

LEARNING PROGRESSIONS

SCIENCE: Forces & Motion

Force is the push or pull on an object. Motion is a change of position. Force causes motion.



PROGRESSION STEPS: FORCES & MOTION

- 1. Notices the motion of objects**
- 2. Exerts force on objects to create motion**
- 3. Recognizes implicitly the effect of gravity (things fall down)**
- 4. Exerts more or less force to change how far an object will move**
- 5. Shows understanding of what is and is not moving**
- 6. Recognizes that gravity can be used to create motion**
- 7. Understands that objects move differently but may identify them incorrectly.**
- 8. Recognizes how the properties of moving objects, such as the size or shape, influence movement.**
- 9. Recognizes how less visible properties of moving objects, such as weight, influence movement.**
- 10. Recognizes how the properties (e.g., shape, weight, size) of a contact/still object or surface (e.g., stopper, ramp, wall, another moving object) are influenced by and influence the movement of other objects (such as the speed or the direction).**
- 11. Identifies types of object movement, distance, and speed.**
- 12. Compares the ways that properties of objects and forces interact by acting on objects. Identifies the attribute (shape, size, weight) that leads to particular type, speed, or distance of movement.**
- 13. Predicts when a moving object will move a still object based on properties of the still object (e.g., shape, weight).**
- 14. Predicts when a moving object will move a still object based on properties of the moving object, such as speed or weight**
- 15. Predicts how things move on different surfaces or based on the properties of the path of a moving object. Has an explicit understanding that surfaces can change motion.**
- 16. Predicts how changes to the amount of force exerted will change how an object moves.**
- 17. Predicts what type of movement a particular object will have based on its shape or surface. Predicts explicitly how changes to specific properties of objects will change the effects of forces on those objects.**