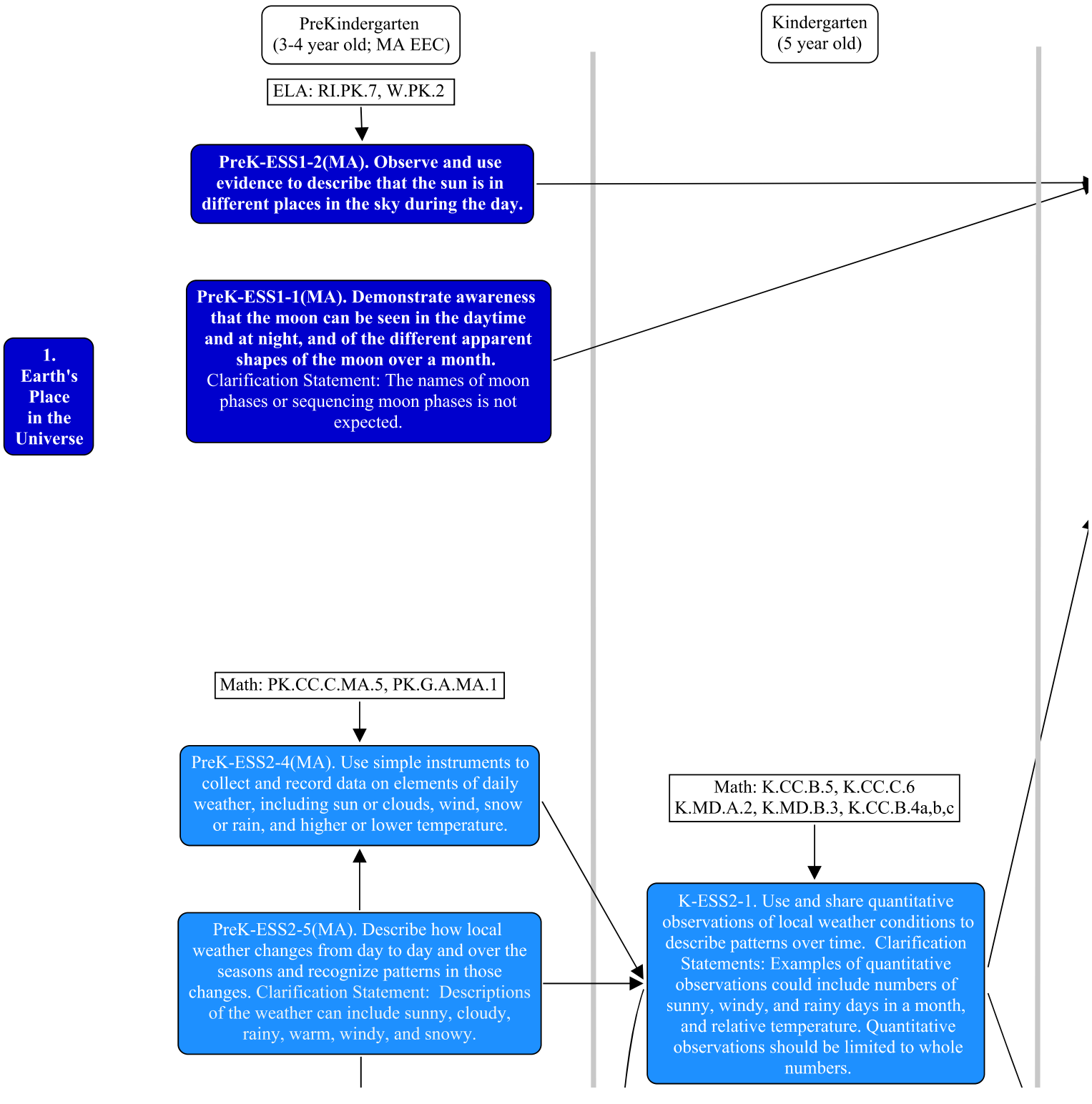
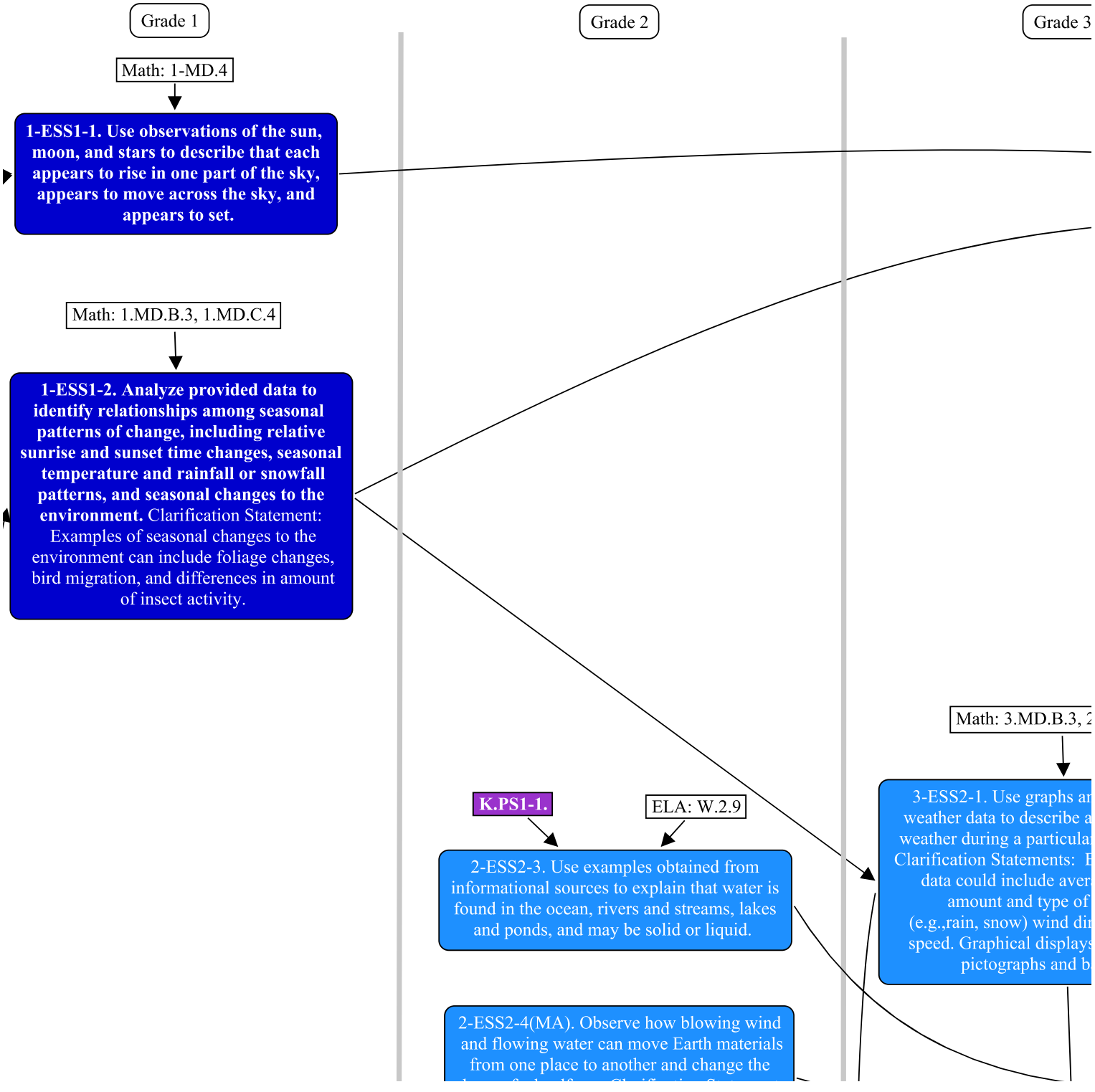
MA 2016 STE

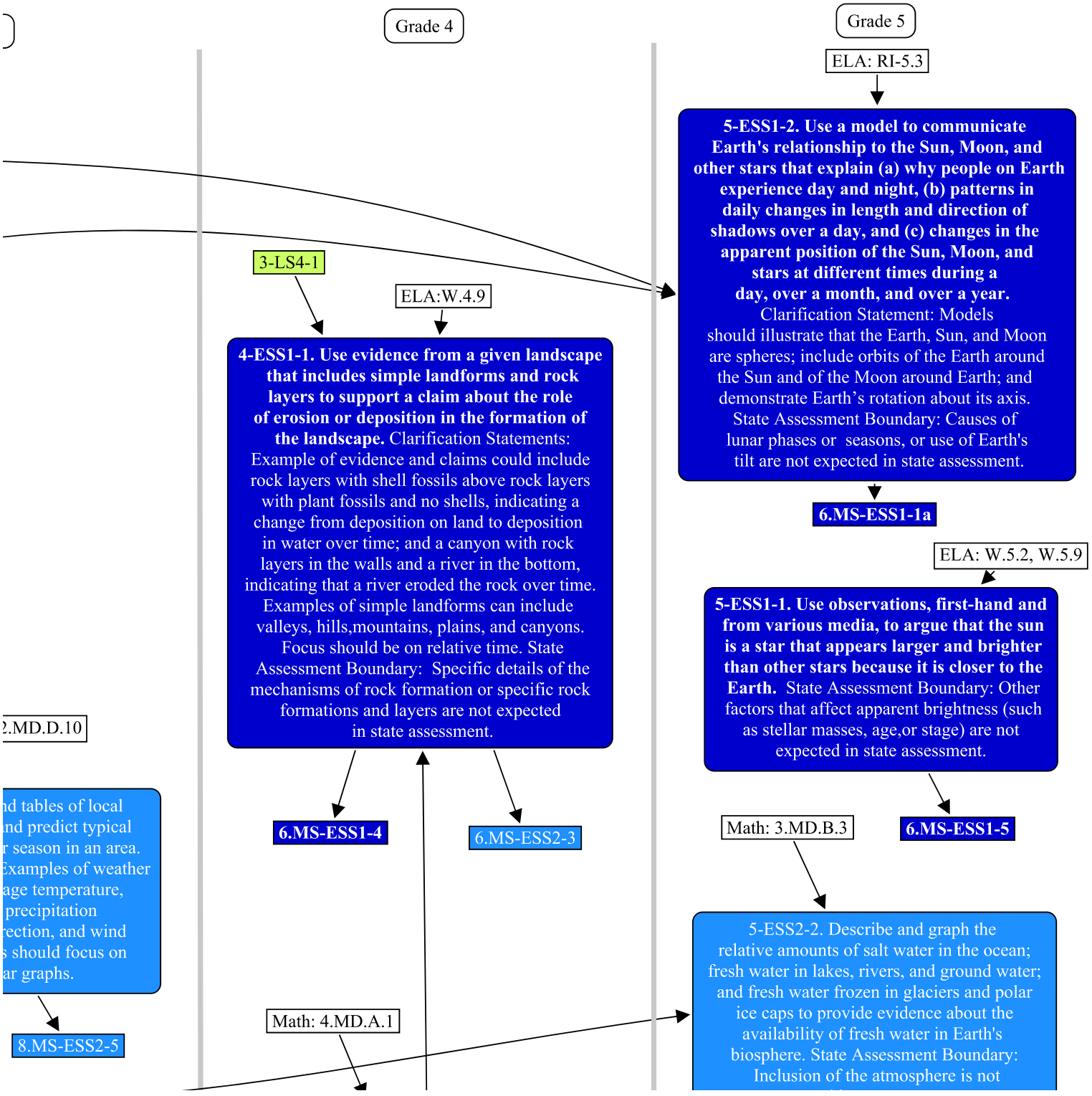

PreKindergarten
(3-4 year old; MA EEC)
Kindergarten
(5 year old)
ELA: RI.PK.7, W.PK.2
PreK-ESS1-2(MA). Observe and use evidence to describe that the sun is in different places in the sky during the day.
PreK-ESS1-1(MA). Demonstrate awareness that the moon can be seen in the daytime and at night, and of the different apparent shapes of the moon over a month. Clarification Statement: The names of moon phases or sequencing moon phases is not expected.
1. Earth's Place in the Universe
Math: PK.CC.C.MA.5, PK.G.A.MA.1
PreK-ESS2-4(MA). Use simple instruments to collect and record data on elements of daily weather, including sun or clouds, wind, snow or rain, and higher or lower temperature.
PreK-ESS2-5(MA). Describe how local weather changes from day to day and over the seasons and recognize patterns in those changes. Clarification Statement: Descriptions of the weather can include sunny, cloudy, rainy, warm, windy, and snowy.
Math: K.CC.B.5, K.CC.C.6
K.MD.A.2, K.MD.B.3, K.CC.B.4a,b,c
K-ESS2-1. Use and share quantitative observations of local weather conditions to describe patterns over time. Clarification Statements: Examples of quantitative observations could include numbers of sunny, windy, and rainy days in a month, and relative temperature. Quantitative observations should be limited to whole numbers.

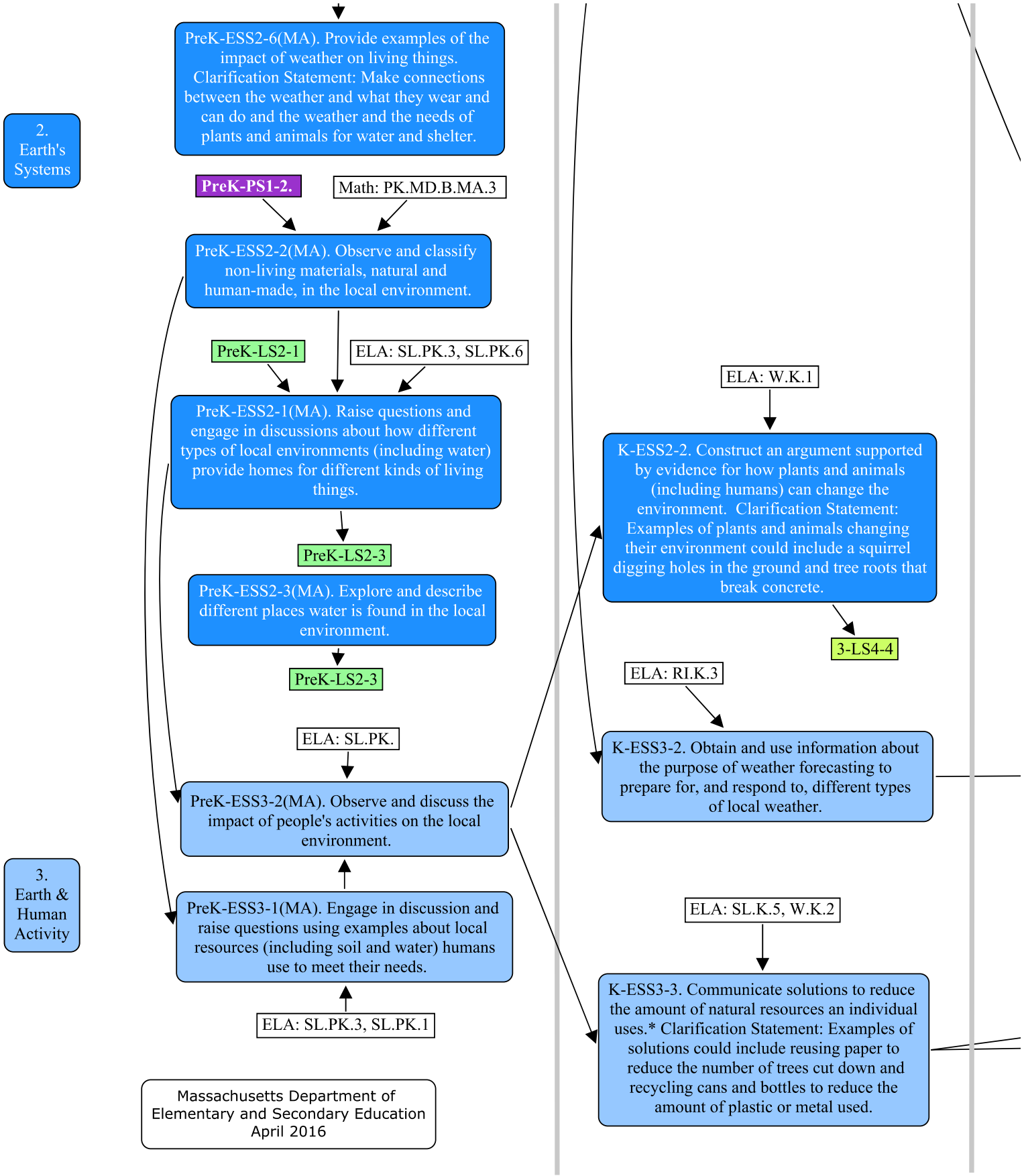
PreK-5 *Earth & Space Science* Strand M

Please direct comments, suggested edits, and questions to: mathsciencetech@doe.mass.edu.
The standards and strand maps are available at: www.doe.mass.edu/stem/review.html
(*) denotes integration of technology/engineering through a practice or core idea.

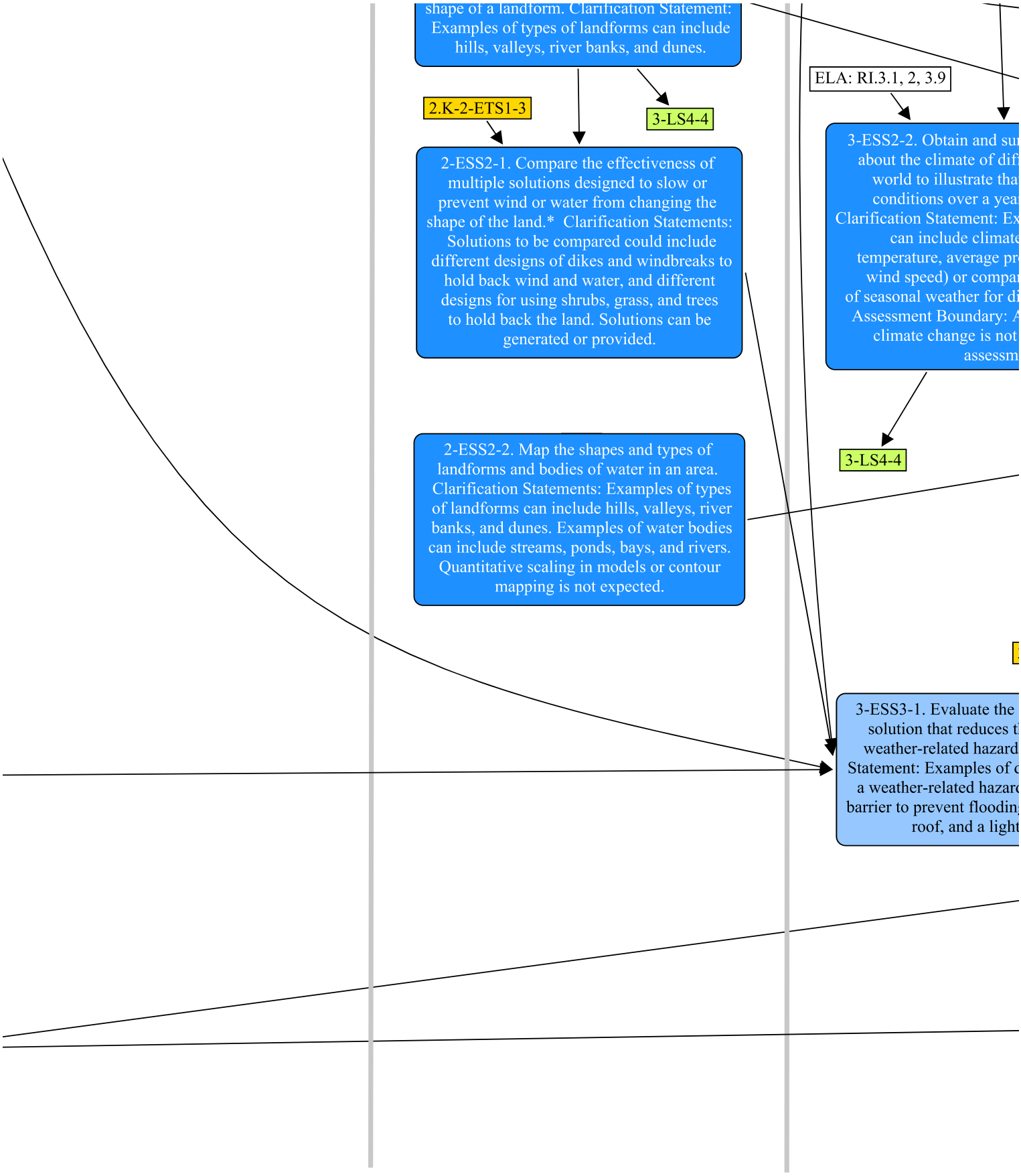


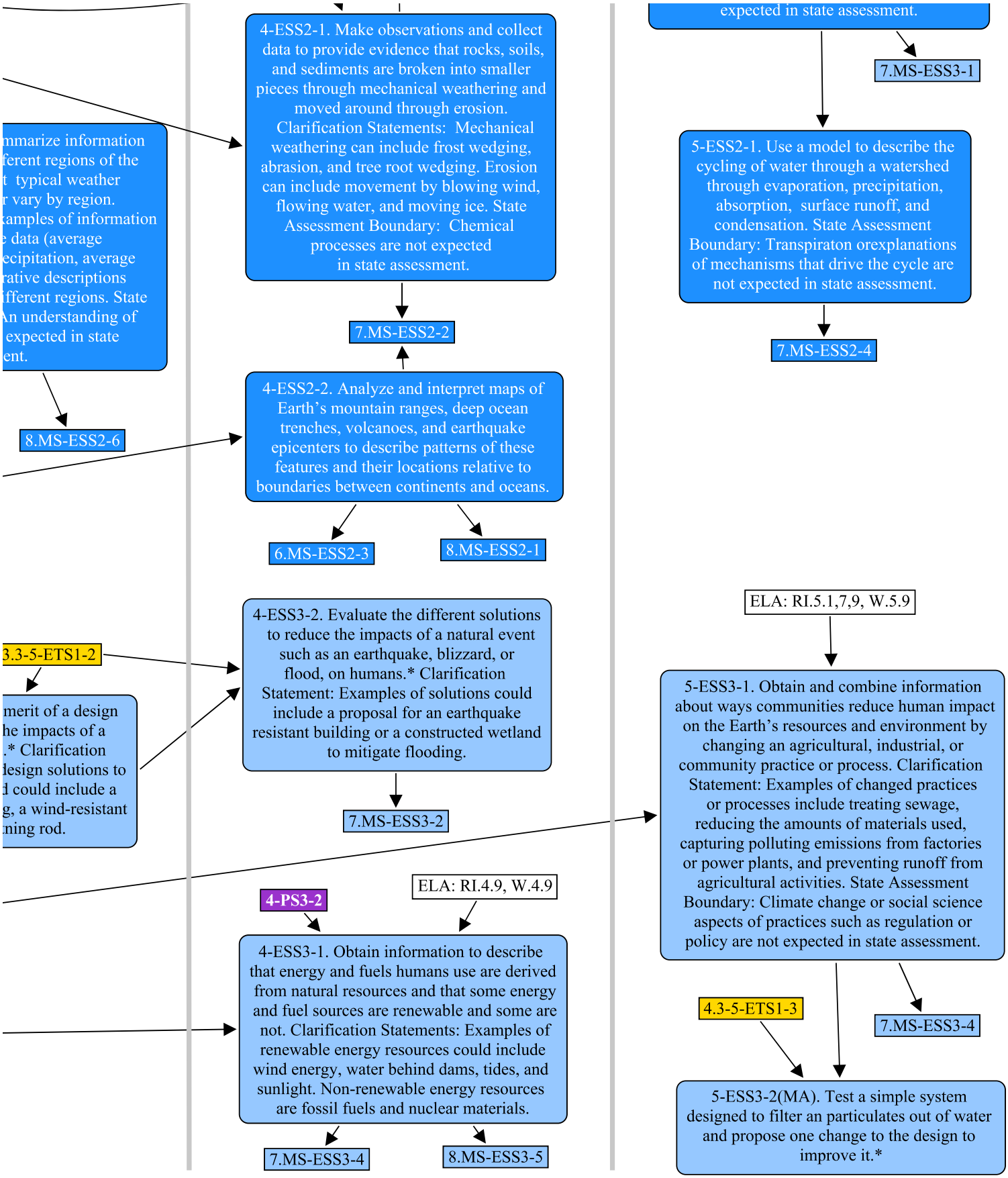
[ap (April 2016)





Massachusetts Department of Elementary and Secondary Education
April 2016


shape of a landform. Clarification Statement: Examples of types of landforms can include hills, valleys, river banks, and dunes.
ELA: RI.3.1, 2, 3.9
2.K-2-ETS1-3
3-LS4-4
2-ESS2-1. Compare the effectiveness of multiple solutions designed to slow or prevent wind or water from changing the shape of the land.* Clarification Statements: Solutions to be compared could include different designs of dikes and windbreaks to hold back wind and water, and different designs for using shrubs, grass, and trees to hold back the land. Solutions can be generated or provided.
3-ESS2-2. Obtain and su
about the climate of dif
world to illustrate tha
conditions over a yea
Clarification Statement: Ex
can include climate
temperature, average pr
wind speed) or compa
of seasonal weather for di
Assessment Boundary: A
climate change is not
assessm
2-ESS2-2. Map the shapes and types of landforms and bodies of water in an area. Clarification Statements: Examples of types of landforms can include hills, valleys, river banks, and dunes. Examples of water bodies can include streams, ponds, bays, and rivers. Quantitative scaling in models or contour mapping is not expected.
3-LS4-4
3-ESS3-1. Evaluate the
solution that reduces t
weather-related hazard
Statement: Examples of c
a weather-related hazar
barrier to prevent floodin
roof, and a light


mmarize information
ferent regions of the
t typical weather
r vary by region.
xamples of information
e data (average
ecipitation, average
rative descriptions
fferent regions. State
An understanding of
expected in state
ent.
8.MS-ESS2-6
4-ESS2-1. Make observations and collect data to provide evidence that rocks, soils, and sediments are broken into smaller pieces through mechanical weathering and moved around through erosion. Clarification Statements: Mechanical weathering can include frost wedging, abrasion, and tree root wedging. Erosion can include movement by blowing wind, flowing water, and moving ice. State Assessment Boundary: Chemical processes are not expected in state assessment.
7.MS-ESS2-2
4-ESS2-2. Analyze and interpret maps of Earth's mountain ranges, deep ocean trenches, volcanoes, and earthquake epicenters to describe patterns of these features and their locations relative to boundaries between continents and oceans.
6.MS-ESS2-3
8.MS-ESS2-1
expected in state assessment.
7.MS-ESS3-1
5-ESS2-1. Use a model to describe the cycling of water through a watershed through evaporation, precipitation, absorption, surface runoff, and condensation. State Assessment Boundary: Transpiraton orexplanations of mechanisms that drive the cycle are not expected in state assessment.
7.MS-ESS2-4
3.3-5-ETS1-2
merit of a design
he impacts of a
.* Clarification
lesign solutions to
l could include a
g, a wind-resistant
ning rod.
4-ESS3-2. Evaluate the different solutions to reduce the impacts of a natural event such as an earthquake, blizzard, or flood, on humans.* Clarification Statement: Examples of solutions could include a proposal for an earthquake resistant building or a constructed wetland to mitigate flooding.
7.MS-ESS3-2
ELA: RI.5.1,7,9, W.5.9
5-ESS3-1. Obtain and combine information about ways communities reduce human impact on the Earth's resources and environment by changing an agricultural, industrial, or community practice or process. Clarification Statement: Examples of changed practices or processes include treating sewage, reducing the amounts of materials used, capturing polluting emissions from factories or power plants, and preventing runoff from agricultural activities. State Assessment Boundary: Climate change or social science aspects of practices such as regulation or policy are not expected in state assessment.
4-PS3-2
ELA: RI.4.9, W.4.9
4-ESS3-1. Obtain information to describe that energy and fuels humans use are derived from natural resources and that some energy and fuel sources are renewable and some are not. Clarification Statements: Examples of renewable energy resources could include wind energy, water behind dams, tides, and sunlight. Non-renewable energy resources are fossil fuels and nuclear materials.
7.MS-ESS3-4
8.MS-ESS3-5
4.3-5-ETS1-3
7.MS-ESS3-4
5-ESS3-2(MA). Test a simple system designed to filter an particulates out of water and propose one change to the design to improve it.*