Bell Work & Exit Tickets:

Vectors & Forces

What is the difference between a vector and a scalar? Give examples of each.

Explain the resultant vector from the Pirate Paces activity.

Rules for Drawing Vectors:

Explain balanced forces:

When can we use Pythagorean for solving for vector resultants? Draw an example:

Explain the term: net (as in net force)

Draw a diagram with a net force:

Break the following vector into its x and y components. Label each. Write an observation about its component vectors.

Name_____

Today I can…(check all that you are confident you understand)

- ☐ Describe a vector.
- ☐ Determine the magnitude of a vector using a scale.
- ☐ Determine the direction of a vector using a protractor.
- ☐ Draw a vector to scale and in the correct direction.
- ☐ Use a resultant vector to describe overall displacement.

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Today I can…(check all that you are confident you understand)

- ☐ Move a vector by maintaining its magnitude and direction.
- ☐ Add two vectors together using head-to-tail method.
- ☐ Understand what happens to a vector if it becomes negative.
- ☐ Subtract vectors using head-to-tail method.
- ☐ Solve for resultants of vectors that are at right angles to each other: using _____.
- ☐ Describe a vector using its x and y components.
- ☐ Make observations that allow for comparisons between two vectors.

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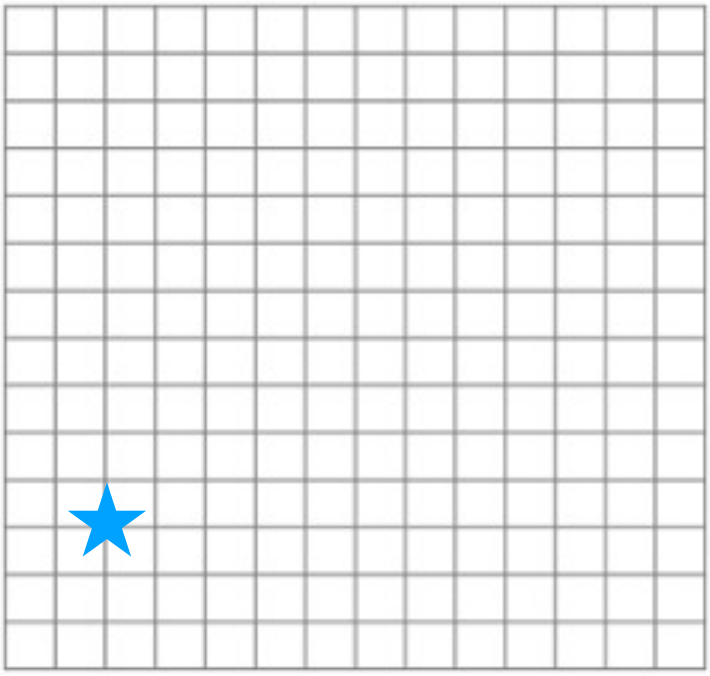
Describe the two vectors: (Label the information that you are comparing in this column.)	 Scale: 1 cm = 5N	 Scale 1 cm = 5 m/s

Name _____

Draw the overall resultant from the following set of directions. Explain how you used the instructions to come up with the resultant. Solve for the magnitude of the resultant.



Starting at the office (star), you walk north 11 m towards Mr. Lundeen's room. Then you walk east 3m to the media center. You walk back west 3 m to the hallway, then 8 m south to the physics hallway, 7 m east to physics, 2 m east to the math hallway, and then 6 m north to Mr. Dostal's room. What would be the magnitude of your overall displacement (resultant)?

Bell Work: Forces & Newton's Laws

Define Force (physics):

What SI Units are used to describe forces?

What are the equivalent units for force?

One of the greatest misconceptions about force and motion is that force is required for motion to continue. Explain why this is not the case and give (or draw) an example.

Describe the relationship between the variables in Newton's 2nd Law of motion.

Draw a model of an you at rest on the surface of the earth. Label the force vectors, solve for the force in Newtons. Explain your motion in terms of the vectors.

If an object experiences acceleration, what MUST be true about the forces acting on the object? Give an example.

Explain the Newton's 1st Law Demo using vocab & variables.

Apply one of our concepts we learned this week to something you see in the real world .

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- ☐ Determine the direction of acceleration on an object if forces are unbalanced.
- ☐ Explain motion in terms of overall/net forces acting on an object.

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- ☐ Explain Newton's 1st law using real-world examples.
- ☐ Explain how each of the variables is related in Newton's 2nd Law.
- ☐ Explain Newton's 2nd law using real-world examples.
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