

I CAN STATEMENTS per Power Standards 7th grade

Physical Science Strand –

1. I can construct models (drawings, 3D ball and stick structures, computer representations) showing different molecules with different types of atoms.
2. I can analyze and interpret data before and after an interaction to determine if chemical reaction has occurred.
3. I can analyze, and present information to describe that synthetic materials come from natural resources and how they impact society.
4. I can develop a model that describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.
5. I can develop and use a model to describe how the total number of atoms remains the same during a chemical reaction and thus mass is conserved.
6. I can construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.
7. I can apply physics principles to design a solution that minimizes the force of an object during a collision and develop an evaluation of the solution.
8. I can plan and conduct an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.
9. I can analyze diagrams and collect data to determine the factors that affect the strength of electric and magnetic forces.
10. I can create and analyze a graph to use as evidence to support the claim that gravitational interactions depend on the mass of interacting objects.
11. I can conduct an investigation and evaluate my experimental design to provide evidence that electric and magnetic fields exist between objects exerting forces on each other even though the objects are not in contact.
12. I can construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.

13. I can develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.
14. I can apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.
15. I can plan and conduct an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the temperature of the sample.
16. I can construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.
17. I can use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.
18. I can develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.

Life Science Strand –

19. I can construct an explanation for how animals behaviors (nest building, colorful plumage, herding, etc.) affect the probability of successful animal reproduction.
20. I can construct a scientific explanation based on evidence for how environmental factors influence the growth of organisms.
21. I can construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.
22. I can analyze and interpret data to provide evidence for the effects of resource availability on individual organisms and populations or organisms in an ecosystem.
23. I can construct an explanation that predicts the patterns of interactions among and between the biotic and abiotic factors in a given ecosystem.
24. I can develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.

25. I can construct an argument supported by empirical evidence that explains how changes to physical or biological components of an ecosystem affect population.
26. I can evaluate benefits and limitations of human impacts for maintaining an ecosystem.
27. I can interpret graphical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.

Engineering, technology and application of Science Strand –

28. I can define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant potential impacts on people and the natural environment that may limit possible solutions.
29. I can evaluate competing design solutions using a systemic process to determine how well they meet the constraints of the problem.
30. I can analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet criteria.
31. I can develop a model to generate data for iterative testing and modification of a proposed object, tool, or process.

Reading and Writing Strand –

1. I can read and comprehend science materials and write routinely over a range of discipline-specific tasks and purposes.