

NEWTON'S FIRST LAW STATIONS HANDOUT

Cut and tape each set of questions into your notebook. Answer all questions in your notebook. Be sure to make predictions, supporting your predictions with explanations, AND discuss as a group before completing the activity.

EGG SPIN

PREDICT: What do you think will happen when you **MOMENTARILY** stop both eggs from spinning?



OBSERVE: How did each egg respond to this momentary stop?

EXPLAIN: Which is the raw egg? Support your answer by explicitly referring to Newton's First Law.

COIN AND A CUP

PREDICT: What do you think will happen to the penny when you flick the card (horizontally)?



OBSERVE: What happened to the penny?

EXPLAIN: What aspect of Newton's Law of Inertia does this activity emphasize? Explain.

BALLOONS & PENNIES

PREDICT: Once you get the penny spinning in the balloon, how many seconds do you think the penny will spin for?



OBSERVE: How many seconds (for the longest trial) did the penny continue spinning?

EXPLAIN: Why doesn't the penny continue moving forever? Explicitly refer to Newton's First Law.

INERTIA BOXES

OBSERVE: Describe and compare the acceleration experienced by each box due to your push.

EXPLAIN: Which box is harder for you to change its motion? Why do you think this is so?

CONNECT: **Resistance to change in motion** is known as **INERTIA**. Based on your answer above, what quantity/characteristic do you think determines the amount of inertia an object has?

PREDICT: If both of these boxes were thrown at you at the same speed in outer space, which one would be harder to stop? Explain why using the concept of “inertia”.

MARBLE MADNESS

PREDICT: What path do you the marble will travel when it leaves the “track”? Explain in words and sketch the path you think it will take on the diagram in pencil.

OBSERVE: What path did the marble actually follow? Describe it in words and sketch it with a colored pencil.

EXPLAIN: Why did the marble take the path that it did? Support your answer by explicitly referring to Newton’s First Law.

