**CHECKLIST FOR 8th GRADE SCIENCE: State Performance Indicators**

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| **Grade 8 SPI: Embedded Inquiry** |
| **Inq.1** Design a simple experimental procedure with an identified control and appropriate variables.  [Scientific Method Virtual Lab](http://www.glencoe.com/sites/common_assets/science/virtual_labs/ES01/ES01.html) [Controlled Experiment Virtual Lab](http://www.glencoe.com/sites/common_assets/science/virtual_labs/E16/E16.html) |
| **Inq.2** Select tools and procedures needed to conduct a moderately complex experiment.  [Virtual Microscope](http://www.knowitall.org/hobbyShop/microscope/microroom.swf) [Lab Equipment](http://www.esolhelp.com/science-lab-equipment-game.html) |
| **Inq.3** Interpret and translate data into a table, graph, or diagram.  [How are graphs used to represent data?](http://www.glencoe.com/sites/common_assets/science/virtual_labs/E01/E01.html) |
| **Inq.4** Draw a conclusion that establishes a cause and effect relationship supported by evidence.  [Identify outcomes and make predictions](http://studyjams.scholastic.com/studyjams/jams/science/scientific-inquiry/sidentify-outcomes.htm) |
| **Inq.5** Identify a faulty interpretation of data that is due to bias or experimental error.  [Investigations to collect data](http://studyjams.scholastic.com/studyjams/jams/science/scientific-inquiry/collect-data.htm) |
| **Grade 8 SPI: Embedded Technology & Engineering** |
| **T/E.1** Identify the tools and procedures needed to test the design features of a prototype. |
| **T/E.2** Evaluate a protocol to determine if the engineering design process was successfully applied. |
| **T/E.3** Distinguish between the intended benefits and the unintended consequences of a new technology.  [Unintended Consequences](https://www.psychologytoday.com/blog/artificial-maturity/201301/the-unintended-consequences-technology) |
| **T/E.4** Differentiate between adaptive and assistive bioengineered products (e.g., food, biofuels, medicines,  integrated pest management).  [Bioengineering](https://www.centreofthecell.org/learn-play/games/bioengineering/) |
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| **Life Science – Grade 8 SPI: Standard 5 – Biodiversity and Change** |
| **5.1** Use a simple classification key to identify an unknown organism.  [Virtual Lab - Idendifying Sharks](https://students.ga.desire2learn.com/d2l/lor/viewer/viewFile.d2lfile/1798/12579/taxonomy10.html) [Animal Classification Game](https://www.quia.com/cm/1130.html)  [Identify New Creatures](https://www.biologycorner.com/worksheets/pamishan.html) |
| **5.2** Analyze structural, behavioral, and physiological adaptations to predict which populations are likely to survive in a particular environment.  [The Camel, Giraffe, and Penguin Adaptations](http://www.watchknowlearn.org/Video.aspx?VideoID=36590&CategoryID=9482) |
| **5.3** Analyze data on levels of variation within a population to make predictions about survival under particular environmental conditions. [Keep the Sand Lizard Alive](http://www.arkive.org/education/games/animal-survival) [Natural Selection Survival Game](http://www.animalplanet.com/wild-animals/darwin-survive-game/) |
| **5.4** Identify several reasons for the importance of maintaining the earth’s biodiversity.  [Animal Diversity](http://animaldiversity.org/) [Biodiversity Game](http://ngm.nationalgeographic.com/2011/01/seven-billion/biodiversity-game) [BioBob’s Biodiversity Adventure](http://www.rigb.org/education/games/natural-world/bio-bob) |
| **5.5** Compare fossils found in sedimentary rock to determine their relative age.  [Virtual Lab](http://www.glencoe.com/sites/common_assets/science/virtual_labs/ES12/ES12.swf) [Dino Dig - Virtual Lab](http://www.mhhe.com/biosci/genbio/virtual_labs/BL_17/BL_17.html)  [FossWeb - Virtual Dig](http://www.fossweb.com/delegate/ssi-foss-ucm/Contribution%20Folders/FOSS/multimedia/Earth_History/dating_rock_layers/index.html) |
| **Physical Science - Grade 8 SPI: Standard 9 - Matter** |
| **9.1** Recognize that all matter consists of atoms. |
| **9.2** Identify the common outcome of all chemical changes. |
| **9.3** Classify common substances as elements or compounds based on their symbols or formulas. |
| **9.4** Differentiate between a mixture and a compound. |
| **9.5** Describe the chemical makeup of the atmosphere. |
| **9.6** Compare the particle arrangement and type of particle motion associated with different states of matter. |
| **9.7** Apply an equation to determine the density |
| **9.8** Interpret the results of an investigation to determine whether a physical or chemical change has occurred.  [Which elements form chemical bonds?](http://www.glencoe.com/sites/common_assets/science/virtual_labs/E20/E20.html) |
| **9.9** Use the periodic table to determine the properties of an element. |
| **9.10** Identify the reactants and products of a chemical reaction. |
| **9.11** Recognize that in a chemical reaction the mass of the reactants is equal to the mass of the products (Law of Conservation of Mass). |
| **9.12** Identify the basic properties of acids and bases. |
| **Physical Science – Grade 8 SPI: Standard 12 – Forces in Nature** |
| **12.1** Recognize that electricity can be produced using a magnet and wire coil. |
| **12.2** Describe the basic principles of an electromagnet. |
| **12.3** Distinguish among the Earth’s magnetic field, a magnet, and the fields that surround a magnet and an electromagnet. |
| **12.4** Distinguish between mass and weight using appropriate measuring instruments and units. |
| **12.5** Determine the relationship among the mass of objects, the distance between these objects, and the amount of gravitational attraction. |
| **12.6** Illustrate how gravity controls the motion of objects in the solar system. |