

Statewide Transportation, Distribution, and Logistics (TDL) Curriculum Contextualized Science Module

Students will:

OUTCOMES	CONTENT	ACTIVITIES/RESOURCES	ASSESSMENT
1. Define & describe biomes	Ecosystems & Aquatic and Terrestrial Biomes Air & Water Pollution	<ul style="list-style-type: none"> • http://apps.cmsfq.edu.ec/biologyexploringlife/text/chapter34/concept34.3.html • http://apps.cmsfq.edu.ec/biologyexploringlife/text/chapter34/concept34.4.html • http://worksheetplace.com/index.php?function=DisplayCategory&links=2&id=454&link1=241&link2=454 • http://www.youtube.com/watch?v=v7cZ3b6PH2s • i-Pathways: Science Unit 2 Lesson 6 – Interdependence of Organisms & Lesson 7 – Behavior of Organisms 	<p>Teacher assessment of student created compare and contrast list</p> <p>Teacher assessment of student Concept Check Questions</p>
2. Identify the layers of the Earth's atmosphere & discuss weather conditions	Earth's Atmosphere Layers Weather Conditions	<ul style="list-style-type: none"> • http://www.learn4yourlife.com/layers-of-the-atmosphere.html • http://www.learn4yourlife.com/weather-unit-study.html • http://www.wikihow.com/Read-a-Weather-Map • http://www.illinoishomepage.net/story/d/story/weather-101-layers-of-the-atmosphere/14683/c5aVYxH4yEmAosw_j_lgwg • http://usatoday30.usatoday.com/weather/wearadar.htm • i-Pathways: Science Unit 4 Lesson 1 – Energy in the Earth's System 	<p>Teacher assessment of student discussion</p> <p>Teacher assessment of student Concept Check Questions</p>

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3. Demonstrate an understanding of Newton's Laws	Newton's 3 Laws of Motion	<ul style="list-style-type: none"> • http://www.physicsclassroom.com/curriculum/newtlaws • http://csep10.phys.utk.edu/astr161/lect/history/newton3laws.html • http://hyperphysics.phy-astr.gsu.edu/hbase/newt.html • Explanation of Newton's First Law: http://www.youtube.com/watch?v=CQYELiItUs8 • Explanation of Newton's Second Law: http://www.youtube.com/watch?v=3FQ58IVtbCg • Explanation of Newton's Third Law: http://www.youtube.com/watch?v=By-ggTfeuJU • Newton's Law of Inertia: http://www.youtube.com/watch?v=8zsE3mpZ6Hw • i-Pathways Science: Unit 3 Lesson 3 – Motions and Forces 	<p>Teacher assessment of student created compare and contrast list</p> <p>Teacher assessment of student Concept Check Questions</p>

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4. Review & discuss friction and driving	Static and Kinetic Friction	<ul style="list-style-type: none"> • http://www.studyphysics.ca/newnotes/20/unit01_kinematicsdynamics/chp05_forces/lesson20.htm • http://ffden2.phys.uaf.edu/211_fall2002.web.dir/ben_townsend/staticandkineticfriction.htm • http://hyperphysics.phy-astr.gsu.edu/hbase/mechanics/frictire.html#c1 	Teacher assessment of student Concept Check Questions
	Driving and Friction Tire Tread	<ul style="list-style-type: none"> • Tire Tread Video/Penny Test: http://www.youtube.com/watch?v=hFuUE567mTU • Driving in winter weather: http://www.youtube.com/watch?v=W8G66WM2zmA 	Conduct Concept Check experiment
5. Define & differentiate between kinetic and potential energy	Kinetic Energy & Potential Energy	<ul style="list-style-type: none"> • Explanation of Kinetic & Potential Energy: http://www.youtube.com/watch?v=Ehx1P4adv6l • Kinetic & Potential Energy Slinky Experiment: http://fc.codmanacademy.org/branches/physicsofdriving1/index.php?module=pagemaster&PAGE_user_op=view_page&PAGE_id=6&MMN_position=6:6 • i-Pathways Science Unit 3 Lesson 5 – Interactions of Energy and Matter 	Conduct Concept Check experiment

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6. Determine the characteristics of speed, velocity, and acceleration in motion	Speed Velocity Acceleration	<ul style="list-style-type: none"> • Classroom activities for calculating speed, velocity, and acceleration: http://www.physicsclassroom.com/class/1DKin/Lesson-1/Speed-and-Velocity • http://www2.franciscan.edu/academic/mathsci/mathscienceintegration/MathScienceIntegation-827.htm • http://www2.franciscan.edu/academic/mathsci/mathscienceintegration/MathScienceIntegation-836.htm 	Teacher assessment of student Concept Check Questions
7. Recognize the four different states of matter	Matter Solids, Liquids, Gases, & Plasma	<ul style="list-style-type: none"> • States of Matter: http://www.chem.purdue.edu/gchelp/atoms/states.html • Plasma Defined: http://www.fusionfuture.org/why-fusion-energy/what-is-plasma/ • States of Matter Song: http://www.youtube.com/watch?v=vDZhUkp30tE • i-Pathways Science: Unit 3 Lesson 5 – Interactions of Energy and Matter 	Teacher assessment of student Concept Check Questions

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Students will:

OUTCOMES	CONTENT	ACTIVITIES/RESOURCES	ASSESSMENT
8. Describe & discuss differences between non-renewable and renewable resources	Non-renewable and renewable resources	<ul style="list-style-type: none"> • EPA: http://www.epa.gov/otaq/fuels/alternative-renewablefuels/ • Non-renewable resources: http://www.youtube.com/watch?v=jSTGDBkMeRY • Classroom activity: www.stopwaste.org/docs/schools/Lesson01.pdf • Biodiesel explained: http://www.youtube.com/watch?v=HCBa7te1thk 	Teacher assessment of student Concept Check Questions
9. Define work/ identify & analyze the uses of simple and compound machines	Simple Machines & Compound Machines	<ul style="list-style-type: none"> • Calculating Work: http://www.physicsclassroom.com/class/energy/Lesson-1/Calculating-the-Amount-of-Work-Done-by-Forces • Simple Machines: http://www.youtube.com/watch?v=okYcBt1aU3Y • http://www.ehow.com/list_7221376_examples-machines-_amp_-complex-machines.html 	Teacher assessment of student Concept Check Questions
	Alternators	<ul style="list-style-type: none"> • Alternators: http://www.howitworksdaily.com/transport/automotive-alternators/ 	Teacher assessment of student
	Brakes	<ul style="list-style-type: none"> • Brakes: http://auto.howstuffworks.com/auto-parts/brakes/brake-types/brake.htm • Drum brakes vs. Disc brakes http://www.youtube.com/watch?v=4Ts5hQFi9Hw 	Concept Check Questions