

June 2, Week 1

Physics 151, Dr. Mark Morgan-Tracy

Today: Introduction to Active Learning and Chapter 1

First Reading Quiz due tomorrow.

You will need a clicker for Tuesday's class!

Homework Assignment #1 - Available on class webpage, Due this Friday, June 6.

What Do You Want?

In regards to what you want to get out of this class, which of the following three goals is the *most* important to you?

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(a) Learning of facts, principles, and theorems

What Do You Want?

In regards to what you want to get out of this class, which of the following three goals is the *most* important to you?

(b) Learning how to use information and knowledge
in new situations

(a) Learning of facts, principles, and theorems

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In regards to what you want to get out of this class, which of the following three goals is the *most* important to you?

(c) Developing life-long learning skills

(b) Learning how to use information and knowledge
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(a) Learning of facts, principles, and theorems

What Can You Do?

Learning takes work both inside and outside of the classroom.
Which of the following do you feel you can make the most headway on outside of the classroom by reading and studying?

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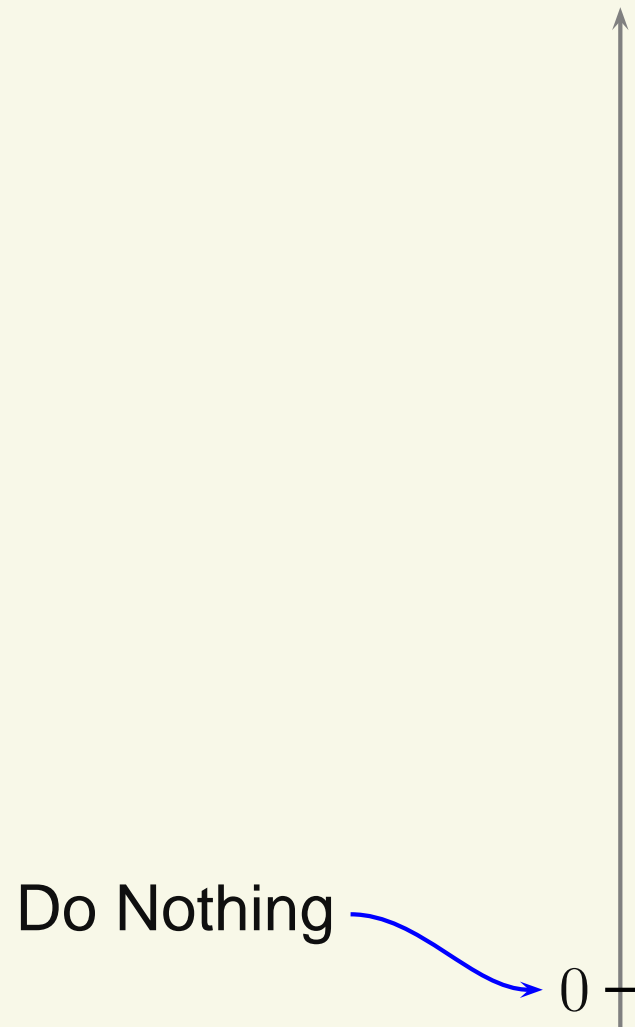
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What Will Classes Make You Do?

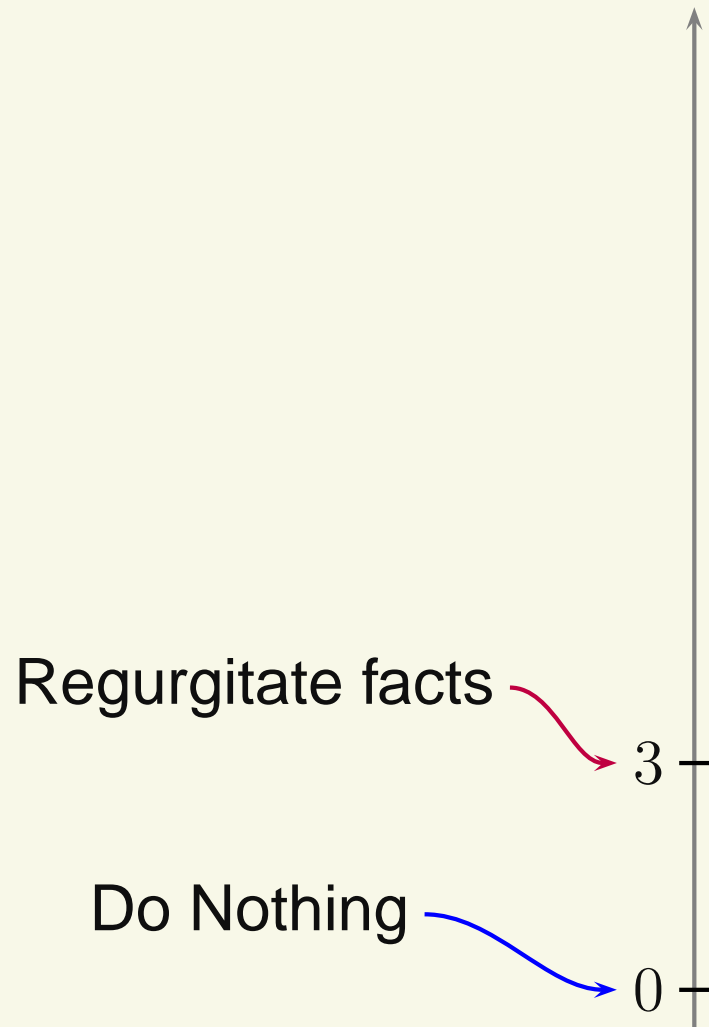
What Will Classes Make You Do?



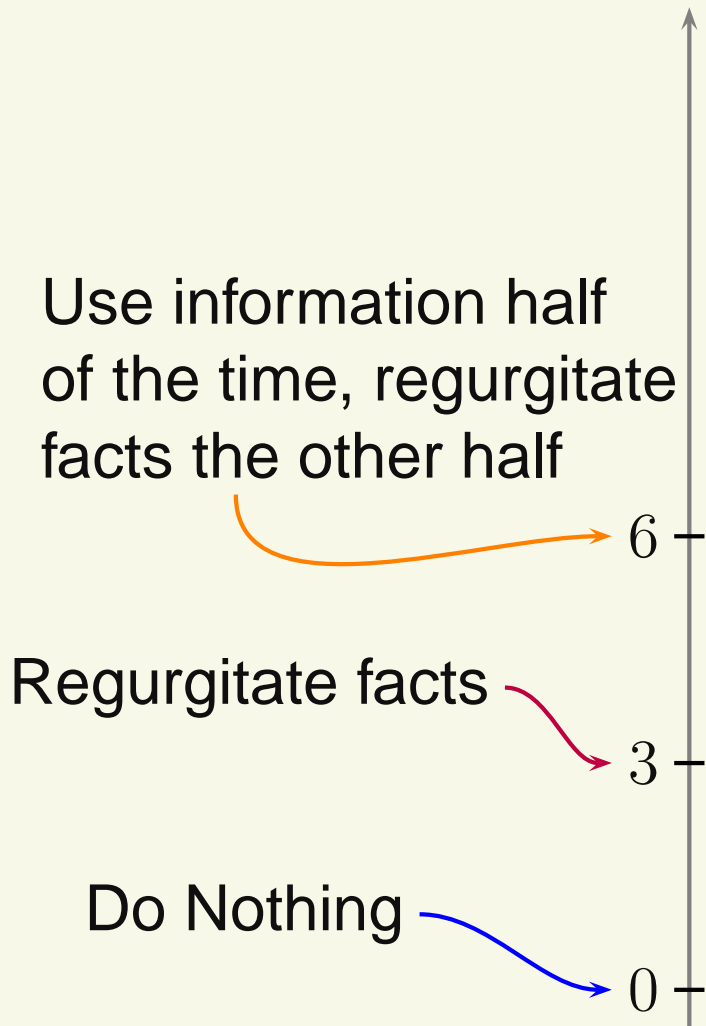
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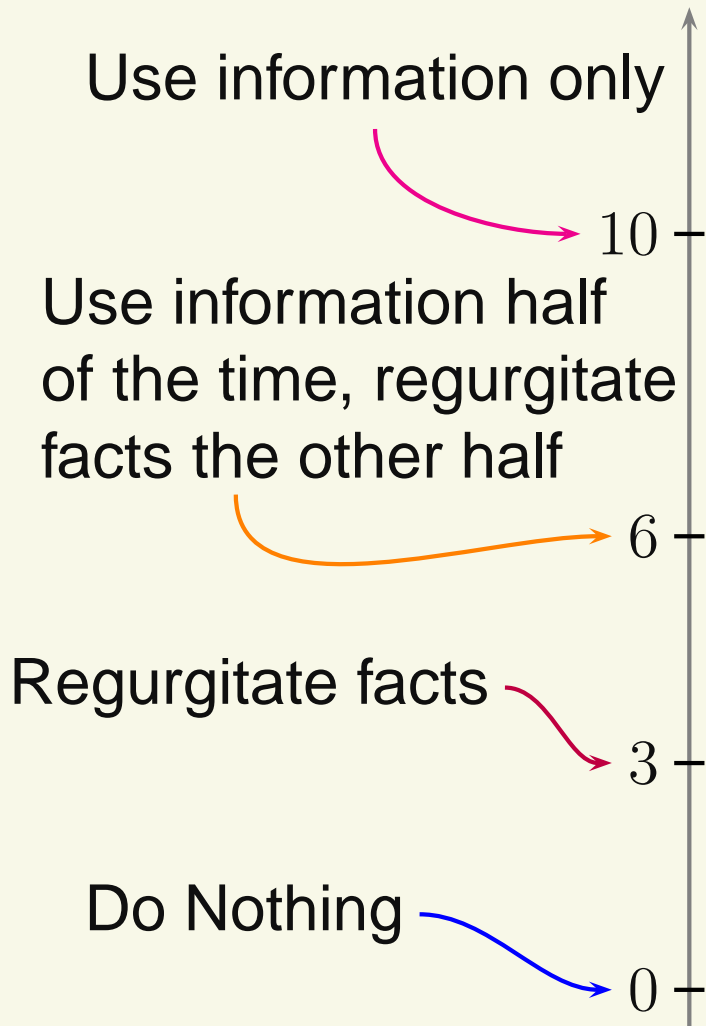
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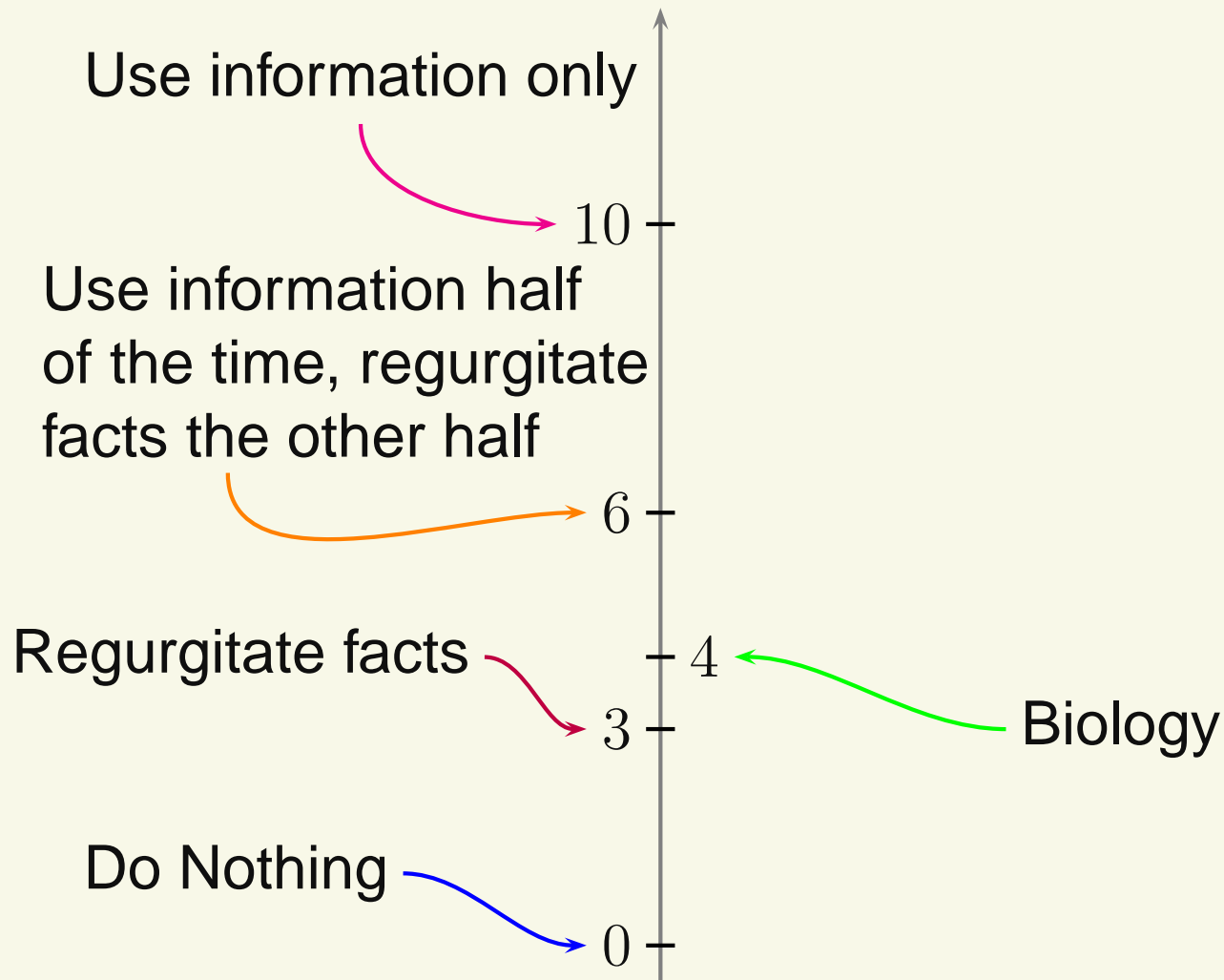
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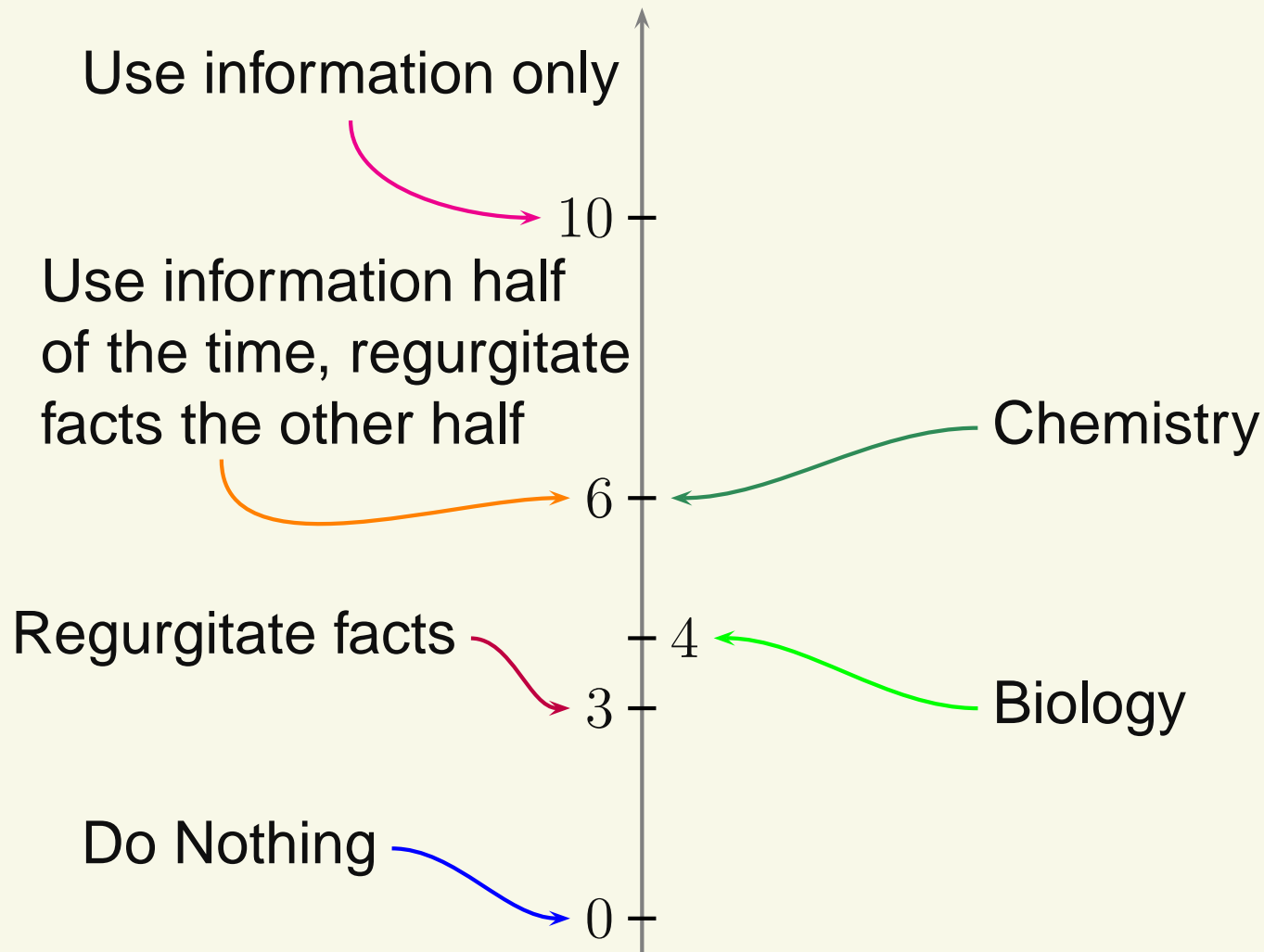
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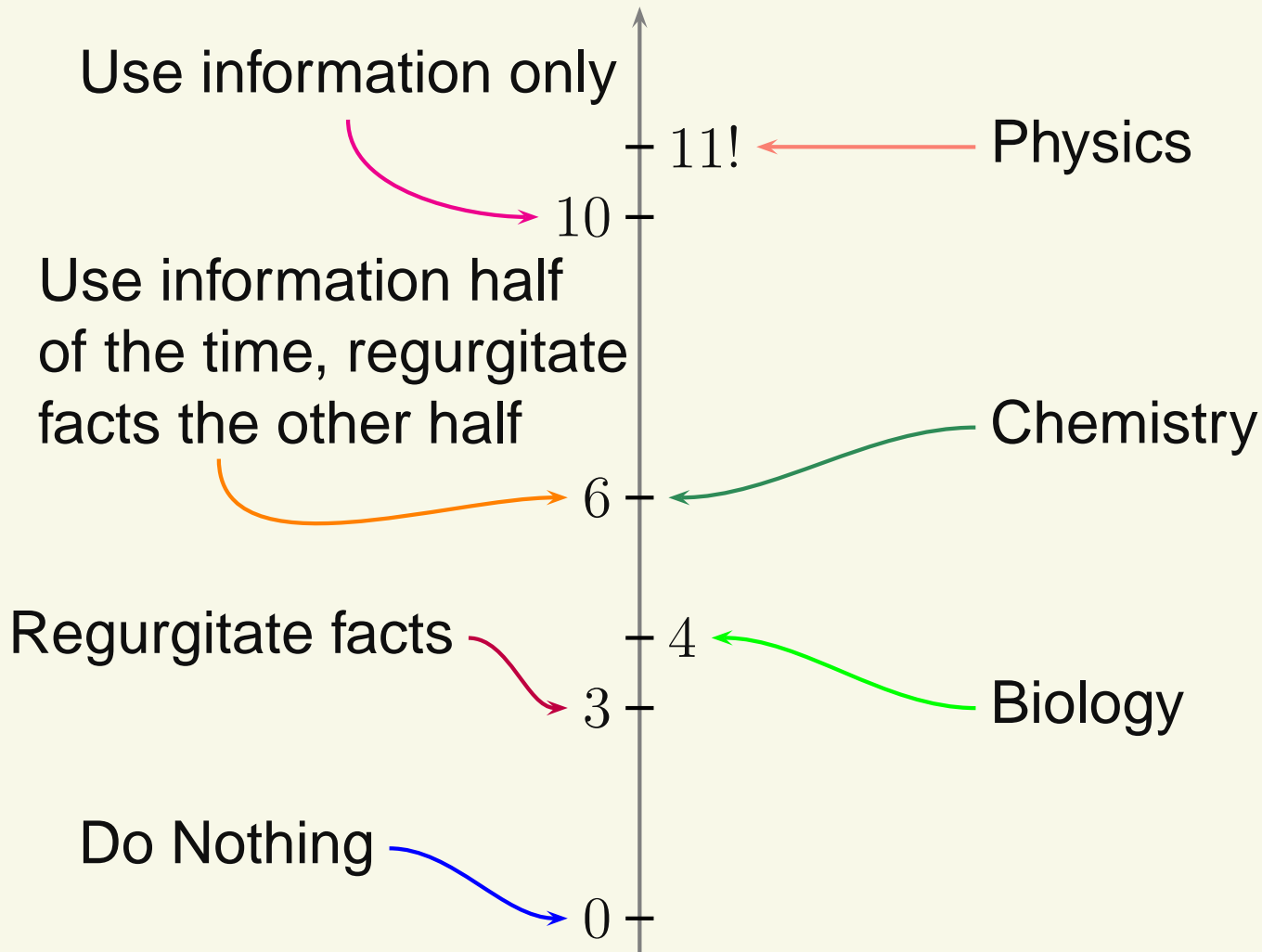
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Where the object is located at every time = Position

How fast and in what direction the object is going at every time = Velocity

Whether the object is speeding up or slowing down at every time = Acceleration

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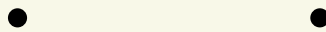


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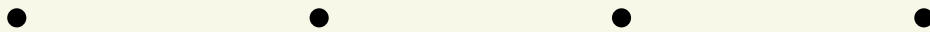


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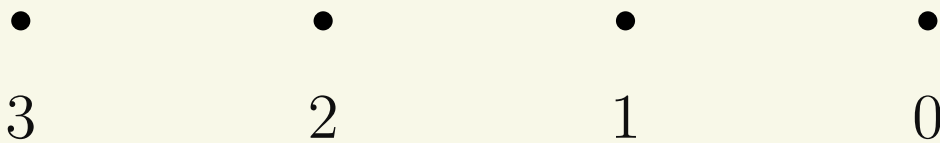


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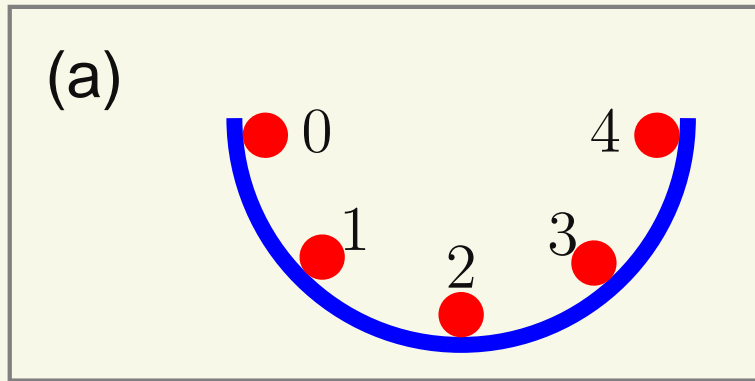
Later we'll include arrows to indicate direction of motion

Motion Diagram Exercise

For a ball, released from rest, that rolls through a half-circular pipe, which of the following is the correct motion diagram?

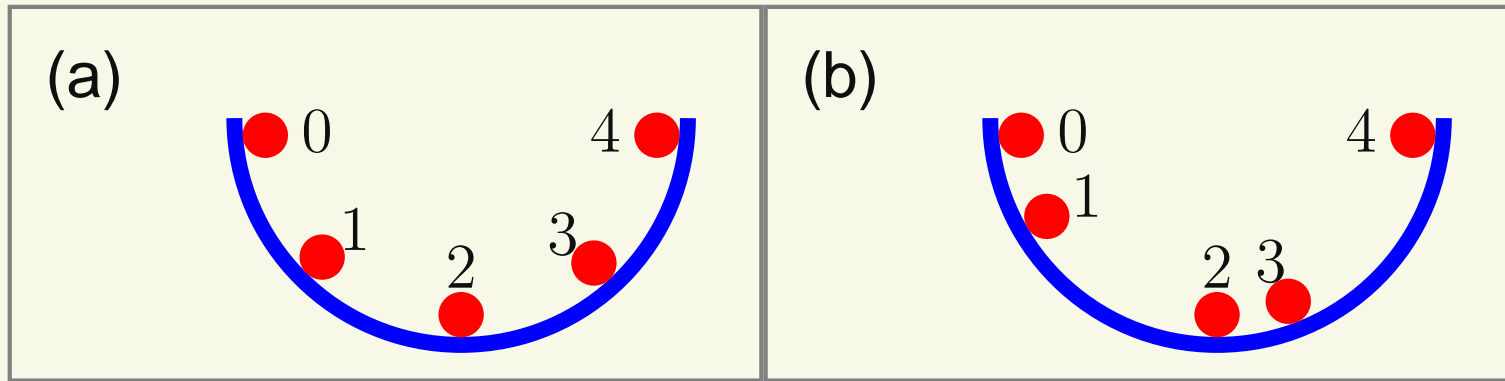
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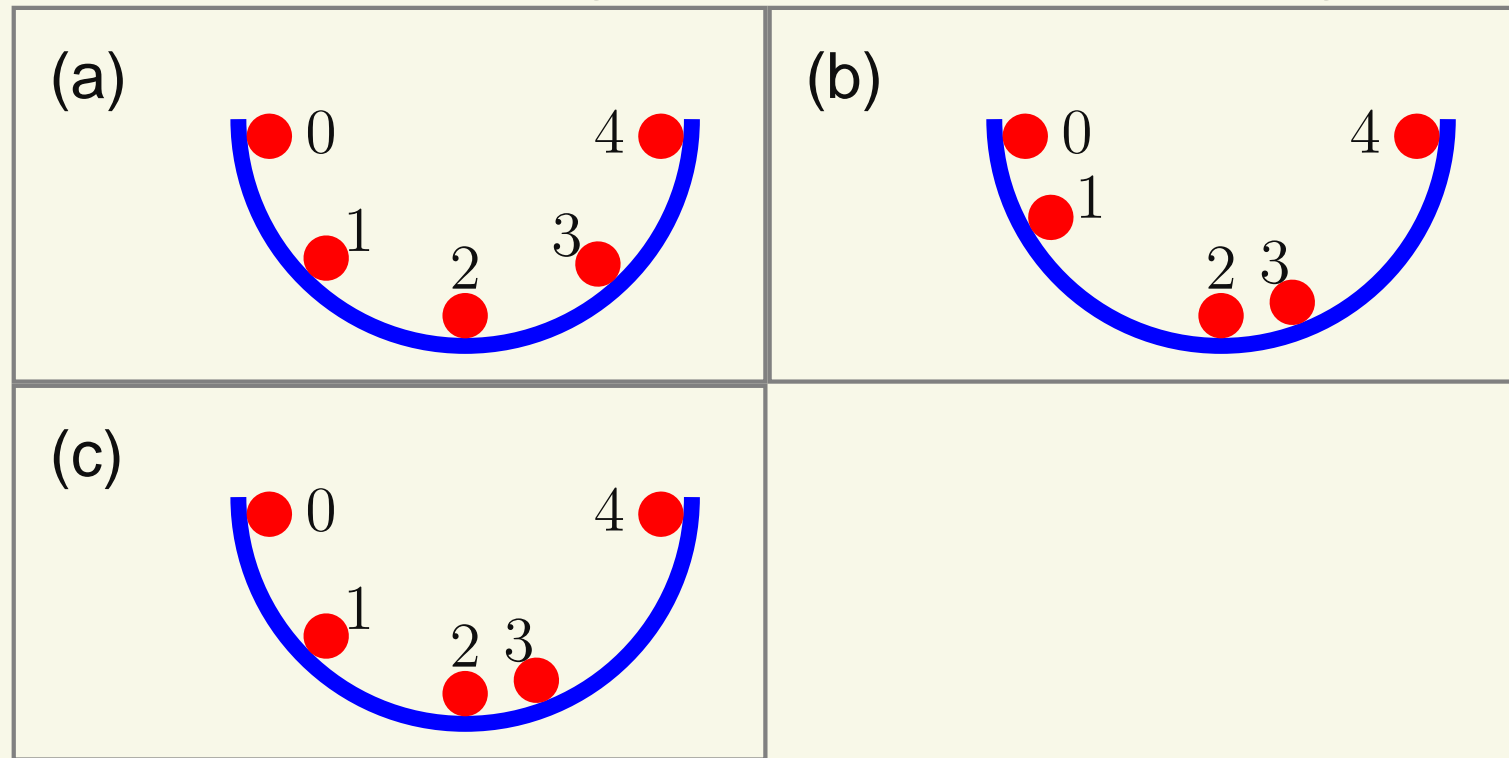
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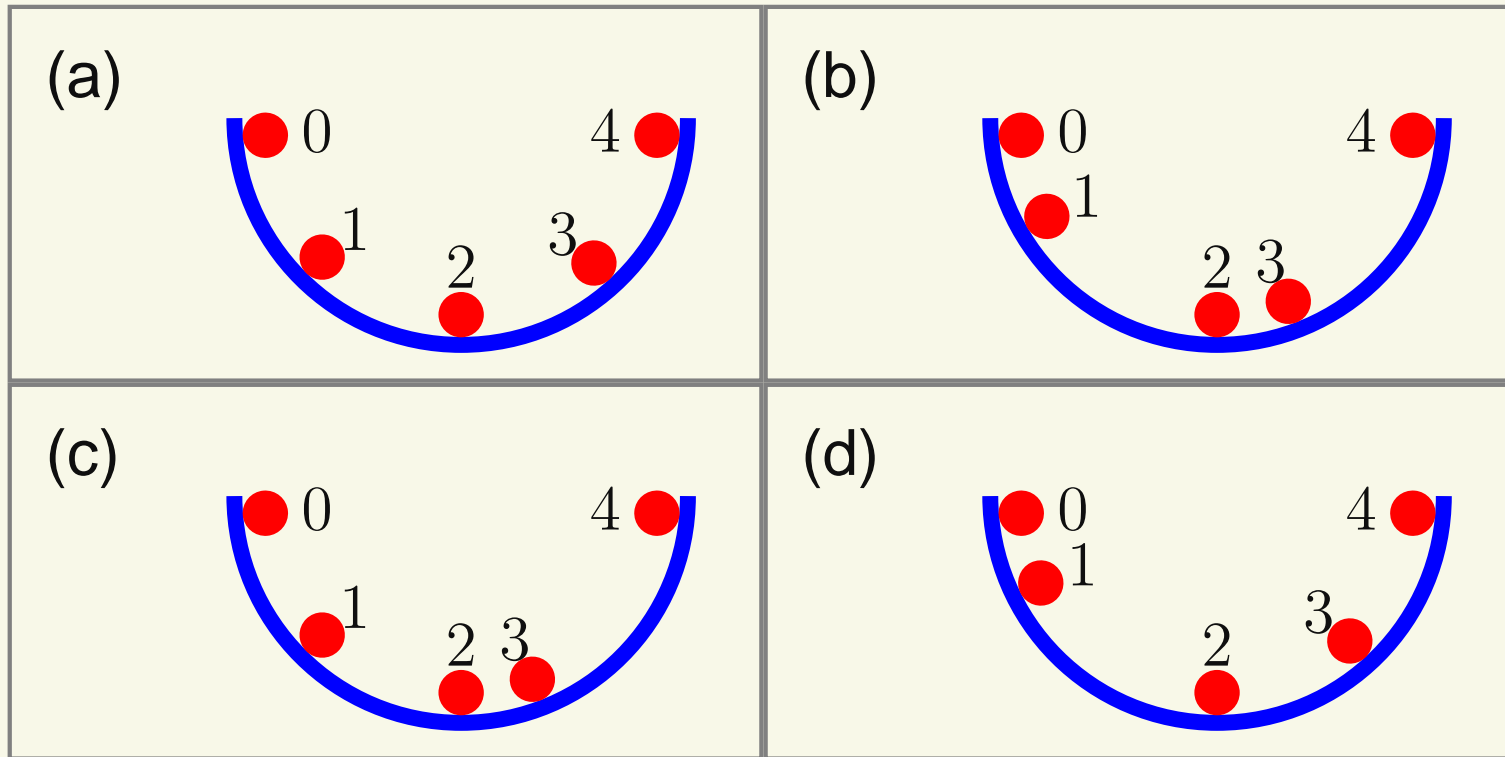
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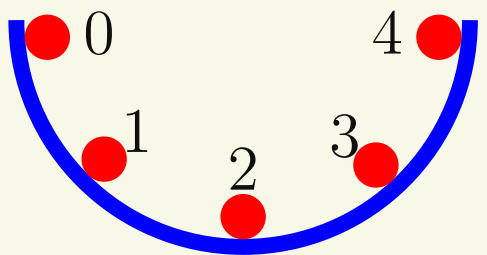
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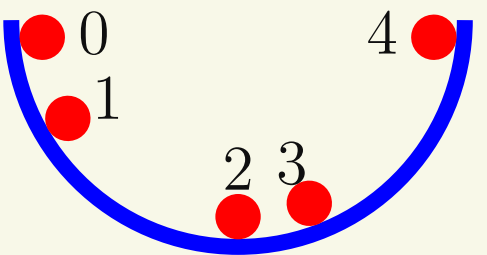
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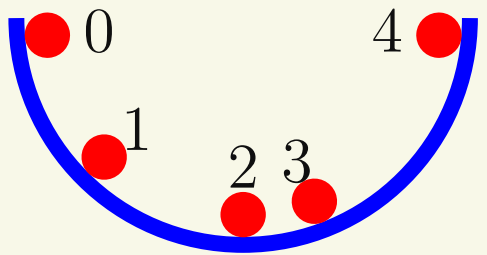


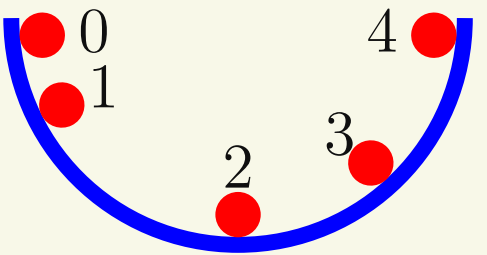
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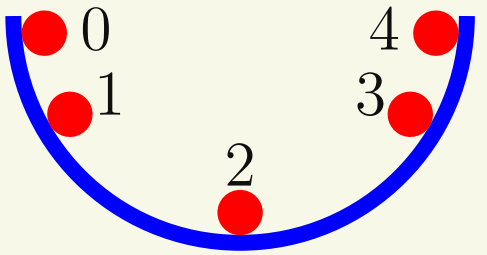
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(a) 

(b) 

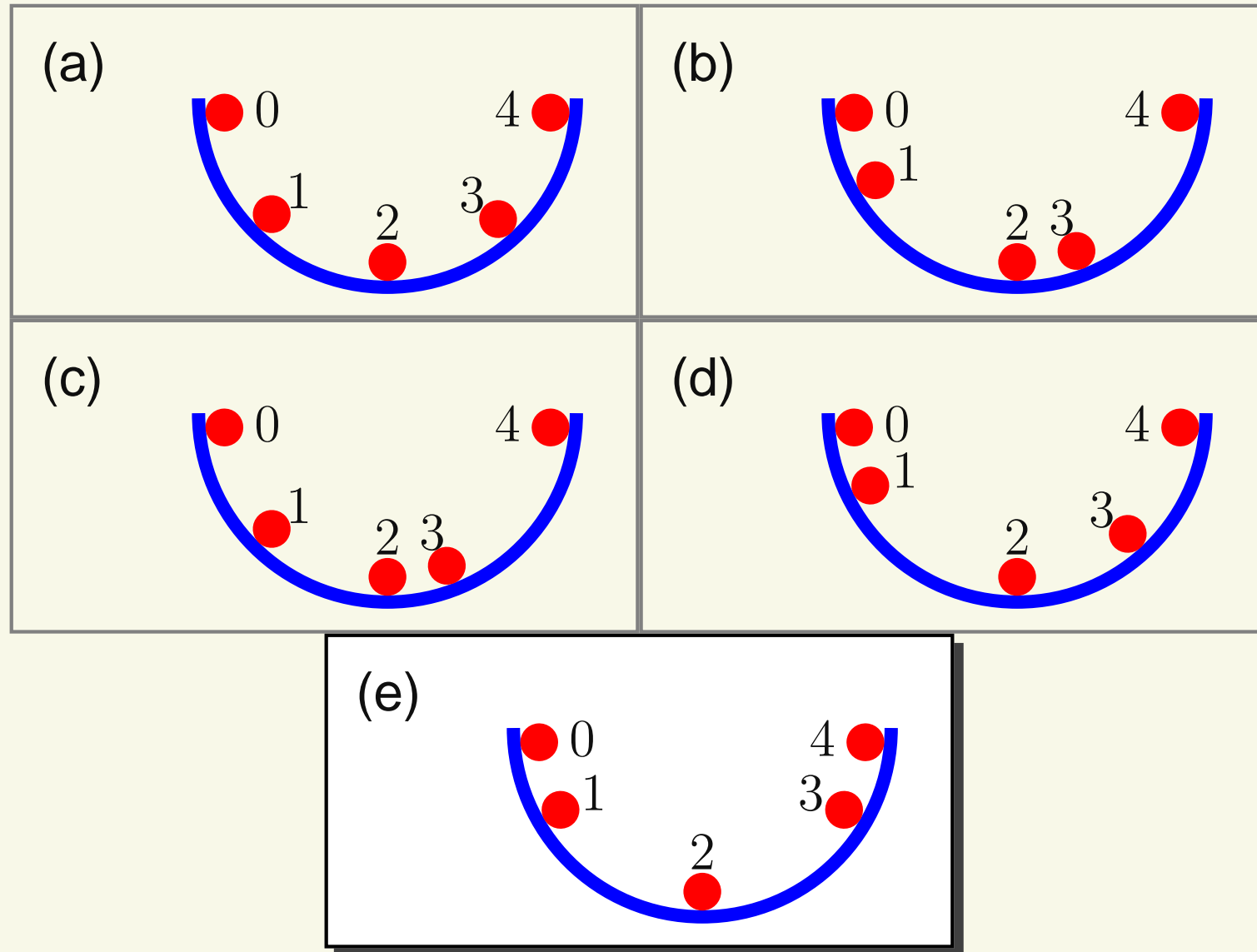
(c) 

(d) 

(e) 

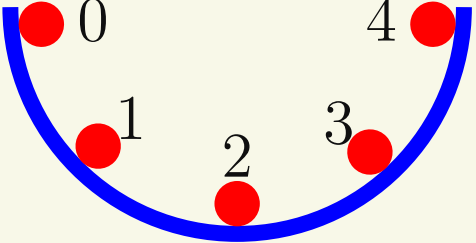
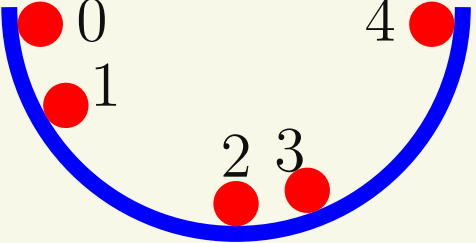
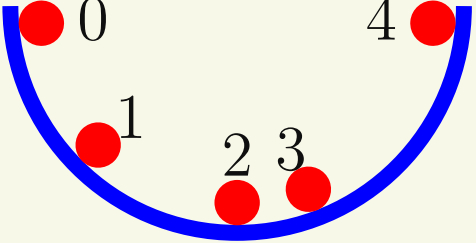
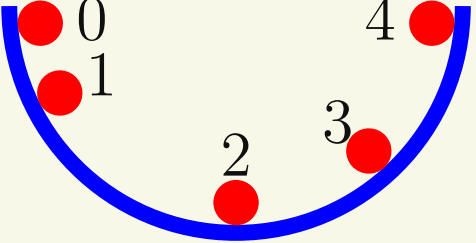
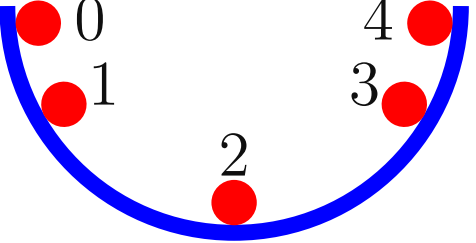
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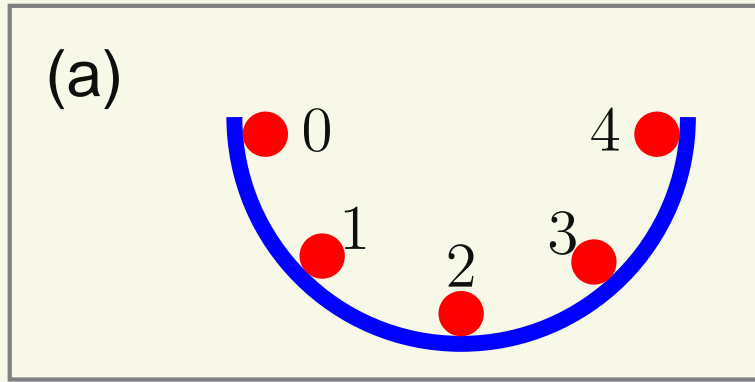
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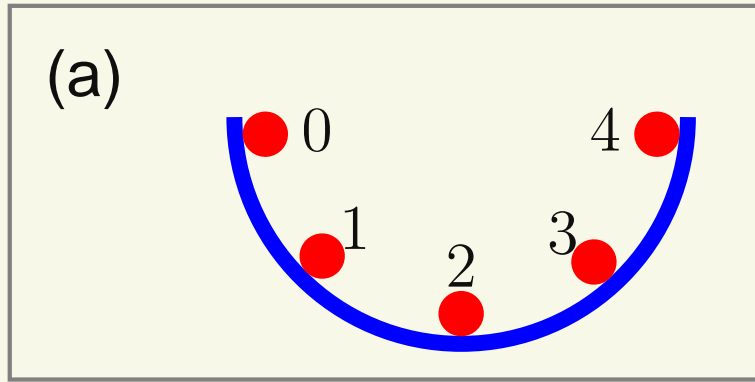
<p>(a)</p> 	<p>(b)</p> 
<p>(c)</p> 	<p>(d)</p> 
<p>(e)</p> 	

Speeds up on way down
 \Rightarrow increasing space between dots. Slows down going back up
 \Rightarrow decreasing space.

Motion Diagram Exercise Followup

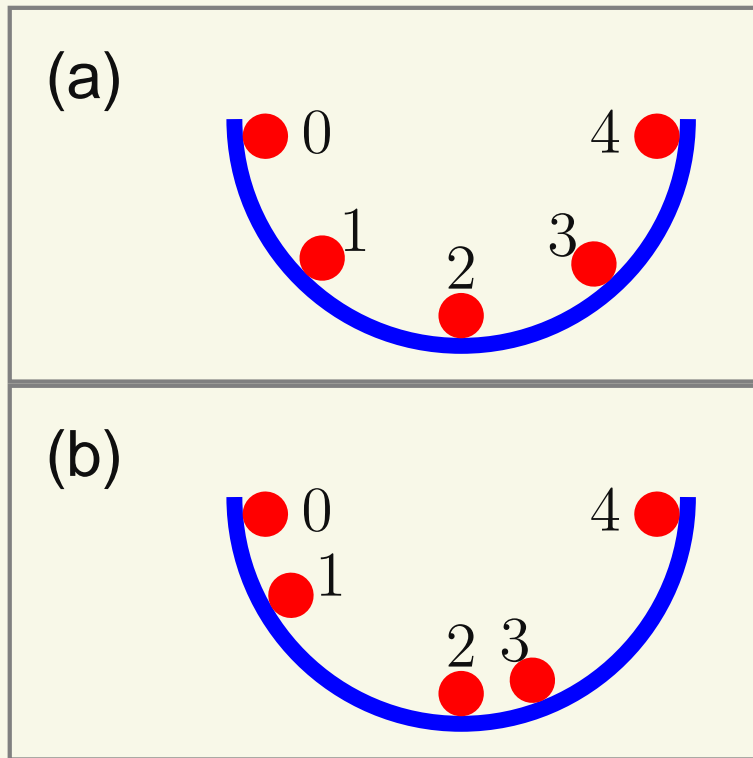


Motion Diagram Exercise Followup



Not speeding up or slowing down \Rightarrow
constant speed

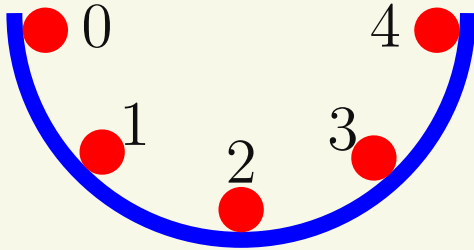
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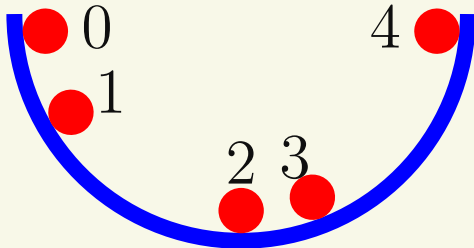
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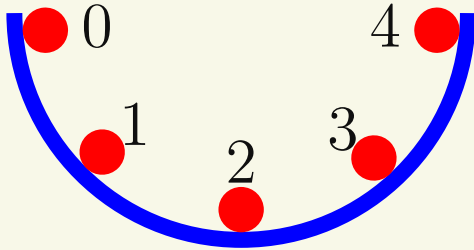
(b)



Speeding up on the way down, stops at bottom, speeds up going up hill

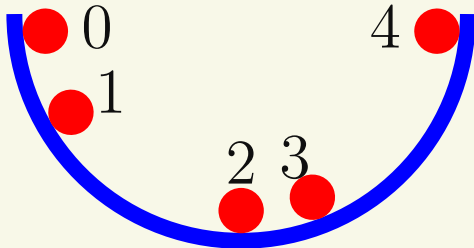
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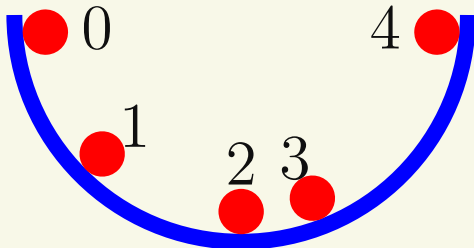
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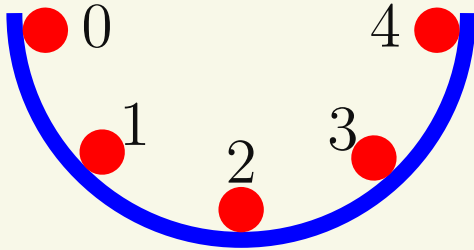
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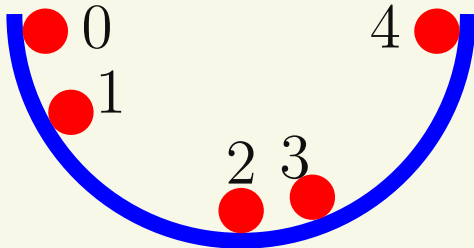
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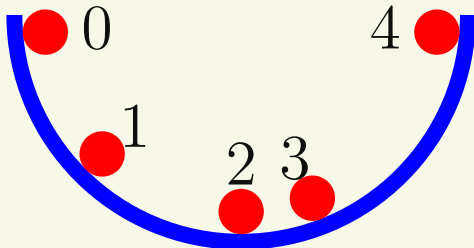
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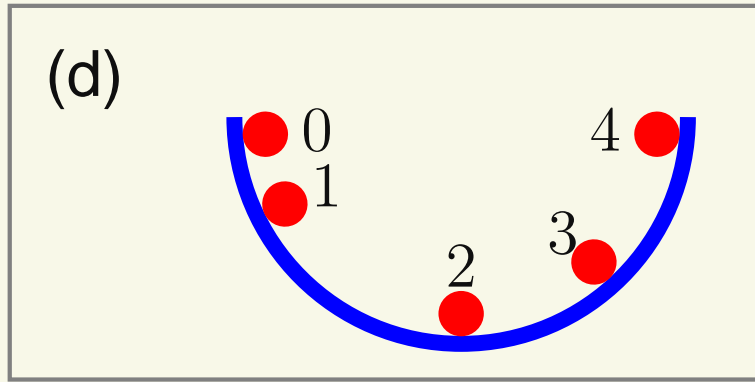
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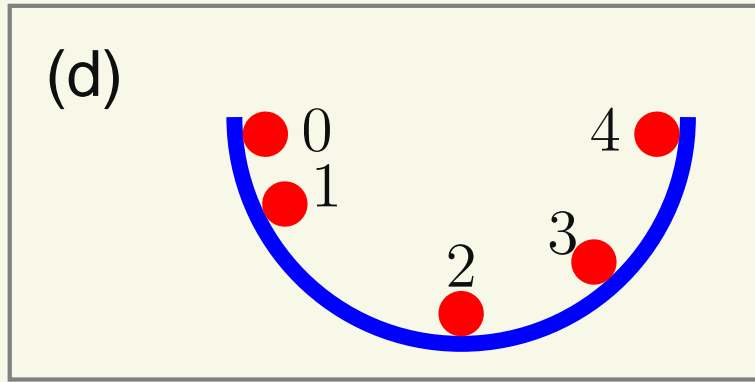


Constant speed downhill, speeding up going uphill

Motion Diagram Exercise Followup II



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Speeding up downhill, constant speed uphill