DAY 6

Defying Gravity?

Gravity is the natural pull of objects toward each other. Gravity is a force, a push or pull against an object that causes them to move or change direction. Without Earth's gravity, everything would be floating off into space.

An English scientist named Sir Isaac Newton was the first person to really study gravity. As the story goes, after an apple fell from a tree and hit him on the head, Newton wanted to know why it fell to the ground instead of up or sideways.

He surmised that an invisible force was acting on all of the objects on Earth, pulling them downward. You may think that bigger, heavier things fall faster, but the rate at which they fall doesn't have to do with mass (the amount of matter in them) or weight (the measure of how heavy an object is). It has to do with air resistance.

Air resistance is a force that acts in the opposite direction of moving objects. This means that air (the gasses that make up Earth's atmosphere) pushes against objects as they fall, causing friction between the air and a moving object, slowing it down. Because of air resistance, if you drop a feather and a hammer at the same time, the feather will take a lot longer to hit the ground than the hammer.

But what if we did the same thing somewhere where there wasn't an atmosphere? Astronaut David Scott demonstrated this when he dropped a feather and a hammer on the moon and both hit the surface at the same time. This is because the moon has virtually no atmosphere, meaning there is no air resistance, so the two objects fell at the same rate. The experiment was recorded, and you can watch the video below. "How about that?!"

David Scott does the feather hammer experiment on the moon | Science News | Youtube