tr>
<tr>
<td>• an actual disaster emergency kit that they assembled for their family (If the kit cannot be brought to class, a video or photo can be shared and described.)</td>
<td></td>
</tr>
<tr>
<td>• their own idea</td>
<td></td>
</tr>
<tr>
<td>The presentation should include:</td>
<td></td>
</tr>
<tr>
<td>• what is needed in a disaster emergency kit</td>
<td></td>
</tr>
<tr>
<td>• the purpose for each item</td>
<td></td>
</tr>
<tr>
<td>• a demonstration of how the items are used</td>
<td></td>
</tr>
<tr>
<td>• why a disaster emergency kit is necessary</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Teacher Reflections - Lesson 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What worked well?</strong></td>
</tr>
<tr>
<td><strong>What did not work well?</strong></td>
</tr>
<tr>
<td><strong>What would I do differently?</strong></td>
</tr>
<tr>
<td><strong>Other comments or notes</strong></td>
</tr>
</tbody>
</table>