

Grade: K
Trimester: 1st—Fall

Science and Math Standards

Science

- K-LS1-1** Use observations to describe patterns of what plants and animals (including humans) need to survive.
- K-ESS2-1** Use and share observations of local weather conditions to describe patterns over time.
- K-ESS2-2** Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.
- K-ESS3-1** Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.
- K-2-ETS1-1** Ask questions, make observations, and gather information about a situation people want to change.
- K-2-ETS1-2** Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
- K-2-ETS1-3** Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Common Core in Relation to Science

ELA/Literacy —

- W.K.7** Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). (K-LS1-1)
- R.K.1** With prompting and support, ask and answer questions about key details in a text. (K-ESS2-2)
- W.K.1** Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book. (K-ESS2-2)
- W.K.2** Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. (K-ESS2-2)
Add drawings or other visual displays to descriptions as desired to provide additional detail. (K-ESS3-1)
- SL.K.5** Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text. (K-2-ETS1-1)
- RI.2.1** With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. (K-2-ETS1-1)
- W.2.6** Recall information from experiences or gather information from provided sources to answer a question. (K-2-ETS1-1)
- W.2.8** Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings. (K-2-ETS1-2)

Math —

- MP.2** Reason abstractly and quantitatively. (K-ESS3-1)
- MP.4** Model with mathematics. (K-ESS3-1)
- MP.5** Use appropriate tools strategically. (K-2-ETS1-3)
- K.CC** Counting and Cardinality (K-ESS3-1)
- K.MD.A.2** Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. (K-LS1-1)
- K.CC.A** Know number names and the count sequence. (K-ESS2-1)
- K.MD.A.1** Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. (K-ESS2-1)
- K.MD.B.3** Classify objects into given categories; count the number of objects in each category and sort the categories by count. (K-ESS2-1)
- 2.MD.D.10** Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (K-2-ETS1-1)

Concept Map of Unit

Trees and Weather

Main Topics

- Observing Trees
- Observing Leaves
- Observing Weather
- Seasons

Key Vocabulary

Tier 1

branch, compare, desert, different, flower, leaves, mountain, ocean, plant, river, seed, shape, similar, tree, color, edge, heart, line, longer, narrower, paddle, needle, season, spring, summer, swollen, winter, fall, food, fruit, rough, rounded, shorter, smooth, size, triangle, wider, air, blowing, calendar, cloud, cold, cool, direction, freezing, hot, partly cloudy, rainy, snowy, sunny, weather, wind, blossom. 分支 · 比较 · 沙漠 · 不同 · 花 · 叶 · 山 · 海洋 · 植物 · 河 · 种子 · 形状 · 相同/同样 · 树 · 颜色 · 边缘 · 爱心 · 线条 · 更长 · 更窄 · 划桨 · 针 · 季节 · 春天 · 肿胀 · 冬天 · 秋天 · 食物 · 水果 · 粗糙 · 圆的 · 更短 · 平滑 · 大小 · 三角形 · 更宽 · 空气 · 吹 · 日历 · 云 · 冷 · 凉 · 方向 · 冰冻 · 热 · 少云 · 多雨 · 多雪 · 晴朗 · 天气 · 风 · 开花

Tier 2

circumference, cone, hardwood, observe, pattern, texture (feeling), valley, lobed, outline, oval, scale, silhouette, spear, tip, toothed, monitor, thermometer, nutrient, moon, star. 圆周 · 锥形 · 木板 · 观察 · 图案 · 感觉 · 谷 · 浅裂 · 轮廓 · 椭圆形 · 比例 · 剪影 · 矛 · 尖端 · 齿形 · 显示器 · 温度计 · 营养 · 月亮 · 星

Tier 3

adopt, bark, conifer, root, stem, swamp, trunk, twig, growth ring, leaf scar, moving air, overcast, weather instrument, wind sock, bud, evergreen, rain gauge. 领养, 树皮, 针叶树 · 根 · 茎 · 沼泽 · 树干 · 树枝 · 生长环 · 叶痕 · 移动空气 · 阴天 · 天气仪器 · 风袜 · 芽 · 常绿 · 雨量计

Compelling Questions:

- What did we learn about our schoolyard trees?
我们从园里的树学到了什么?
- What are the parts of trees?
树有哪些部分?
- What shapes are trees?
树有哪些形状?
- Which trees have similar shapes?
哪些树有相同的形状?
- What can we find out about our adopted trees?
我们可以在班上领养的树学到什么?
- What do trees need to grow?
树需要什么来成长?
- What can we observe about leaves?
我们在叶子上可以观察到什么?
- What shapes are leaves?
叶子有哪些形状?
- How are leaves different?
叶子有哪些不同的地方?
- How are leaf edges different?
叶子的边缘有哪些不同的地方?
- What is the weather today?
今天的天气如何?
- How can we measure the air temperature?
我们怎么测量气温?
- What does a windsock tell us about the wind?
风向带
- What do fall trees look like?
秋天里的树长什么样子?
- What do winter trees look like?
冬天里的树长什么样子?
- What do spring trees look like?
春天里的树长什么样子?

Social Studies and SEL Objectives

Social Studies

- To define what it means to get along
- To identify helpful, courteous, fair, compassionate, and responsible behaviors
- To identify reasons for rules at home and at school
- To understand how we play and work together as a community
- To identify and celebrate similarities and differences among class members
- To identify different feelings and interpret facial expressions
- To identify the flag as a symbol of our country
- To recognize and acknowledge contributions everyone brings to the community
- To define what makes a family and understand the many types of families that live in our community
- Show that families are similar and different
- Place family events in a sequence over time
- To use terms to distinguish past, present, and future
- Identify a personal family tradition

Science and Math Standards

Science

- 2-PS1-1** Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
- K-ESS2-1** Use and share observations of local weather conditions to describe patterns over time.
- K-ESS3-3** Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.
- 1-ESS1-1** Use observations of the sun, moon, and stars to describe patterns that can be predicted.
- 1-ESS1-2** Make observations at different times of year to relate the amount of daylight to the time of year.
- K-2-ETS1-1** Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- K-2-ETS1-2** Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
- K-2-ETS1-3** Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Common Core in Relation to Science

ELA/Literacy —

- W.K.2** Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. (K-ESS3-3)
- W.K.7** Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). (K-ESS2-1)
- W.1.7** Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions). (1-ESS1-2)
- W.1.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (1-ESS1-2)
- RI.2.1** Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text. (K-2-ETS1-1)
- W.2.6** With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. (K-2-ETS1-1)
- W.2.7** Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). (2-PS1-1)
- W.2.8** Recall information from experiences or gather information from provided sources to answer a question. (2-PS1-1)
- SL.2.5** Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings. (K-2-ETS1-2)

Math —

- MP.2** Reason abstractly and quantitatively. (K-ESS2-1)
- MP.4** Model with mathematics. (2-PS-1-1)
- MP.5** Use appropriate tools strategically. (K-2-ETS1-1)
- K.CC.A** Know number names and the count sequence. (K-ESS2-1)
- K.MD.A.1** Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. (K-ESS2-1)
- K.MD.B.3** Classify objects into given categories; count the number of objects in each category and sort the categories by count. (K-ESS2-1)
- 2.MD.D.10** Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (K-2-ETS1-1)

Concept Map of Unit

Air and Weather

Main Topics

- Exploring Air
-Wind Explorations
- Observing the Sky
-Looking for Change

Key Vocabulary

Tier 1

air, blow, bubble, gas, move, push, wind, rainy, snowy, star, sun, sunny, sunrise, sunset, temperature, warm, weather, calm, direction, east, kite, breeze, north, south, west, change, cloud, cold, cool, day, describe, hot, measure, moon, night, overcast, partly cloudy, fall, season, spring, summer, winter, rain, shadow, snow, storm, hurricane, tornado. 空气·吹·气泡·气体·移动·推·风·下雨·下雪·星星·太阳·晴朗·日出·日落·温度·温暖·天气·平静·方向·东·风筝·微风·北·南·变化·云·冷·凉·一天·描述·热·测量·月亮·夜晚·阴天·少云·秋天·季节·春天·夏天·冬天·雨·阴影·雪·风暴·飓风·龙卷风

Tier 2

distance, engineer, matter, rocket, submerge, system, record, symbol, thermometer, weather condition, meteorologist, pattern, graph, migrate, resource. 距离·工程师·物质·火箭·淹没·系统·记录·符号/标识·温度计·气象条件·气象学家·模式·图表·移民·资源

Tier 3

air resistance, barrel, compress, parachute, plunger, pressure, syringe, tube, rain gauge, stratus, water vapor, weather instrument, anemometer, wind speed, wind vane, cirrus, cumulus, Celsius, Fahrenheit, hibernate, precipitation, weather balloon, dormant. 空气阻力·桶·压缩·降落伞·柱塞·压力·注射器·管·雨量计·层云·水汽·气象仪·风速计·风速·风向标·卷云·积云·华氏度·华氏度·冬眠·降水·气候气球·休眠

Essential Questions

Compelling Questions:

- What can air do?
How does a parachute interact with air?
What happens when air is pushed into a smaller space?
How can water be used to show that air takes up space?
How can compressed air be used to make a balloon rocket?
What is the weather today?
What time of day is the air the warmest?
What types of clouds are in the sky today?
What time of day can we observe the moon?
How can bubbles be used to observe the wind?
How strong is the wind today?
How can pinwheels be used to observe the wind?
What does a wind vane tell us about the wind?
What weather conditions are good for kite flying?
How can we describe the weather over a month?
What does the moon look like at different times during a month?
How does the amount of daylight change over the year?
How does the temperature and weather change over the seasons?

Social Studies and SEL Objectives

Social Studies

- To experience the benefits of cooperating while drawing a picture together
- To identify and illustrate ways to get along in school
- To learn how to help within a community
- To identify and recognize personal preferences and talent within oneself and others
- To practice cooperative interaction by talking with and listening to each other
- To reflect on how each student has a role in the community and civic responsibility
- To identify the purpose and benefits of having rules at school
- To compare rules at home with rules at school and laws in the community
- To illustrate rules in various contexts (inside vs. outside school, at home and school, etc.)
- To recognize and self-monitor positive behaviors (chart/graph)
- To brainstorm a list of adults who help at school
- To practice the roles and civic responsibilities of various roles at school
- To identify the contributions of all service providers at school and compare this to contributions by members in the larger community
- To identify ways to be helpful at home and school
- To evaluate how to help others
- To describe characteristics of a civic-minded (good) citizen
- To make evaluations about how to respect school property, model a positive attitude and take initiative to show civic responsibility in school
- To learn about map symbols, keys, and directions
- To identify maps that show local areas, the U.S.A. and the world
- To use map symbols to create maps of familiar areas
- To learn how to use symbols to create a map to inform community members about various areas
- To reflect on compelling questions and develop civic understanding

Science and Math Standards

Science

- 2-ESS1-1** Use information from several sources to provide evidence that Earth events can occur quickly or slowly.
- 2-ESS2-1** Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.
- 3-ESS2-2** Develop a model to represent the shapes and kinds of land and bodies of water in an area.
- 2-ESS2-3** Obtain information to identify where water is found on Earth and that it can be solid or liquid.
- 2-PS1-1** Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
- 2-PS1-2** Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.
- K-2-ETS1-1** Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.
- K-2-ETS1-2** Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.
- K-2-ETS1-3** Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Common Core in Relation to Science

ELA/Literacy —

- RI.2.1** Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text. (2-ESS1-1)
- RI.2.3** Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text. (2-ESS1-1)
- W.2.6** With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. (2-ESS1-1)
- W.2.7** Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). (2-ESS1-1)
- W.2.8** Recall information from experiences or gather information from provided sources to answer a question. (2-ESS1-1)
- SL.2.2** Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. (2-ESS1-1)
- RI.2.9** Compare and contrast the most important points presented by two texts on the same topic. (2-ESS2-1)
- SL.2.5** Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings. (2-ESS2-2)
- RI.2.8** Describe how reasons support specific points the author makes in a text. (2-PS1-2)

Math —

- MP.4** Model with mathematics. (2-ESS1-1)
- 2.NBT.A** Understand place value. (2-ESS1-1)
- MP.2** Reason abstractly and quantitatively. (2-ESS1-1)
- MP.5** Use appropriate tools strategically. (2-ESS2-1)
- 2.MD.B.5** Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem. (2-ESS2-1)
- 2.NBT.A.3** Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. (2-ESS2-2)
- 2.MD.D.10** Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (2-PS1-1),(2-PS1-2)

Concept Map of Unit

Pebbles, Sand, and Silt

Main Topics

- First Rocks
- Using Rocks
- River Rocks
- Soil and Water

Key Vocabulary

Tier 1

bubble, color, flat, mineral, pattern, pointed, rock, rough, round, sand, shape, shiny, size, smooth, beach, sand, sand dune, screen, separate, shake, sink, build, gas, lake, liquid, ocean, pond, river, soil, solid, stream. 泡沫 · 颜色 · 平面 · 矿物 · 图案 · 尖 · 岩 · 粗糙 · 圆形的 · 沙子 · 形状 · 闪亮 · 大小 · 平滑 · 沙滩 · 沙子 · 沙丘 · 筛滤网 · 分开/分离 · 摇 · 沉下 · 建设 · 气体 · 湖 · 液体 · 海洋 · 池塘 · 河流 · 土壤 · 固体 · 溪流

Tier 2

data, dull, earth material, geologist, group, property, sort, texture (feeling), volcano, boulder, butte, canyon, clay, erosion, gravel, layer, mixture, particle, pebble, settle, silt, valley, coarse, fine, harden, medium, natural resources, sculpture, sidewalk, fresh water, retain, salt water. 数据 · 沉闷 · 地球物质 · 地质学家 · 群体 · 特性 · 排序 · 感觉 · 火山 · 巨石 · 山墩 · 峡谷 · 粘土 · 侵蚀 · 砾石 · 层 · 混合物 · 颗粒 · 卵石 · 沉淀 · 淤泥 · 谷 · 粗 · 细 · 硬, 中, 自然资源, 雕塑, 人行道, 淡水, 保留, 盐水

Tier 3

basalt, granite, scoria, tuff, weathering, cobble, delta, mesa, model, plain, plateau, asphalt, brick, concrete, engineer, mortar, sandpaper, decay, humus. 玄武岩 · 花岗岩 · 砾石 · 凝灰岩 · 风化 · 鹅卵石 · 三角洲 · 台面 · 模型 · 平原 · 高原 · 沥青 · 砖 · 混凝土 · 工程师 · 砂浆 · 砂纸 · 腐烂, 腐殖质

Essential Questions

Compelling Questions:

- What are properties of rocks and how do they change?
石头的特性是什么? 它们如何改变?
- What happens when rocks rub together? 石头互相摩擦在一起时会发生什么事?
- What happens when rocks are placed in water? 石头放在水里时会发生什么事?
- How are river rocks the same? 鹅卵石有哪些相似的地方?
- What are the properties of schoolyard rocks? 我们校园里的石头的特性是什么?
- How many ways can rocks be sorted? 总共有几种分石头的方式?
- How can rocks be separated by size? 我们如何已大小来分石头?
- How else can rocks be sorted by size? 我们如何已大小来排序石头?
- Is there an earth material smaller than sand? 有哪些材料比沙子还要小?
- What earth material is smaller than silt? 有哪些材料比淤泥还要小?
- How does water and wind change landforms? 水和风如何改变地形?
- How do people use earth materials? 人们如何使用地球的资源?
- What does sand do for sandpaper? 沙子对砂纸有什么作用?
- How can we make a sand sculpture? 我们如何建造一个沙雕?
- What makes clay useful in making objects like beads? 我们怎么用粘土来做珠子等物品?
- How are bricks made? 砖块是什么做成的?
- What is soil? 什么是土?
- How do soils differ? 土有哪些不同的特征?
- Where is water found in our community? 我们社区里有哪些水源?
- How can soil erosion be reduced? 我们如何减少土壤侵蚀?

Social Studies and SEL Objectives

Social Studies

- To identify important places, describe what people do in a community and record observations about the local community
- To research information about the local community from newspapers
- To design a fictional community
- To identify the features of urban, rural, and suburban communities
- To compare and contrast features of different types of communities and identify advantages and disadvantages of different types
- To determine the relative location and population densities of urban, rural, and suburban communities
- To use primary and secondary sources (photographs, census records) to learn about Bellevue over time
- To learn who the early pioneers of Bellevue were compared to Bellevue today

Teacher: 3rd Grade

Concept Areas/Standards

Science

3-PS2-1. Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.
 3-PS2-2. Make observations and/or measurements of an object’s motion to provide evidence that a pattern can be used to predict future motion.
 3-PS2-3. Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.
 3-PS2-4. Define a simple design problem that can be solved by applying scientific ideas about magnets
 3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
 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.
 3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Math

- Represent and solve problems involving multiplication and division
- Understand properties of multiplication and the relationship between multiplication and division.
- Multiply and divide within 100.
- Solve problems involving the four operations, and identify and explain patterns in arithmetic.
- Represent and interpret data.
- Use place value understanding and properties of operations to perform multi-digit arithmetic.

Concept Map of Unit

Immigrants

Main Topics

- *Different cultures in a community
- *How a community works
- *My place in the community
- *Trading and supply and demand

Key Vocabulary

Teir 3

Rocky Mountains, Tennessee, Declaration of Independence, Philadelphia, Mexico City, Aztecs, National Palace, Independent Day, India

落基山脉, 田纳西州, 独立宣言, 费城, 墨西哥城, 阿兹特克人, 国家宫殿, 独立纪念日, 印度

Teir 2

Bald eagle, tightly, connected, symbol, read aloud, to rule, laws, government, capitol, legend, destroy, century, products, trade, consumers, employee, noise, air pollution

秃鹰, 紧密, 联系, 象征, 朗读, 统治, 法律, 政府, 首都, 传说, 摧毁, 世纪, 商品, 贸易, 客户, 员工, 噪音, 空气污染

Teir 1

Neighborhood, freedom, National Day, tradition, independence, flag, power, buildings, culture, characteristics, square (town), island, city, changes, garden, defeated, citizens, respond, Native Americans, nearby, society, to solve, job, service

社区, 自由, 国庆, 传统, 独立, 国旗, 力量, 建筑物, 文化, 特色, 广场, 小岛, 城市, 改变, 花园, 打败, 人民, 回应, 印第安人, 附近, 社会, 解决, 工作, 服务

Across Subjects

Learning Goals:

SWBAT:

- Construct an argument based on evidence collected.
- Support the argument with both primary and secondary resources.
- Clearly express both positive and conflicted emotions to peers and teacher in a calm manner and come to resolutions with guidance.
- Work effectively with peers from diverse backgrounds.
- Recognize and embrace cultural and background differences among peers and the community.

Compelling Questions:

- What do I bring to my community?
我能为我的社区做些什么?
- What are the benefits of our cultural contributions?
我们在文化上的贡献会带来怎样的好处?
- How are we alike around the world?
全世界的人有什么共同点?
- How does our economy work?
我们的经济是如何运转的?
- How does global trade affect our community?
全球贸易是如何影响我们的社区的?
- Who works at city hall?
谁在市政府工作?
- How do people improve their communities?
人们怎样改善他们的社区?
- What do I bring to my community?
我给我的社区带来了什么?

Social Studies/ SEL

- Reasons for immigration; benefits and drawbacks of being an in immigrant.
- Contributions of different cultures e.g. foods, languages, holidays, traditions, etc.
- Similarities and differences between students’ culture and other cultures around the world.
- Relationship of supply & demand and goods & services.
- Interconnectivity of countries to one another via trade.
- Roles of various offices at City Hall.
- Recognition of contributions made by individuals and how they, as students, can also make contributions to the community.

Chinese Language Arts

Learning Goals:

Please refer to grade level literacy goals and can-do statements.

Concept Areas/Standards

Science

4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.
4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features.

ESS2.A: Earth Materials and Systems—Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around.

Compelling Questions:

Does water do the same thing on all surfaces?

Does water always flow downhill?

What happens to water when it is heated?

What happens to water when it is cooled?

What happens to water when it freezes?

What happens to ice when it is heated?

What effect does air temperature have on the amount of water that evaporates from a cup?

What effect does surface area have on the rate of evaporation?

Supporting Questions:

What happens when water gets spilled, splashed, or dropped on something?

What shape does water make on a flat surface?

Why does water form a dome on flat surfaces?

How can you change the surface tension of plain water?

How does changing the slope or number of drops change the speed at which a water dome flows downhill?

Is hot water denser or less dense than room-temperature water?

Is cold water denser or less dense than room-temperature water?

What are some of the properties of water that affect the quality?

What types of water can be used for different purposes?

CCSS Connections

ELA/Literacy RI.4.7. Interpret information presented visually, orally, or quantitatively and explain how the information contributes to an understanding of the text in which it appears.

W.4.7. (same as above)

W.4.8. Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.

CCRA.R.1 Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

CCRA.R.2 Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

MP.2 Reason abstractly and quantitatively

MP.4 Model with mathematics

MP.5 Use appropriate tools strategically

4.MD.A.1 Know relative sizes of measurement units within on system of units.

Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.

4.MD.A.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems, involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.

Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

Concept Map of Unit

Early Washington

Main Topics

*Native Americans in Washington State *History's impact on the community

* Community and the sense of community *WA geography

Key Vocabulary

Tier 3

Petroglyphs, archaeologists, descendants, weir, harpoon, stockade, sawmill, longhouses, overland, gold rush

岩画, 考古学家, 后代, 堰, 鱼叉, 栅栏, 锯木厂, 长屋, 陆上, 淘金潮

Tier 2

fur trade, trade route, pelt, expedition, interpreter, terrain, slave, rapids, felt (noun), wilderness, brigade, massacre, orphanages, convert (referring to beliefs/religion), homestead, ownership, treaty, civilize, ethnic, enforce

毛皮贸易, 贸易路线, 毛皮, 远征, 翻译者, 地形, 奴隶, 急流, 毛布 (名词), 荒野, 对组, 大屠杀, 孤儿院, 改变信仰, 宅基地, 拥有权, 条约, 种族, 执行

Tier 1

Ancient, extinct, native, legends, tradition, elders, spiritual, belief, explore, encounter, immigrated, survey, religion, diseases, tragedy, hardship, slavery, negotiate, compromise, territory, governor, profitable, defend, surrender, discrimination, communities, opportunities

古老, 灭绝, 当地的, 传说, 传统, 长老, 精神, 信仰/信念, 探索, 遭遇, 移民, 调查, 宗教, 疾病, 悲剧, 困难, 奴隶制, 谈判, 妥协, 领土, 州长, 有利益的, 保卫, 投降, 歧视, 社区, 机会

Social Studies/Science/SEL

Learning Goals:

SWBAT:

- Analyze how and why individuals, events, or ideas develop and interact over the course of a text.
- Demonstrate successful interpersonal skills through cooperative learning and group work.
- Analyze and interpret data, specifically in relation to water—including but not limited to water density, the condensation and evaporation process, surface area, surface tension, water quality, and waterwheels.
- Understand and explain components of human settlements and movements, as well as how they affect the surrounding environment.
- Recognize cultural changes and impacts through history and apply their understanding of it to the 21st century society.

Essential Questions for the Year

What is essential for communities to thrive while protecting individual freedoms?

What makes a community successful?

Why is it important for me to be involved in my community?

What is a community?

Supporting Questions

What is History—How can we learn about Washington's history?

What are the different history in Washington State?

How is history recorded? What tools do we use?

Geography Is the Stage—How does geography shape the way we live?

Where in the world are we?

Who are the people in our history?

Who were the first people in Washington, and how did they use the environment to meet their needs?

Social Studies Standards and Objectives

D2.Eco.2.3-5 Identify positive and negative incentives that influence the decisions people make.

D2.Geo.3.3-5 Use maps of different scales to describe the locations of cultural and environmental characteristics.

D2.Geo.4.3-5 Explain how culture influences the way people modify and adapt to their environments.

D2.Geo.8.3-5 Explain how human settlements and movements relate to the locations and use of various natural resources.

D2.His.3.3-5 Generate questions about individuals and groups who have shaped significant historical changes and continuities.

D2.His.5.3-5 Explain connections among historical contexts and people's perspectives at the time.

D2.His.16.3-5 Use evidence to develop a claim about the past.

D2.His.17.3-5 Summarize the central claim in a secondary work of history.

EALR 3: GEOGRAPHY The student uses a spatial perspective to make reasoned decisions by applying the concepts of location, region, and movement and demonstrating knowledge of how geographic features and human cultures impact environments.

EALR 4: HISTORY The student understands and applies knowledge of historical thinking, chronology, eras, turning points, major ideas, individuals, and themes of local, Washington State, tribal, United States, and world history in order to evaluate how history shapes the present and future.

EALR 5: SOCIAL STUDIES SKILLS The student understands and applies reasoning skills to conduct research, deliberate, form, and evaluate positions through the processes of reading, writing, and communicating.

Chinese Language Arts

Learning Goals:

SWBA

Recognize and write the following characters: be able to recognize all the tier 1-3 vocabulary words and be able to write all the tier 1 vocabulary words, as well as simple adjectives that describe the tier 1 words.

Teacher: 5th Grade Team

Concept Areas/Standards

Science
 5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.
 5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved
 5-PS1-3. Make observations and measurements to identify materials based on their properties.
 5-PS1-4. Conduct an investigation to determine whether the mixing of two or more substances results in new substances.
 5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.
 5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
 5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.
 3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. 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. 3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Math

- Understand the place value system.
- Perform operations with multi-digit whole numbers and with decimals to hundredths.
- Use equivalent fractions as a strategy to add and subtract fractions.
- Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
- Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.
- Convert like measurement units within a given measurement system.
- Represent and interpret data.
- Write an interpret numerical expressions.
- Write and interpret numerical expressions.
- Analyze patterns and relationships.
- Graph points on the coordinating plane to solve real-world and mathematical problems.
- Classify two-dimensional figures into categories based on their properties.

Concept Map of Unit
 Citizenship

Main Topics

- *The establishment of the U.S.
- * U.S. history from 1600s to the 1800s
- * Impacts of history on today
- * Meaning of citizenship

Key Vocabulary

Teir 3
 Constitution, federal government, Bill of Rights, Declaration of Independence, Confederacy, treaty
 宪法规定, 联邦政府, 权利法案, 独立宣言, 邦联, 条约

Teir 2
 Independence, massacre, migration, missionary, Mormon, resource, plantation, politics, revolution, resolution, treason, legislative, judicial
 独立, 大屠杀, 迁移, 传教士, 摩门教, 资源, 种植, 政治, 革命, 解决, 叛国罪, 立法, 司法

Teir 1
 Citizen, community, benefit, boundary, compromise, culture, America, war, explorer, freedom, economy, interest, immigrant, government, neutral, prejudice, protest, protected, cruel, describe, punishment, creation of
 公民, 社区, 利益, 边界, 妥协, 文化, 美国, 战争, 探险, 自由, 经济, 兴趣, 移民, 政府, 中性, 偏见, 抗议, 保护着, 残忍, 形容, 惩罚, 创建

Across Subjects

Learning Goals:

SWBAT:

- Construct an argument with evidence, data, and/or a model.
- Produce CER similar writings in all subjects with knowledge transferring—claim, evidence, and reasoning.
- Consult with peers first when help is needed before turning to teacher.
- Set group goals together when working in a group.
- Understand each peer’s strength and use the strengths to complete a group task.
- Demonstrate leadership skills when necessary and use interpersonal skills to effectively communicate and prevent conflicts with peers and teachers.
- Utilize social emotional skills in expected and unexpected situations.

Compelling Questions:

- What qualities does an upstanding, productive citizen possess?
- What impact can individual citizen make in their community?
- What can collective citizenship accomplish?

Social Studies/ SEL

- Identify important sites in colonial Williamsburg.
- Describe six aspects of life in colonial Williamsburg: government, religion, education, social life, trades, and slave life.
- Write a letter describing life in Colonial Williamsburg and comparing it to life in their community.
- Describe their feelings and frustration and loss of autonomy and relate them to the experience of American colonists prior to the Revolutionary War
- Summarize the key events that created tensions between the colonists and Britain from 1754 to 1774.
- Use a metaphor of a parent and a child to describe the tense relationship that developed between the colonists and Britain after the French and Indian War. Identify six prominent colonists as either Loyalists or Patriots.
- Describe the personal backgrounds of six prominent Loyalists and Patriots.
- Explain key arguments made by Patriots for independence and by Loyalists against independence.
- Identify the major events that led to the creation of the Declaration of Independence: the Second Continental Congress, the popularization of Common Sense, Thomas Jefferson's writing of the first draft of the Declaration, and the Patriot's signing of the final document.
- Paraphrase, in simple language, key passage from the Declaration of Independence.
- Create short skits that capture the important ideas from the Declaration of Independence.
- Compare and contrast the American and British forces at the beginning of the Revolutionary War.
- Explain the key factors that allowed the American colonies to defeat Britain in the Revolutionary War.
- List the major provisions of the Treaty of Paris.
- Describe the events that led to the creation of the Constitution.
- List and discuss key powers held by the legislative, judicial, and executive branches of government
- Explain how the system of checks and balances in the Constitution prevents any one branch of the federal government from becoming too powerful.
- Explain how the Bill of Rights is like a shield that protects individual rights from government abuses.
- Describe key rights protected under the Bill of Rights, such as freedom of speech and protection against cruel and unusual punishment.
- Interpret tableaux vivants ("living scenes") that represent key amendments in the Bill of Rights.

Chinese/English Language Arts

Learning Goals:

Please refer to grade level literacy goals and can-do statements.