**Pottsville School District Curriculum Year at a Glance –Science**

Pottsville School District “Year at a Glance” Kindergarten

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|  | Weather and Climate | Pushes and Pulls | Needs of Plants and Animals | Humans and the Environment |
|  | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 3 |
| Standards | K-ESS2-1  K-ESS3-2  K-PS3-1  K-PS3-2  K-ETS1-1  K-ETS1-2 | K-PS2-1  K-PS2-2  K-ETS1-1  K-ETS1-2 | K-LS1-1  K-ESS3-1 | K-ESS2-2  K-ESS3-1  K-ESS3-3  K-ETS1-1 |
| Prerequisite skills  (prior knowledge, skills needed for student to master the standard) | -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating | -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating | -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating | -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating |
| Key Strategies or Action Words | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities |
| Assessments of Power Standards:  Formative and Summative | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer |

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|  | Space Systems: Patterns | Sound | Light | Structures & Functions |
|  | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 3 |
| Standards | 1-ESS1-1  1-ESS1-2 | 1-PS4-1  1-PS4-4  1-ETS1-1  1-ETS1-2 | 1-PS4-2  1-PS4-3  1-PS4-4  1-ETS1-1  1-ETS1-2 | 1-LS1-1  1-LS1-2  1-LS1-3  1-ETS1-1 |
| Prerequisite skills  (prior knowledge, skills needed for student to master the standard) | -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating | -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating | -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating | -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating |
| Key Strategies or Action Words | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities  -Claim/Evidence | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities  -Claim/Evidence | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities  -Claim/Evidence | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities  -Claim/Evidence |
| Assessments of Power Standards:  Formative and Summative | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer |

Pottsville School District “Year at a Glance” 1st Grade

Pottsville School District “Year at a Glance”2nd Grade

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|  | Land & Water | Processes that Shape the Earth | Matter: Properties & Changes | Habitats |
|  | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 3 |
| Standards | 2-ESS2-2  2-ESS2-3 | 2-ESS1-1  2-ESS2-1  2-ETS1-1  2-ETS1-2 | 2-PS1-1  2-PS1-2  2-PS1-3  2-PS1-4 | 2-LS2-1  2-LS2-2  2-LS4-1  2-ETS1-1 |
| Prerequisite skills  (prior knowledge, skills needed for student to master the standard) | -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating  -Claim/Evidence | -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating  -Claim/Evidence | -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating  -Claim/Evidence | -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating  -Claim/Evidence |
| Key Strategies or Action Words | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities  -Claim/Evidence | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities  -Claim/Evidence | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities  -Claim/Evidence | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities  -Claim/Evidence |
| Assessments of Power Standards:  Formative and Summative | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer  -Concept Assessment | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer  -Concept Assessment | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer  -Concept Assessment | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer  -Concept Assessment |

Pottsville School District “Year at a Glance” 3rd Grade

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|  | Life Cycles & Traits | Adaptations | Forces | Weather & Climate |
|  | Quarter 1 | Quarter 2 | Quarter 3 | Quarter 3 |
| Standards | 3-LS1-1  3-LS3-1  3-LS3-2  3-LS4-2 | 3-LS2-1  3-LS4-1  3-LS4-3  3-LS4-4  3-ETS1-1 | 3-PS2-1  3-PS2-2  3-PS2-3  3-PS2-4  3-ETS1-1 | 3-ESS2-1  3-ESS2-2  3-ESS3-1  3-ETS1-1 |
| Prerequisite skills  (prior knowledge, skills needed for student to master the standard) | -Basic Math Skills  -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating  -Claim/Evidence | -Basic Math Skills  -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating  -Claim/Evidence | -Basic Math Skills  -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating  -Claim/Evidence | -Basic Math Skills  -Observation Skills  -Recognizing Cause & Effect  -Recognizing Patterns  -Reasoning Skills  -Asking Questions  -Communicating  -Claim/Evidence |
| Key Strategies or Action Words | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Claim/Evidence  -Hands-on Activities | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities  -Claim/Evidence | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities  -Claim/Evidence | -Modeling  -Vocabulary building  -Questioning strategies  -Labs and group activities  -Phenomena exploration  -Predicting  -Hands-on Activities  -Claim/Evidence |
| Assessments of Power Standards:  Formative and Summative | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer  -Concept Assessment | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer  -Concept Assessment | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer  -Concept Assessment | -Observations  -Think/Pair/Share  -Analyzing Student Work  -Exit Slips  -Question/Answer  -Concept Assessment |

Pottsville School District 4th grade Science “Year at a Glance”

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|  | Chapter or Unit(s) | Chapter or Unit(s) | Chapter or Unit(s) | Chapter or Unit(s) |
|  | Target Dates: 1st Nine Weeks | Target Dates: 2nd Nine Weeks | Target Dates: 3rd Nine Weeks | Target Dates: 4th Nine Weeks |
| Standards | 4-LS1-1  4-PS4-2  4-LS1-2  4-ETS1-1  4-ETS1-2  4-ETS1-3 | 4-PS3-1  4-PS3-3  4-PS3-2  4-PS3-4  4-ESS3-1  4-ETS1-1  4-ETS1-2  4-ETS1-3 | **4-PS4-1**  4-PS3-2  4-PS4-3  4-ETS1-1  4-ETS1-2  4-ETS1-3 | 4-ESS2-1  4-ESS1-1  4-ESS2-2  4-ESS3-2  4-ETS1-1  4-ETS1-2  4-ETS1-3 |
| Foundational Skills | -Ask questions, make a hypothesis (predictions,) observe, analyze, and interpret data  -Animal and plant adaptations  -Animal and plant environments | -Explaining  -Cause and Effect  -Ask questions, make a hypothesis (predictions,) observe, analyze, and interpret data | -Develop a model  -Understand and describe patterns  -Generate and compare  -Ask questions, make a hypothesis (predictions,) observe, analyze, and interpret | -Identify evidence  -Generate and compare  -Ask questions, make a hypothesis (predictions,) observe, analyze, and interpret data |
| Key Strategies or Action Words | -Using the Scientific Process, Engineering Design Process, and CER (Claim, Evidence, and Reasoning)  -Cooperative learning  -Construct an argument  -Use a model to describe  -Develop a model to describe  -Observation  -Inference  -Adaptation  -Environment  -Internal/External | -Using the Scientific Process, Engineering Design Process, and CER (Claim, Evidence, and Reasoning)  -Cooperative learning  -Construct an explanation  -Apply scientific ideas  -Energy (mechanical, electrical, light, thermal, and sound)  -Energy transfer  -Natural energy resources  -Fossil fuels | -Using the Scientific Process, Engineering Design Process, and CER (Claim, Evidence, and Reasoning)  -Cooperative learning  -Develop a model  -Generate and compare multiple solutions  -Communication  -Waves  -Transfer  -Patterns | -Using the Scientific Process, Engineering Design Process, and CER (Claim, Evidence, and Reasoning)  -Cooperative learning  -Identify  -Generate and compare  -Weathering, erosion, and deposition  -Processes and formations  -Plate tectonics  -Fossils  -The rock cycle  -Igneous, Metamorphic, and Sedimentary |
| Assessments of Power Standards:  Formative and Summative | -Using the Scientific Process, Engineering Design Process, and CER (Claim, Evidence, and Reasoning)  -Cooperative learning  -Construct an argument  -Use a model to describe  -Develop a model to describe  -Observation  -Inference  -Adaptation  -Environment  -Internal/External | -Using the Scientific Process, Engineering Design Process, and CER (Claim, Evidence, and Reasoning)  -Cooperative learning  -Construct an explanation  -Apply scientific ideas  -Energy (mechanical, electrical, light, thermal, and sound)  -Energy transfer  -Natural energy resources  -Fossil fuels | -Using the Scientific Process, Engineering Design Process, and CER (Claim, Evidence, and Reasoning)  -Cooperative learning  -Develop a model  -Generate and compare multiple solutions  -Communication  -Waves  -Transfer  -Patterns | -Using the Scientific Process, Engineering Design Process, and CER (Claim, Evidence, and Reasoning)  -Cooperative learning  -Identify  -Generate and compare  -Weathering, erosion, and deposition  -Processes and formations  -Plate tectonics  -Fossils  -The rock cycle  -Igneous, Metamorphic, and Sedimentary rocks |

Pottsville School District “Year at a Glance” Science 5th Grade

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|  | **Unit 1: Engineering and science practices** | **Unit 2: Space systems** | **Unit 3: Earth Systems** | **Unit 4: Structure and properties of matter** | **Unit 5: Matter and energy in organisms and ecosystems** |
|  | Target time frame: 6 weeks | Target time frame: 6 weeks | Target time frame: 6 weeks | Target time frame: 9 weeks | Target time frame: 9 weeks |
| Standards | 5-ETS1-1  5-ETS1-2  5-ETS1-3 | 5-ESS1-1  5-ESS1-2  5-PS2-1  \*All ETS1 Standards continual | 5-ESS2-1  5-ESS2-2:  5-ESS3-1:  \*All ETS1 Standards continual | 5-PS1-1:  5-PS1-2  5-PS1-3:  5-PS1-4  \*All ETS1 Standards continual | 5-PS3-1:  5-LS1-1:  5-LS2-1:  \*All ETS1 Standards continual |
| Prerequisite skills  (prior knowledge, skills needed for student to master the standard) | \*Asking questions, making observations, and gathering information help in solving problems  \*Understand the problem BEFORE working on a solution.  \* One problem can have many solutions.  \*What a model is.  \* Solutions need to be tested and designs compared.  \*Types of graphs and how to read them  \*What is evidence and data?  \*Grade level reading/math skills  \*Understand basic units of measurement (metric and imperial)  \*Know how to use basic science tools (scale, ruler, stopwatch) | \*Sun is stationary-Earth and Moon move  \*Days get longer or shorter depending on the season.  \*Sunlight warms the earth’s surface  \*Some objects give off their own light  \*Objects are seen when light is available  \*Grade level reading/math skills  \*Understand basic units of measurement (metric and imperial)  \*Know how to use basic science tools (scale, ruler, stopwatch)  \*Types of graphs and how to read them  \*What is evidence and data? | \*Erosion and weathering from wind and water  \* Water/rainfall amounts and impacts on biodiversity  \*Difference in fresh water and salt water  \*Difference in weather and climate.  \*Where the food and water humans use comes from.  \*What a model is.  \*Grade level reading/math skills  \*Understand basic units of measurement (metric and imperial)  \*Know how to use basic science tools (scale, ruler, stopwatch)  \*Types of graphs and how to read them  \*What is evidence and data? | \*Amount of heat causes changes.  \*Some changes are reversible/ some are not  \*States of Matter  \* Things are made up of smaller parts  \*Objects have properties for specific purposes.  \*forces (push/pull)  \*What a model is.  \*Grade level reading/math skills  \*Understand basic units of measurement (metric and imperial)  \*Know how to use basic science tools (scale, ruler, stopwatch)  \*Types of graphs and how to read them  \*What is evidence and data?  \*Asking questions, making observations, and gathering information help in solving problems  \*Defining simple problems | \* Organisms are made up of different systems.  \*How organisms use these systems for growth and repair.  \*Organisms are ectothermic or endothermic.  \*All living things reproduce.  \*Environmental factors that impact organisms' survival.  \*Energy can move/transfer through light  \*What “produce energy” means=Stored form into usable form.  \*What a model is.  \*Grade level reading/math skills  \*What is evidence and data? |
| Key Strategies or Action Words | Phenomena based learning  modeling  Project based learning  Vocabulary building  Science and Engineering practices  Cross cutting concepts  Cross curricular application of math, reading, math, and social studies.  Continual observations, feedback, and discussion | Phenomena based learning  modeling  Project based learning  Vocabulary building  Science and Engineering practices  Cross cutting concepts  Cross curricular application of math, reading, math, and social studies.  Continual observations, feedback, and discussion | Phenomena based learning  modeling  Project based learning  Vocabulary building  Science and Engineering practices  Cross cutting concepts  Cross curricular application of math, reading, math, and social studies.  Continual observations, feedback, and discussion | Phenomena based learning  modeling  Project based learning  Vocabulary building  Science and Engineering practices  Cross cutting concepts  Cross curricular application of math, reading, math, and social studies.  Continual observations, feedback, and discussion | Phenomena based learning  modeling  Project based learning  Vocabulary building  Science and Engineering practices  Cross cutting concepts  Cross curricular application of math, reading, math, and social studies.  Continual observations, feedback, and discussion |
| Assessments of Power Standards:  Formative and Summative | Unit test  Engineering projects  Evidence based reasoning and analysis  Content and skills assessments:  -Nonfiction science reading passages  -quizziz  -Data analysis activities  -IXL  -Flocabulary  Student Progress tracking | Unit test  Labs/projects  Evidence based writing (Claim, Evidence, reasoning)  Content and skills assessments:  -Nonfiction science reading passages  -quizziz  -Data analysis activities  -IXL  -Flocabulary  Student Progress tracking | Unit test  Labs/projects  Evidence based writing (Claim, Evidence, reasoning)  Content and skills assessments:  -Nonfiction science reading passages  -quizziz  -Data analysis activities  -IXL  -Flocabulary  Student Progress tracking | Unit test  Labs/projects  Evidence based writing (Claim, Evidence, reasoning)  Content and skills assessments:  -Nonfiction science reading passages  -quizziz  -Data analysis activities  -IXL  -Flocabulary  Student Progress tracking | Unit test  Labs/projects  Evidence based writing (Claim, Evidence, reasoning)  Content and skills assessments:  -Nonfiction science reading passages  -quizziz  -Data analysis activities  -IXL  -Flocabulary  Student Progress tracking |

Pottsville School District 6th grade Science “Year at a Glance”

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|  | Chapter or Unit(s) **Energy** | Chapter or Unit(s) **Earth’s Systems, Human Impacts, Weather and Climate** | Chapter or Unit(s)**Structure, Function, and Information Processing** | Chapter or Unit(s)**Growth, Development, and Reproduction of Organisms** |
|  | Target Dates: 1st 9 weeks | Target Dates: 2nd 9 weeks | Target Dates: 3rd 9 weeks | Target Dates: 4th 9 weeks |
| \*Standards | 6-PS3-3  6-PS3-4  6-PS3-5 | 6-ESS2-4  6-ESS3-3  6-ESS3-4  6-ESS2-5  6-ESS2-6  6-ESS3-5 | 6-LS1-1  6-LS1-2  6-LS1-3  6-LS1-8 | 6-LS1-4  6-LS1-5  6-LS3-2 |
| Foundational Skills | * Using science tools * Understanding units of measurement * Converting units of measurement * Making accurate observations * Evaluating experimental design * Interpreting graphs and tables * Inferencing based on evidence/observations * Evaluating models * Supporting claims with evidence * Construct, use, and present oral and written communication using scientific reasoning | * Using science tools * Understanding units of measurement * Converting units of measurement * Making accurate observations * Evaluating experimental design * Interpreting graphs and tables * Inferencing based on evidence/observations * Evaluating models * Supporting claims with evidence * Construct, use, and present oral and written communication using scientific reasoning | * Using science tools * Understanding units of measurement * Converting units of measurement * Making accurate observations * Evaluating experimental design * Interpreting graphs and tables * Inferencing based on evidence/observations * Evaluating models * Supporting claims with evidence * Construct, use, and present oral and written communication using scientific reasoning | * Using science tools * Understanding units of measurement * Converting units of measurement * Making accurate observations * Evaluating experimental design * Interpreting graphs and tables * Inferencing based on evidence/observations * Evaluating models * Supporting claims with evidence * Construct, use, and present oral and written communication using scientific reasoning |
| Key Strategies or Action Words | * Phenomena based learning * Modeling * Project based learning * Vocab building * Science and Engineering practices * Cross Cutting concepts * Cross curricular applications of math reading, and SS. * Continual observations, feedback,and discussion * Student progress tracking * Design Insulated cup Lab * Types of Matter * Energy transfer * Temperature * Mass * Acids and bases * Law of Conservation of matter | * Phenomena based learning * Modeling * Project based learning * Vocab building * Science and Engineering practices * Cross Cutting concepts * Cross curricular applications of math reading, and SS. * Continual observations, feedback,and discussion   Student progress tracking  Earth’s layers  Water Cycle  Natural resources  Pollution  Air Masses  Coriolis Effect  Ocean Influence on weather  Natural Disasters | * Phenomena based learning * Modeling * Project based learning * Vocab building * Science and Engineering practices * Cross Cutting concepts * Cross curricular applications of math reading, and SS. * Continual observations, feedback,and discussion   Student progress tracking  Cells  Living and non-living Things  Organ project  Stimuli related to Brain Function | * Phenomena based learning * Modeling * Project based learning * Vocab building * Science and Engineering practices * Cross Cutting concepts * Cross curricular applications of math reading, and SS. * Continual observations, feedback,and discussion   Student progress tracking  Reproduction  Genes  Traits  Environmental and Genetic Factors Influence Animal and plant Growth  Punnett Squares  Sheep Eye Dissection |
| Assessments of Power Standards:  Formative and Summative | * Exit Slips * Labs * ACT Aspire Interims * Observation * IXL | * Exit Slips * Labs * ACT Aspire Interims * Observation * IXL |  Exit Slips   Labs   ACT Aspire Interims   Observation   IXL |  Exit Slips   Labs   ACT Aspire Interims   Observation   IXL |

\*Standards:  Each nine weeks include Engineering, Technology, and Applications of Science:  6-ETS1-1, 6-ETS1-2, 6-ETS1-3, 6-ETS1-4

7th Grade Science “Year at a Glance”

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|  | Chapter or Unit(s): Physical Science | Chapter or Unit(s):Life Science | Chapter or Unit(s): Earth and Space Science | Chapter or Unit(s): Engineering, Technology and Applications of Science |
|  | Target Dates: **1st Quarter** | Target Dates: **2nd Quarter** | Target Dates: **3rd Quarter** | Target Dates: **4th Quarter** |
| Standards | 7-PS1-1  7-PS1-2 AR  7-PS1-3  7-PS1-5  7-PS1-4  7-PS1-6 AR | 7-LS2-2  7-LS1-6  7-LS2-5  7-LS1-7  7-LS2-1  7-LS2-3  7-LS2-4 | 7-ESS2-1 AR  7-ESS2-2  7-ESS3-2  7-ESS3-1  7-ESS2-3 | 7-ETS1-1  7-ETS1-2  7-ETS1-3  7-ETS1-4 |
| Foundational Skills | Develop Models  Gather and make sense of information  Analyze and Interpret Data | Construct Explanations  Evaluate Design  Develop Models | Construct Explanations  Evaluate Design  Develop Models | Construct Explanations  Evaluate Design  Develop Models |
| Key Strategies or Action Words | Matter  elements  molecules  compounds  atomic composition  substances  properties | ecosystems  cycling energy  interdependent-relationships  environment  organisms | catastrophic events  forecasting  systems  cycling  flow of energy  geoscience processes  fossils | define  develop  evaluate  analyze  model |
| Assessments of Power Standards:  Formative and Summative | quizizz  quizlet  formal tests  short quizzes  discussion questions  exit slips  bellringers | quizizz  quizlet  formal tests  short quizzes  discussion questions  exit slips  bellringers | quizizz  quizlet  formal tests  short quizzes  discussion questions  exit slips  bellringers | quizizz  quizlet  formal tests  short quizzes  discussion questions  exit slips  bellringers |

8th Grade Integrated Science “Year at a Glance”

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|  | Chapter or Unit(s): **Lab Safety, Scientific Methods, Force & Newton’s Laws** | Chapter or Unit(s):  **Waves, EM Spectrum** | Chapter or Unit(s): **Earth/Moon/Sun systems, Stars/Galaxies/Gravity** | Chapter or Unit(s): **Genetics, Evolution** |
|  | Target Dates: **1st Quarter** | Target Dates: **2nd Quarter** | Target Dates: **3rd Quarter** | Target Dates: **4th Quarter** |
| Standards | 8-PS2-5  8-PS2-1  8-PS2-2  8-PS3-1  8-PS3-2 | 8-PS4-1  8-PS4-2  8-PS4-3 | 8-ESS1-1  8-ESS1-2  8-ESS1-3  8-PS2-4 | 8-LS3-1  8-LS4-5  8-LS4-1  8-LS4-2  8-LS4-3  8-LS3-4  8-LS3-6 |
| Foundational Skills | * Familiarity with basic Experimental Design * Using safe practices in the lab * Solve simple math formulas like AxB=C or A/B=C * Contrast kinetic and potential energy | * Solve simple math formulas like AxB=C or A/B=C |  |  |
| Key Strategies or Action Words  Key Strategies or Action Words Continued | * Design experiments with multiple variables (electromagnets) * Identify controls, constants, and variables in an experiment * Demonstrate lab safety equipment * Evaluate unsafe lab practices and how to correct them * Evaluate graphs and models * Newton’s Laws * Online simulator * Force gauges | * Calculations * Electromagnetic Superheroes * Colored Light simulator * Gamma Rays/Nuclear Energy/Chernobyl * Colored Light Mixer * Listening to the Sun | * Scale model solar system (distance & size) * Scale model earth, moon, sun system (distance & size) * Model lunar phases * Model Earth’s tilt and identify the season * Season simulator | * Punnet squares * Dominant & Recessive traits * Queen Victoria pedigree (hemophilia) * Mouse Lab (populations with dominant and recessive traits) |
| Assessments of Power Standards:  Formative and Summative | * Labs * Exams * Exit Slips/Low Stakes Quizzes * Observation | * Labs * Exams * Exit Slips/Low Stakes Quizzes * Observation * Interims | * Labs * Exams * Exit Slips/Low Stakes Quizzes * Observation * Interims | * Labs * Exams * Exit Slips/Low Stakes Quizzes * Observation |

9th Grade Physical Science “Year at a Glance”

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|  | Chapter or Unit(s): Scientific Processes, Graphs and Graphing,  Elements, Matter and Interactions | Chapter or Unit(s): Making and Breaking Bonds, Forces Between Particles, Conservation of Matter | Chapter or Unit(s): Forces In Motion, Measuring Motion, Forces and Newton’s Laws | Chapter or Unit(s): Forces, Work and Energy, Mechanical Systems, Electricity and Magnetism |
|  | *Target Dates:* ***1st Quarter*** | Target Dates: **2nd Quarter** | Target Dates: **3rd Quarter** | Target Dates: **4th Quarter** |
| Standards | APSI-PS1-1  APSI-PS1-2  APSI-PS1-3  APSI-PS1-4  APSI-PS1-7 | APSI-PS1-1  APSI-PS1-2  APSI-PS1-3  APSI-PS1-4  APSI-PS1-7 | A9-Ps2-1  A9-PS2-2  A9-PS3-1  A9-PS3-2  ASPI-PS2-1  ASPI-PS2-2  ASPI-PS2-6  ASPI-ETS1-2 | A9-Ps2-3  A9-PS2-5  ASPI-PS3-1  ASPI-PS3-2  ASPI-PS3-3  ASPI-PS3-4  ASPI-ESS1-5  ASPI-ETS1-3 |
| Foundational Skills | * Critical thinking * Basic Algebra Skills * Making Claims, Providing Evidence * Provide reasoning * Lab skills * Design an experiment * Using lab and lab equipment correctly * Creating a data table * Creating a graph from data table * Calculate Protons, Electrons and neutrons * Scientific Method * Basic Knowledge of Metric System * Periodic Table of Elements * Periods & Groups * Classification of Elements * Metals, Non- metals, Metalloids, Transitions Metals | * Counting atoms * Atomic theory * Types of Formulas * Metric conversions * Drawing Lewis Dot Structures * Writing Ionic Formulas * Writing Formulas and Polyatomic Formulas * Naming Ionic Formulas * Naming Molecular Compounds * Naming Acids * Atomic Models * Electron Cloud Model * Chemical Bond * Electron Shell Configuration * Aufbau Principle * Hund’s rule * The Octet Rule | * Metric Measurements * Newton’s  1st Law * Newton’s  2nd Law * Newton’s  3 rd Law * Law of Conservation of Momentum * Gravity * G-Forces * Momentium * Calculating Force * Vector analysis * Calculating work * Acceleration * Speed * motion | * Simple Machines * Mechanical Advantage * Power * Electricity * Magnetism * Waves * Electric Current * Static Electric Charges * Electric charges * Ohm's Law * Types of Circuits * Fues * Magnetism from Electricity * Transformers |
| Key Strategies or Action Words | * Questioning * Observations * Qualitative observation * Quantitative observation * Infer * Prediction * Independent Variable * Dependent Variable * Variable * Hypothesis * Demonstrate * Control Variable * Evaluate * Unsafe Lab Practices * Elements * Compounds | * Organic * Inorganic * chemical Formula * Empirical Formula * Molecular Formula * Ionic * covalent * Polyatomic Ion * Oxidation Number * Di-atomic Molecule * Electron Dot Diagram * Atomic Number * Isotopes * Mass Number * Average Atomic Mass | * Metric Measurements * Newton’s  1st Law * Newton’s  2nd Law * Newton’s  3 rd Law * Law of Conservation of Momentum * Distance Formula * Velocity Formula * Time * Force * Work * Energy * Transformation * Speed * Acceleration | * Electricity * Electric Current * Electric Charges * Friction * Static Charges * Magnetism * Magnetic Poles * Ohms * Static Electricity * Conduction * Induction * Electrical Conductor * Electrical insulators * Voltage * Resistance * Power * Current * Electrical Power * Energy Source * Load * Series Circuit * Parallel Circuit * Soleniod |
| Assessments of Power Standards:  Formative and Summative | Quizzes  End of topic or Unit Exam  ACT Aspire | Quizzes  End of topic or Unit Exam  ACT Aspire | Quizzes  End of Topic or Unit Exam  ACT Aspire | Quizzes  End of topic or Unit Exam  ACT Aspire |

Pottsville School District 9th Grade Pre-AP Biology “Year at a Glance”

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| --- | --- | --- | --- | --- |
|  | Chapter or Unit(s): **Intro to Science, Safety, Skills; Biochemistry; DNA** | Chapter or Unit(s): **Cells; Systems Feedback** | Chapter or Unit(s): **Cycling of Matter and Energy; Cell Reproduction;** **Protein Synthesis** | Chapter or Unit(s): **Mendel & Meiosis,** **Evolution by Natural Selection** |
|  | Target Dates: **1st Quarter** | Target Dates: **2nd Quarter** | Target Dates: **3rd Quarter** | Target Dates: 4th Quarter |
| Standards | **ABI-LS1-1**  **ABI-LS1-2**  **ABI-LS1-3**  **ABI-LS1-6** | **ABI-LS12-3AR**  **ABI-LS1-2**  **ABI-LS1-3** | |  |  | | --- | --- | | **ABI-LS1-5**  **ABI-LS1-7**  **ABI-LS2-3**  **ABI-LS2-4** | **ABI-LS2-5**  **ABI-ESS2-6**  **ABI-LS1-4**  **ABI-LS3-1** | | |  |  | | --- | --- | | **ABI-LS3-2**  **ABI-LS3-3**  **ABI-LS4-1**  **ABI-LS4-2**  **ABI-LS4-3** | **ABI-LS4-4**  **ABI-LS4-5**  **ABI-LS4-7AR**  **ABI-LS4-8AR**  **ABI-ESS2-7** | |
| Foundational Skills | * Critical thinking * Know common element symbols and names * Calculate protons, neutrons, electrons for an atom * Know formulas for common compounds * Know the 4 nucleotides for DNA | * Familiar with Cell Theory * Compare/contrast prokaryotes & eukaryotes * Describe functions of cell organelles * Describe the hierarchy of the structure of multicellular organisms * Familiarity with most of the internal organs of humans | * Know how to use a Punnett square | * Know how to use a Punnett square * Understand the basics of mitosis and meiosis |
| Key Strategies or Action Words | * Polar Bear Dilemma * Cube Activities * Canister Conundrum * Skittles Lab * Green Beans The Wonderful Fruit * Leaf Drawings * Water Properties POGIL (Process Oriented Guided Inquiry Learning) * Biological Molecules POGIL * Water Properties Lab * Liver Peroxide Lab * DNA Extraction Lab * DNA Model | * Osmosis and Diffusion Lab * Potato Osmosis Lab * Cell Size POGIL * Membrane Structure & Function POGIL * Bozeman Videos * Balancing Act – hormone feedback models * Feedback Systems POGIL * Howard Hughes Medical Institute video – Cells of the immune system * Making Sense of It All – Nervous System and Senses lab | * Yeast & Molasses Lab * Lights Out Lab * Climate & Earth’s Systems (HHMI) * Plants & Energy CER Lab * Chromosome Manipulative Lab * Mitosis Flip Book * Protein Synthesis Activity * DNA Profiling | * Case Studies * Karyotype Curiosities * Calculate probabilities in genetic crosses * Quackers and Cottontails Lab * Hardy Har Har – Hardy-Weinberg Investigation * HHMI: The Day The Mesozoic Died * Tree of Life Lab |
| Assessments of Power Standards:  Formative and Summative | * Multiple content-based low-stakes quizzes * Quizzes over reading * Labs * DNA Model * POGILS * Exams * Observation/Questioning | * Multiple content-based low-stakes quizzes * Quizzes over reading * Labs * POGILS * Exams * Observation/Questioning * Interim | * Multiple content-based low-stakes quizzes * Quizzes over reading * Labs * Mitosis Flip Book * POGILS * Exams * Observation/Questioning * Interim | * Multiple content-based low-stakes quizzes * Quizzes over reading * Labs * POGILS * Exams * Observation/Questioning |

Pottsville School District -**Anatomy** “Year at a Glance”

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| --- | --- | --- | --- | --- |
|  | Unit(s): **Terminology, Biochemistry, Cells, Tissues, Integumentary System** | Unit(s): **Skeletal, Muscular and Nervous Systems** | Unit(s): **Endocrine, Respiratory and Cardiovascular Systems** | Unit(s): **Digestion, Lymphatic, Urinary and Reproductive Systems** |
|  | Target Dates: **1st 9 weeks** | Target Dates: **2nd 9 weeks** | Target Dates: **3rd 9 weeks** | Target Dates: **4th 9 weeks** |
| Standards | HAP-LS1-1AR  HAP-LS2-1AR  HAP-LS3-1AR  HAP-LS4-1AR  HAP-LS5-1AR  HAP-LS6-1AR  HAP-LS7-HAP-8-1AR  HAP-8-2AR  HAP-8-3AR | HAP-LS1-1AR  HAP-LS2-1AR  HAP-LS3-1AR  HAP-LS4-1AR  HAP-LS5-1AR  HAP-LS6-1AR  HAP-LS7-HAP-8-1AR  HAP-8-2AR  HAP-8-3AR | HAP-LS1-1AR  HAP-LS2-1AR  HAP-LS3-1AR  HAP-LS4-1AR  HAP-LS5-1AR  HAP-LS6-1AR  HAP-LS7-HAP-8-1AR  HAP-8-2AR  HAP-8-3AR | HAP-LS1-1AR  HAP-LS2-1AR  HAP-LS3-1AR  HAP-LS4-1AR  HAP-LS5-1AR  HAP-LS6-1AR  HAP-LS7-HAP-8-1AR  HAP-8-2AR  HAP-8-3AR |
| Foundational Skills | Technical Writing  CERs  Measurement and Graphing Skills  Design  and Safely carry out a Lab | Technical Writing  CERs  Measurement and Graphing Skills  Design  and Safely carry out a Lab | Technical Writing  CERs  Measurement and Graphing Skills  Design  and Safely carry out a Lab | Technical Writing  CERs  Measurement and Graphing Skills  Design  and Safely carry out a Lab |
| Key Strategies or Action Words | Modeling  Hands on Activities  Design and Carry out Science Labs  Support with Evidence | Modeling  Hands on Activities  Design and Carry out Science Labs  Support with Evidence | Modeling  Hands on Activities  Design and Carry out Science Labs  Support with Evidence | Modeling  Hands on Activities  Design and Carry out Science Labs  Support with Evidence |
| Assessments of Power Standards:  Formative and Summative | Unit Test  Models and Projects  Quizzes  Bell Ringers/Exit Slips  Homework  Lab Reports/CERs | Unit Test  Models and Projects  Quizzes  Bell Ringers/Exit Slips  Homework  Lab Reports/CERs | Unit Test  Models and Projects  Quizzes  Bell Ringers/Exit Slips  Homework  Lab Reports/CERs | Unit Test  Models and Projects  Quizzes  Bell Ringers/Exit Slips  Homework  Lab Reports/CERs |

Pottsville School District –**Environmental Science** “Year at a Glance”

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Unit(s): **Introduction to Environmental Science & Systems (Earth Systems, Process of Science, Economics and Policies)** | Unit(s): **Ecology (Biodiversity, Biomes, Populations, Ecosystems, Succession, Invasive Species)** | Unit(s): **Humans and the Environment (Pollution, Practices, Population, Waste, Environmental Health, Climate change)** | Unit(s):E**arth’s Resources and Sustainability (Energy, Environmental Health, Human Impact and Solutions)** |
|  | Target Dates: **1st 9 weeks** | Target Dates: **2nd 9 weeks** | Target Dates: **3rd 9 weeks** | Target Dates: **4th 9 weeks** |
| Standards | AR EVS-ESS2-2  AR EVS-ESS2-3  AR EVS-ESS2-5  AR EVS-ESS2-6  AR EVS-ESS3-5  AR EVS1-ETS1-1 | AR EVS-LS2-1  AR EVS-LS2-2  AR EVS-LS2-6  AR EVS-LS2-8  AR EVS3-ETS1-3 | AR EVS-PS3-1  AR EVS-PS3-2  AR EVS-PS3-3  AR EVS-PS3-4  AR EVS-ESS2-4  AR EVS2-ETS-1  AR EVS-ESS3-1  AR EVS-ESS3-2 | AR EVS-PS3-1  AR EVS-PS3-2  AR EVS-PS3-3  AR EVS-PS3-4  AR EVS-ESS2-4  AR EVS2-ETS1-2  AR EVS-ESS3-3  AR EVS-ESS3-4  AR EVS-ESS3-6  AR EVS-LS2-7  AR EVS-LS4-6  AR EVS4-ETS1-3 |
| Foundational Skills | Classification skills  Observational skills  Math proficiency  Graphing  Lab Safety | Classification skills  Observational skills  Correct use of situational math  Root Word meaning  Lab Safety | Classification skills  Observational skills  Interpreting numbers  Root Word meaning  Lab Safety | Classification skills  Observational skills  Interpreting and using numbers  Root Word meaning and usage  Lab Safety |
| Key Strategies or Action Words | Modeling  Science Demonstrations  Scientific Methods Practice  Science Labs  Support with Evidence  Diagramming, drawings, graphing  Claims, Evidence, and Reasoning | Modeling  Technical Reading  Technical Writing  Hands on Activities  Science Labs  Support with Evidence  Diagramming, drawings, graphing  Claims, Evidence, and Reasoning | Modeling  Interpretation of Data Sets  Hands on Activities  Science Labs  Support with Evidence  Diagramming, drawings, graphing  Claims, Evidence, and Reasoning | Modeling  Reflection of Learning  Demonstration of Science Methods  Hands on Activities  Science Labs  Support with Evidence  Diagramming, drawings, graphing |
| Assessments of Power Standards:  Formative and Summative | Unit Test  Formative Quizzes  Math Test (Measurements)  Lab Reports/CERs | Unit Test  Models and Projects  Formative Quizzes  Summative Vocabulary Test I  Lab Reports/CERs | Unit Test  Models and Projects  Formative Quizzes  Book Reports  Essays  Lab Reports/CERs | Unit Test  Models and Projects  Formative Quizzes  Summative Vocabulary Test II  Independent Projects (Summative) |

Pottsville School District Physics “Year at a Glance”

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| --- | --- | --- | --- | --- |
|  | Chapter or Unit(s) | Chapter or Unit(s) | Chapter or Unit(s) | Chapter or Unit(s) |
|  | Target Dates: 1st Quarter | Target Dates: 2nd Quarter | Target Dates: 3rd Quarter | Target Dates: 4th Quarter |
| Standards | P-PS1-1AR  P-PS1-2AR  AR P-PS2-1  AR P-PS2-2  AR P-ESS1-2  AR P-ESS1-4  AR P1-ETS1-2 | P-PS2-1AR  P-PS2-2AR  P-PS2-3AR  P-PS2-4AR  P-PS2-5AR  P-PS2-6AR  AR P2-ETS1-3  AR P-PS2-4  AR P-PS2-5 | AR P-PS3-1  P-PS3-1AR  P-PS3-2AR  P-PS3-3AR  AR P-PS3-3  AR P-PS3-4  AR P3-ETS1-1  AR P3-ETS1-2  AR P3-ETS1-3  AR P3-ETS1-4 | P-PS4-1AR  P-PS4-2AR  P-PS4-3AR  AR P4-ETS1-4 |
| Foundational Skills | Classification skills  Observational skills  Algebra and Trigonometry proficiency  Draw system cycles  Recognition of word roots  Technical Writing/Drawing  Lab Safety | Research skills  Use of models  Graphing and data organization  Algebra and Trigonometry proficiency  Read on grade level  Technical Writing/Drawing  CERs  Lab Safety | Use units of measurement  Recognize SI units  Interpret abstract ideas  Technical Writing/Drawing  CERs  Lab Safety  Algebra and Trigonometry proficiency | Draw to scale  Technical Writing  CERs  Lab Safety  Develop arguments  Technical Writing/Drawing  Algebra and Trigonometry proficiency |
| Key Strategies or Action Words | Modeling  Hands on Activities  Science Labs  Support with Evidence  Mapping  Extrapolate data  CERs | Modeling  Hands on Activities  Science Labs  Support with Evidence  CERs | Modeling  Hands on Activities  Science Labs  Support with Evidence  CERs | Modeling  Hands on Activities  Science Labs  Support with Evidence  CERs |
| Assessments of Power Standards:  Formative and Summative | Math Test  Unit Test  Demonstration | Math Test  Unit Test  Demonstration | Math Test  Unit Test  Demonstration | Math Test  Unit Test  Demonstration |

Pottsville School District “Year at a Glance” Astronomy

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Chapter or Unit(s): Astronomy Science Systems, Measurements, and Orbital Mechanics, | Chapter or Unit(s): Planetary Systems, Solar Science, and the Moon | Chapter or Unit(s): Extra-Solar System, Constellations, and Greek Mythology | Chapter or Unit(s): Aerospace Engineering and Design |
|  | Target Dates: First Quarter | Target Dates: Second Quarter | Target Dates: Third Quarter | Target Dates: Fourth Quarter |
| Standards | A-ESS1-1AR  A1-ESS1-2AR  AR A1-ETS1-2  AR A-ESS1-4  A-ESS3-1AR  A-ESS3-2AR  AR A3-ETS1-1 | A-ESS2-1AR  A-ESS2-2AR  AR A-ESS1-6  A-ESS4-1AR  A-ESS4-2AR  AR A6-ESS1-1  A-ESS6-1AR  AR A6-ETS1-1 | AR A6-ESS1-1  A-ESS6-1AR  AR A6-ETS1-1  AR A5-ESS1-1  A-ESS5-1AR  A-ESS5-2AR | AR A7-ESS1-1  AR A-ESS1-3  A-ESS7-1AR  AR A8-ESS1-2  A-ESS8-1AR  AR A8-ETS1-3 |
| Prerequisite skills  (prior knowledge, skills needed for student to master the standard) | Classification skills  Observational skills  Algebra usage  Recognition of word roots  Lab Safety | Research skills  Use of models  Graphing and data organization  Algebra and Trigonometry proficiency  Read on grade level  Technical Writing  Lab Safety | Use units of measurement  Use SI units  Interpret abstract ideas  Technical Reading & Writing  Lab Safety  Algebra and Trigonometry proficiency | Draw to scale  Technical Writing  Lab Safety  Develop arguments  Draw system cycles  Algebra and Trigonometry proficiency |
| Key Strategies or Action Words | Modeling  Hands on Activities  Science Labs  Support with Evidence  Mapping  Extrapolate data | Modeling  Hands on Activities  Science Labs  Support with Evidence  Planetary motion analysis | Modeling  Hands on Activities  Science Labs  Support with Evidence  Determine light years  Greek Mythology | Modeling  Hands on Activities  Science Labs  Support with Evidence  Use the Hubble Constant  Engineering Practice |
| Assessments of Power Standards:  Formative and Summative | Unit Test  Formative Quizzes  Math Test (Measurements)  Lab Reports/CERs | Unit Test  Models and Projects  Formative Quizzes  Summative Vocabulary Test I  Lab Reports/CERs | Unit Test  Models and Projects  Formative Quizzes  Book Reports  EssaysLab Reports/CERs | Unit Test  Models and Projects  Formative Quizzes  Summative Vocabulary Test IIIndependent Projects (Summative) |