DLM® Performance Level Descriptors—Science: Grade 4

Year-End Model

Emerging	A student who achieves at the **emerging** performance level typically can recognize changes in state of matter, match properties, observe the effects of gravity, identify human needs, order daily events, and anticipate routines. In physical science, the student can • recognize melting and freezing • match materials with similar physical properties • recognize the direction objects go when dropped In life science, the student can • identify common human foods In earth and space science, the student can • order events in daily routines, including sunrise and sunset • identify routines to follow when it is raining
Approaching the Target	A student who achieves at the **approaching the target** performance level typically can classify materials, predict direction of gravitational pull, identify what plants need, distinguish living from non-living things, and identify ways to protect Earth's resources. In physical science, the student can • classify materials by physical properties • predict the direction objects go when dropped • identify models that show plants need sunlight to grow In life science, the student can • distinguish things that grow from things that do not grow In earth and space science, the student can • identify strategies that people use to protect Earth's resources, such as recycling
At Target	A student who achieves at the **at target** performance level typically can compare weights, show how plants get energy, provide evidence that plants are living things, show matter moving in an ecosystem, recognize changes in daily patterns, recognize how water affects people, and compare ways to protect Earth's resources. In physical science, the student can • compare the weights of a material before and after melting or freezing • use models to show how plants capture energy from sunlight In life science, the student can • provide evidence that plants grow • identify a model, such as a food chain, that shows matter moving from plants to animals In earth and space science, the student can • recognize patterns in the length of daylight hours • recognize how water affects people in a region • compare methods people can use to help protect the Earth's resources

Advanced	A student who achieves at the **advanced** performance level typically can show that weight is conserved, identify materials by their properties**,** demonstrate that Earth's gravitational pull is directed down, describe the source of food energy, explain how matter moves in an ecosystem, interpret data on seasonal changes, explain how water affects living things, and explain ways to protect Earth's resources. In physical science, the student can • compare weights before and after heating, cooling, or mixing • identify materials by making observations and measurements of properties • identify evidence of Earth's gravitational pull on objects • create a model to describe that energy in animals' food was once energy from the sun In life science, the student can • create a model that shows matter moving through living things In earth and space science, the student can • interpret data on a graph to show seasonal patterns in the length of daylight hours • create a model showing how water affects the living things in a region • use information to describe how people can help protect the Earth's resources and how that affects the environment

DLM Performance Level Descriptors—Science: Grade 5

Year-End Model

Emerging	A student who achieves at the **emerging** performance level typically can recognize changes in state of matter, match properties, observe the effects of gravity, distinguish living from non-living things, identify human needs, order daily events, and anticipate routines. In physical science, the student can • recognize melting and freezing • match materials with similar physical properties • recognize the direction objects go when dropped • identify models that show plants need sunlight to grow In life science, the student can • distinguish things that grow from things that do not grow • identify common human foods In earth and space science, the student can • order events in daily routines, including sunrise and sunset • identify routines to follow when it is raining
Approaching the Target	A student who achieves at the **approaching the target** performance level typically can compare weights, classify materials, predict direction of gravitational pull, identify what plants need, show matter moving in an ecosystem, provide evidence that plants are living things, recognize changes in daily patterns, recognize how water affects people, and identify ways to protect Earth's resources. In physical science, the student can • compare weights before and after melting or freezing • classify materials by physical properties • predict the direction objects go when dropped • identify models that show plants need sunlight to grow In life science, the student can • provide evidence that plants grow In earth and space science, the student can • recognize patterns in the length of daylight hours • recognize how water affects people in a region • identify strategies that people use to protect Earth's resources, such as recycling

At Target	A student who achieves at the **at target** performance level typically can identify materials by their properties, demonstrate that Earth's gravity is directed down, show how plants get energy, show matter moving in an ecosystem, interpret data on seasonal changes, and compare ways to protect Earth's resources.
	In physical science, the student can
	• identify materials by making observations and measurements of properties
	• identify evidence of Earth's gravitational pull on objects
	• use models to describe how energy is captured from sunlight
	In life science, the student can
	• identify a model that shows matter moving from plants to animals
	In earth and space science, the student can
	• interpret data on a graph to show seasonal patterns in the length of daylight hours
	• compare methods people can use to help protect the Earth's resources
Advanced	A student who achieves at the **advanced** performance level typically can describe the source of food energy, describe sources of plant matter, explain how matter moves in an ecosystem, explain how water affects living things, and explain ways to protect Earth's resources.
	In physical science, the student can
	• create a model to describe that energy in animals' food was once energy from the sun
	In life science, the student can
	• provide evidence that plants need air and water to grow
	• create a model that shows matter moving through living things
	In earth and space science, the student can
	• create a model showing how water affects the living things in a region
	• use information to describe how people can help protect the Earth's resources and how that affects the environment

DLM Performance Level Descriptors—Science: Grade 6

Year-End Model

Emerging	A student who achieves at the **emerging** performance level typically can recognize changes in states of matter, identify major organs, match organisms to habitats, identify common animal foods, and interpret basic weather information. In physical science, the student can • recognize melting, freezing, and boiling In life science, the student can • recognize the brain, heart, lungs, and stomach • identify habitats of common organisms In earth and space science, the student can • interpret basic weather symbols
Approaching the Target	A student who achieves at the **approaching the target** performance level typically can identify materials that minimize thermal energy transfer, match organisms to habitats, compare weather conditions, and recognize resources that are important for life. In physical science, the student can • identify ways to make objects move faster or slower • identify materials that keep substances hot or cold In life science, the student can • identify habitats of common organisms In earth and space science, the student can • compare differences in basic weather conditions • recognize resources that are important for human life

At Target	A student who achieves at the **at target** performance level typically can gather observational data, investigate ways to change motion, predict change in thermal energy transfer with different materials, model and understand how organs are connected, identify factors that influence the growth of organisms, classify animals, identify weather events that impact landforms, make predictions about future weather, and recognize how humans impact the environment. In physical science, the student can • make observations and measurements of properties before and after chemical changes • investigate ways to change the motion of an object • predict how different materials will keep a substance hot or cold In life science, the student can • use models to show how organs are connected • identify factors that influence the growth of plants and animals • classify animals by what they eat In earth and space science, the student can • identify weather conditions that impact landforms • interpret weather forecasts to make predictions • recognize ways that humans impact the environment
Advanced	A student who achieves at the **advanced** performance level typically can analyze observational data, predict changes in motion, refine a device to minimize or maximize thermal energy transfer, use data to show that environmental resources influence growth, identify producers and consumers, distinguish between catastrophic and non-catastrophic weather events, and explain how to minimize human impacts on the environment. In physical science, the student can • analyze data on properties of matter before and after a chemical change • predict how forces acting on different objects change motion • refine a device that keeps substances hot or cold to increase its effectiveness In life science, the student can • use data to show that environmental resources influence the growth of plants and animals • identify producers and consumers in a food chain In earth and space science, the student can • understand how catastrophic and non-catastrophic weather events change Earth's surface • develop a plan to minimize a human impact on the environment

DLM Performance Level Descriptors—Science: Grade 8

Year-End Model

Emerging	A student who achieves at the **emerging** performance level typically can recognize changes in state of matter, identify ways to change movement, identify major organs, match organisms to habitats, identify common animals' foods, interpret basic weather information, and compare weather conditions. In physical science, the student can • recognize melting, freezing, and boiling • identify ways to make objects move faster or slower In life science, the student can • recognize the brain, heart, lungs, and stomach • identify habitats of common organisms • identify foods that animals eat In earth and space science, the student can • interpret basic weather symbols • compare differences in basic weather conditions
Approaching the Target	A student who achieves at the **approaching the target** performance level typically can investigate ways to change motion, identify materials that minimize thermal energy transfer, identify factors that influence the growth of organisms, classify animals, identify weather events that impact landforms, compare weather conditions, and recognize resources that are important for life. In physical science, the student can • investigate ways to change the motion of an object • identify materials that keep substances hot or cold In life science, the student can • identify factors that influence the growth of plants and animals • classify animals by what they eat In earth and space science, the student can • identify weather conditions that impact landforms • compare differences in basic weather conditions • recognize resources that are important for human life

At Target	A student who achieves at the **at target** performance level typically can gather observational data, predict change in thermal energy transfer with different materials, model and understand how organs are connected and function, use data to show that environmental resources influence growth, distinguish between catastrophic and non-catastrophic weather events, make predictions about future weather, and recognize how humans impact the environment. In physical science, the student can • make observations and measurements of properties before and after chemical changes • predict how different materials will keep a substance hot or cold In life science, the student can • use models to show how organs work together to support survival • use data to show that environmental resources influence the growth of plants and animals In earth and space science, the student can • understand how catastrophic and non-catastrophic weather events change Earth's surface • interpret weather forecasts to make predictions • recognize ways that humans impact the environment
Advanced	A student who achieves at the **advanced** performance level typically can analyze observational data, predict changes in motion, refine a device to minimize or maximize thermal energy transfer, identify producers and consumers, and explain how to minimize human impacts on the environment. In physical science, the student can • analyze data on properties of matter before and after a chemical change • predict how forces acting on different objects change motion • refine a device that keeps substances hot or cold to increase its effectiveness In life science, the student can • identify producers and consumers in a food chain In earth and space science, the student can • develop a plan to minimize a human impact on the environment

DLM Performance Level Descriptors—Science: High School

Year-End Model

Emerging	A student who achieves at the **emerging** performance level typically can recognize chemical changes, identify safety equipment, identify needs of wildlife, identify seasons, and recognize conservation strategies. In physical science, the student can • recognize changes that occur during chemical reactions • identify equipment that reduces the force of a collision In life science, the student can • identify food and shelter needs In earth and space science, the student can • identify seasons • recognize strategies people use to manage materials and resources
Approaching the Target	A student who achieves at the **approaching the target** performance level typically can identify changes in material properties, compare temperatures, recognize organ functions, match animals to habitats, and gather data on conservation strategies. In physical science, the student can • identify changes in material properties after burning and/or rusting • identify equipment that reduces the force of a collision In life science, the student can • recognize that different organs have different functions • identify animals that can survive in a particular habitat In earth and space science, the student can • compare relative temperature (warmth, coldness) of two liquids • gather data on a class conservation strategy

At Target	A student who achieves at the **at target** performance level typically can explain properties, compare safety devices, compare temperatures before and after mixing, identify organ functions, recognize relationships that affect population size, identify factors that affect survival, model Earth's orbit, explain conservation strategies, and organize data. In physical science, the student can • make a claim supported by evidence that explains chemical properties • use data to compare the effectiveness of safety devices in minimizing forces during collisions • compare the temperature of a mixture of two liquids before and after mixing In life science, the student can • identify which organs perform specific functions • recognize the relationships between population size, food sources, and available shelter • identify special traits in organisms that allow them to survive in different environments In earth and space science, the student can • model how Earth's position in its orbit corresponds with the seasons • describe reasons for strategies to conserve, recycle, or reuse • organize data on the effects of conservation strategies
Advanced	A student who achieves at the **advanced** performance level typically can design safety devices, predict temperatures before and after mixing, model organ systems, explain how animal populations depend on other organisms, explain how traits allow species to survive, model the cause of seasonal changes, construct arguments for conservation strategies, and analyze data about the effects of conservation strategies. In physical science, the student can • analyze data to evaluate the effectiveness of safety devices and make changes that can improve effectiveness • predict the temperature of a mixture based on the temperatures and amounts of the two liquids before mixing In life science, the student can • model the organization and interaction of organs into systems • use graphs to explain how animal populations depend on other organisms • explain how the traits of particular species allow them to survive in their environments In earth and space science, the student can • use a model of the Earth and the Sun to show how Earth's tilt and orbit cause changes in seasons • use science ideas to support claims about the effects of conservation strategies on resources • analyze data to determine the effects of a conservation strategy on a natural resource