

Names: _____

Physics NYA Scavenger Hunt: Forces

Task: Find everything in the list by going out and exploring the campus. Take pictures/videos as evidence that you have found each item and draw a FBD for each item. **Due at the end of class.**

Rules:

1. You may only create/set-up one item. The rest must be legitimately found in your surroundings.
2. Every item must be distinct. You can't use the same object or picture to document different items.
3. You cannot use physics lab equipment.

Grading: 1 mark for each item found and submitted with a proper FBD, for a total of 7 marks.

Possible Awards:

- Most creative item
- Funniest item
- Most beautiful item
- Most complicated (yet valid) free body diagram
- Simplest (yet valid) free body diagram
- Quickest team
- Most creative team overall
- Deepest thinking team
- Most persistent team

Scavenger Hunt Items: Get each item initialled by your teacher to earn credit

| # | Item List | Completed (Teacher Initial) |
|----|---|--------------------------------|
| 1. | A body moving at constant non-zero velocity. | |
| 2. | Static friction causing a body to speed up. | |
| 3. | A body with no normal force acting on it. | |
| 4. | A body experiencing both static and kinetic friction at the same time. | |
| 5. | A body whose normal force is greater than its weight. | |
| 6. | Friction acting as a centripetal force. | |
| 7. | An object on which normal force acts horizontally while friction acts vertically. | |

Draw your FBDs in the spaces provided on the following pages. Use pencil so you can make changes as needed.

Names: _____

| A body moving at constant non-zero velocity. | Static friction causing a body to speed up. |
|--|--|
| <p>Description of situation:</p> <p>Body shown in FBD: _____</p> <p>Direction of acceleration:</p> <p>Direction of motion:</p> <p>FBD:</p> | <p>Description of situation:</p> <p>Body shown in FBD:</p> <p>Direction of acceleration:</p> <p>Direction of motion:</p> <p>FBD:</p> |
| A body with no normal force acting on it. | A body experiencing both static and kinetic friction at the same time. |
| <p>Description of situation:</p> <p>Body shown in FBD: _____</p> <p>Direction of acceleration:</p> <p>Direction of motion:</p> <p>FBD:</p> | <p>Description of situation:</p> <p>Body shown in FBD:</p> <p>Direction of acceleration:</p> <p>Direction of motion:</p> <p>FBD:</p> |

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| A body whose normal force is greater than its weight. | Friction acting as a centripetal force. |
|--|--|
| <p>Description of situation:</p> <p>Body shown in FBD: _____</p> <p>Direction of acceleration:</p> <p>Direction of motion:</p> <p>FBD:</p> | <p>Description of situation:</p> <p>Body shown in FBD:</p> <p>Direction of acceleration:</p> <p>Direction of motion:</p> <p>FBD:</p> |
| An object on which normal force acts horizontally while friction acts vertically. | |
| <p>Description of situation:</p> <p>Body shown in FBD: _____</p> <p>Direction of acceleration:</p> <p>Direction of motion:</p> <p>FBD:</p> | |