Motion & Stability: Forces & Interactions 3-PS2-1

I can plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

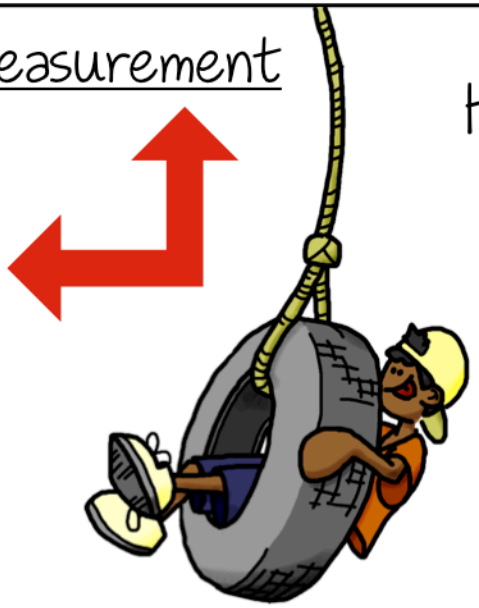
Unbalanced forces create movement, while balanced forces do not.

Unbalanced

Motion & Stability: Forces & Interactions 3-PS2-2

I can make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

Measurement

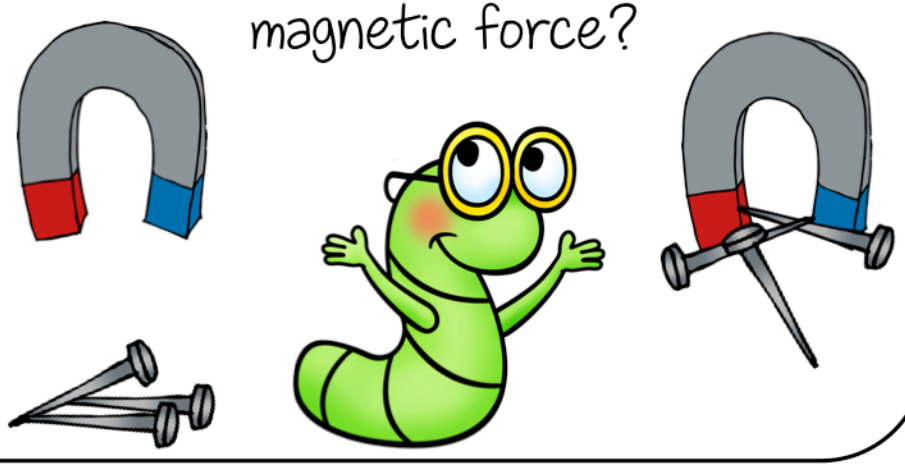


His rope swing could swing 20 feet forward and 10 feet high!

Motion & Stability: Forces & Interactions 3-PS2-3

I can ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.

Does the distance between objects affect the strength of the magnetic force?



Motion & Stability: Forces & Interactions 3-PS2-4

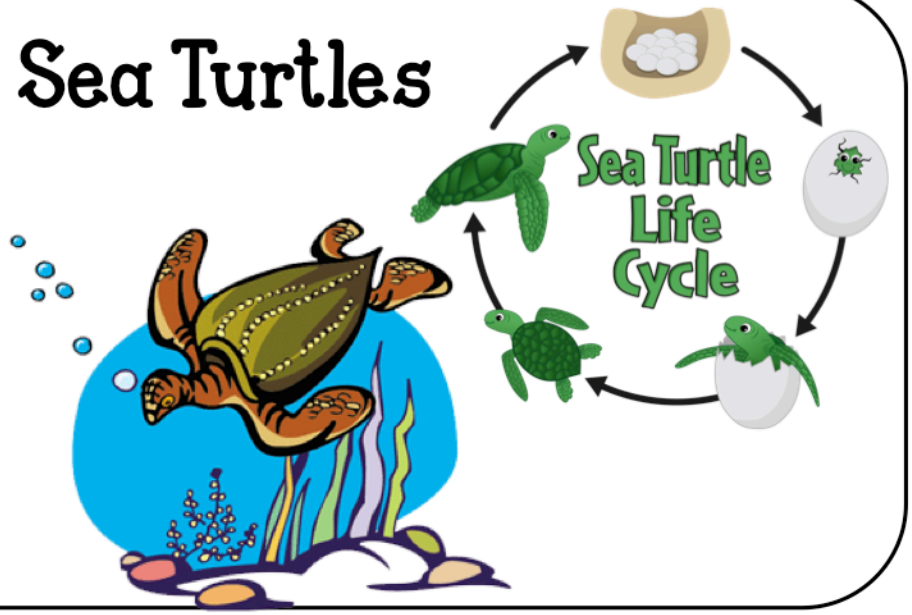
I can define a simple design problem that can be solved by applying scientific ideas about magnets.

Magnetic chalkboard paint allows us to write and display posters all on the same board!

From Molecules to Organisms: Structures & Processes 3-LS1-1

I can develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

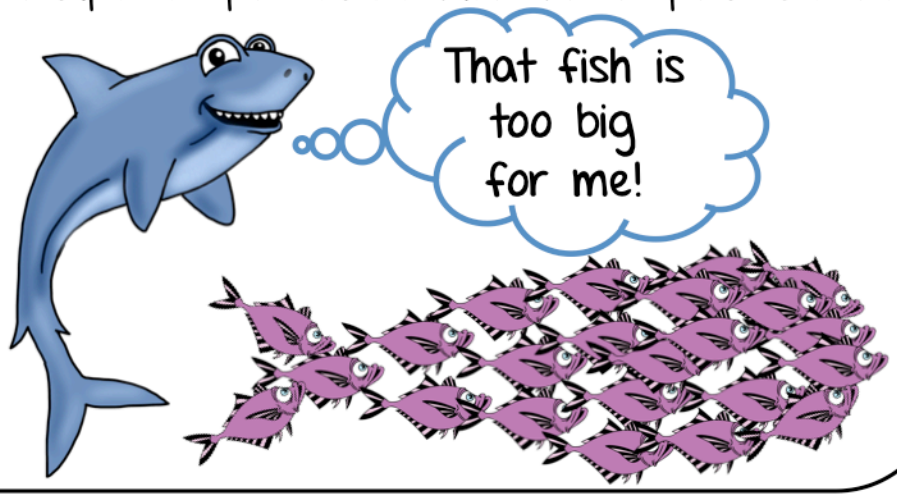
Sea Turtles



Ecosystems: Interactions, Energy & Dynamics 3-LS2-1

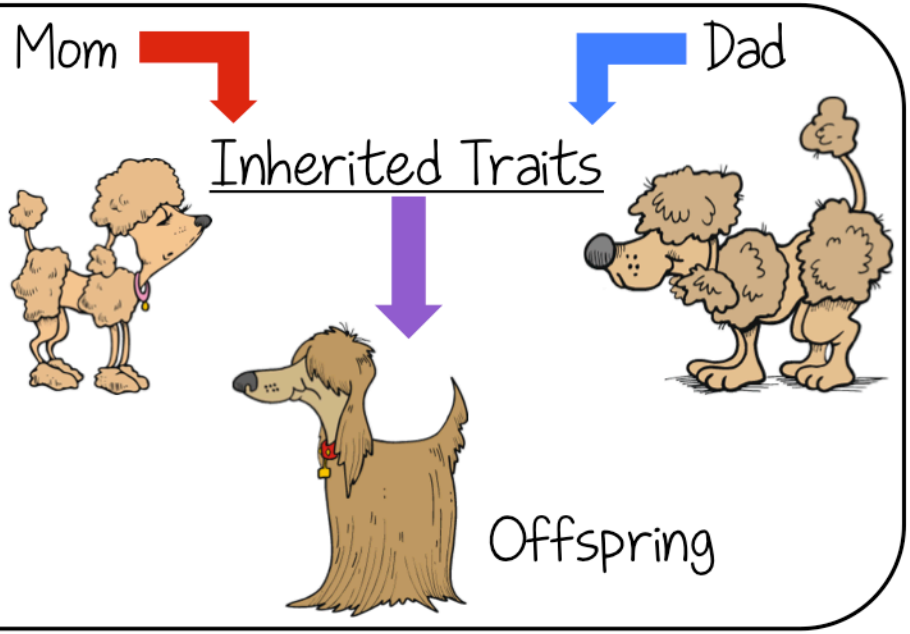
I can construct an argument that some animals form groups that help members survive.

There's safety in numbers! Schooling helps to protect fish from predators.



Heredity: Inheritance & Variation of Traits 3-LS3-1

I can analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.



Heredity: Inheritance & Variation of Traits 3-LS3-2

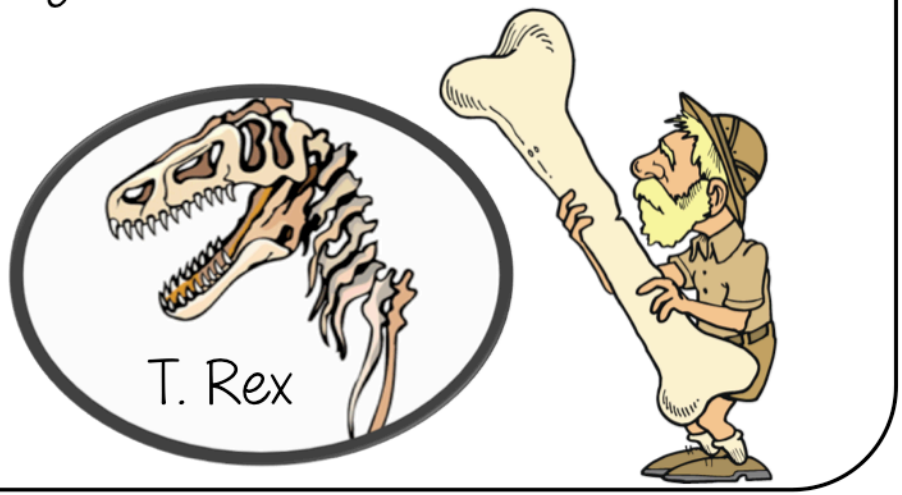
I can use evidence to support the explanation that traits can be influenced by the environment.

Duke, you start your diet and exercise tomorrow! Where did you hide your leash?

Biological Evolution: Unity & Diversity
3-LS4-1

I can analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.

The archaeologist discovered a large *Tyrannosaurus Rex* bone (fossil)!



Biological Evolution: Unity & Diversity
3-LS4-2

I can use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

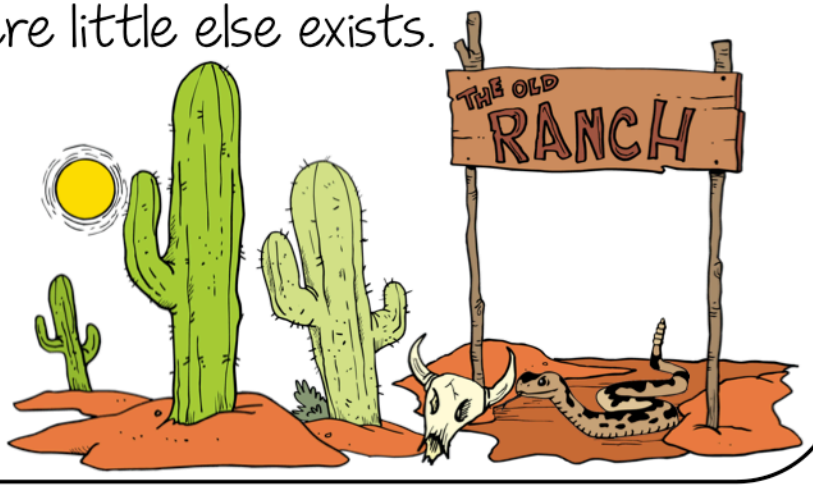
Color is an important attractor for many species.

<u>Plumage</u> color influences mating choices in some bird species.

Biological Evolution: Unity & Diversity
3-LS4-3

I can construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Cacti and certain rattlesnakes have adapted to a dry desert environment where little else exists.

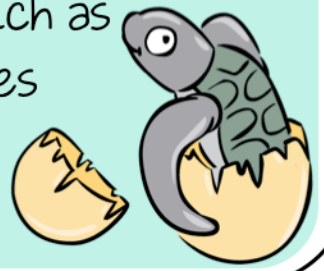


Biological Evolution: Unity & Diversity
3-LS4-4

I can make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

The storms caused <u>erosion</u> of the beach. The city wants to put up a seawall to protect the shore properties.

"I think it will work, but may cause other problems such as loss of habitat for turtles and birds that build nests on the shore."



Earth's Systems
3-ESS2-1

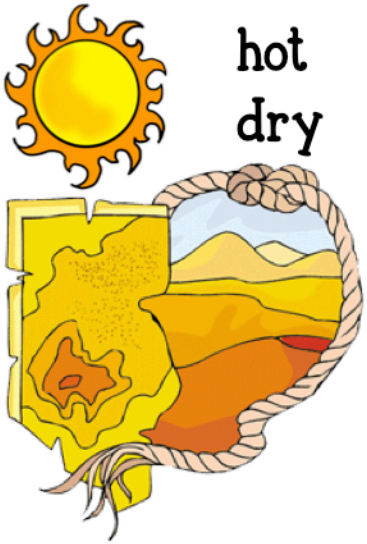
I can represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

Average Winter Monthly Temperatures (°F)	
	Anchorage, AK
December	24
January	22
February	26

Earth's Systems
3-ESS2-2

I can obtain and combine information to describe climates in different regions of the world.

Sahara Desert



Amazon Rainforest

Earth & Human Activity
3-ESS3-1

I can make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

"I think that homes on stilts are a safer design for a flood prone area."

Engineering Design
3-5-ETS1-1

I can define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

Criteria for success: a working bike for the race on Saturday!

Constraints: $10 to spend on parts and 24 hours to fix the bike.

Engineering Design
3-5-ETS1-2

I can generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

You must stay dry from the approaching rainstorm. Evaluate the best solutions for having appropriate shelter while camping.

tree cover

sleeping bag

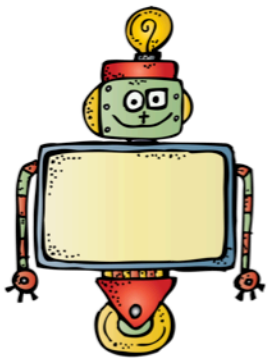
simple tent

BEST OPTION

Engineering Design
3-5-ETS1-3

I can plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Model #1

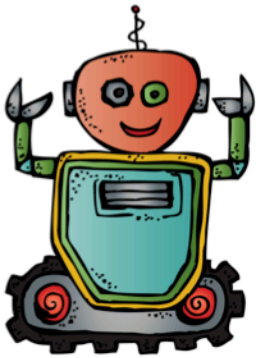


Failure Point:
- flat tire

Model #2

Failure Point:
- unstable balance

Model #3



Failure Point:
- battery life