STEM NOTEBOOK

*Force and Motion*



Investigation 4: Representing Motion

BIG QUESTION: How can the motion of an object be represented as a graph?

What Do You See?



What Do You Think?

What Do You Think Now?

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| FOCUS QUESTION: How can your position at a given time be represented on a graph? |
| **SCENARIO: Leisurely Walk 1*** **Start at home**
* **Walk to the destination**
* **Immediately walk back home**
 |
| DATA |
| EXPLANATION |

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| FOCUS QUESTION: How can your position at a given time be represented on a graph when we stop on the trip? |
| **SCENARIO: Leisurely Walk 2*** **Start at home**
* **Walk to the destination**
* **Look at view for 15 seconds**
* **Walk back home**
 |
| DATA |
| EXPLANATION |
| **SCENARIO: Leisurely Walk 3*** **Start at home**
* **Walk to the destination, turn, walk halfway home**
* **Stop and rest 10 seconds**
* **Complete the walk home**
 |
| DATA |
| EXPLANATION |

FACT SWAP

*Read Motion Review: Position and Motion sections only (pg 17-18)*

My Facts

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Facts from my Classmates

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WDYTN

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| FOCUS QUESTION: How can distance travelled during a trip be represented on a graph? |
| **SCENARIO: Leisurely Walk 1*** **Start at home**
* **Walk to the destination**
* **Immediately walk back home**
 |
| DATA |
| EXPLANATION |
| FOCUS QUESTION: How can distance travelled during a trip be represented on a graph when we stop during the trip? |
| **SCENARIO: Leisurely Walk 2*** **Start at home**
* **Walk to the destination**
* **Look at view for 15 seconds**
* **Walk back home**
 |
| DATA |
| EXPLANATION |
| **SCENARIO: Leisurely Walk 3*** **Start at home**
* **Walk to the destination, turn, walk halfway home**
* **Stop and rest 10 seconds**
* **Complete the walk home**
 |
| DATA |
| EXPLANATION |
| What Do You See?(compare position graph and distance graph for each walk)Walk #1:Walk #2: Walk #3: |
| EXPLANATION |

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**POSTION, DISTANCE, TIME, SPEED SUMMARY**

CLANCEY’S AFTERNOON

* It took Clancey 10 minutes to ride his skateboard 2 kilometers down the hill to Richie’s house.
* They played Claw on the computer for 20 minutes.
* It took Clancey 20 minutes to walk back home up the hill.

Make a data table and two graphs to represent Clancey’s movement

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| --- | --- | --- | --- | --- | --- |
| Leg | Time for leg | Total Time | Positionat end of leg | Distance during leg | Total Distance |
|  |  |  |  |  |  |
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*Position Graph*



*Distance Graph*





FACT SWAP

*Read Motion Review: Speed section (pg 18-19)*

My Facts

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Facts from my Classmates

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| BIG QUESTION: How can the motion of an object be represented as a graph? |
| CLAIM STATEMENTS: | SUPPORTING EVIDENCE: |