Thursday, November 9, 2018

Your Learning Goal:

Embarking on a light mini unit. Students will develop a kinesthetic understanding of frequency to apply to the larger concept of light and sound waves

Table of Contents: **Heart Beat** Frequency – 18L + R

Catalyst (18L):

What are some different kinds of waves and how might they be unique?

Homework:

Periodic Webquest

Atomic Basics

Agenda:

1. Catalyst
2. Frequency Lab
3. Reflection

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Date	Assignment	Pg #
10/8/18	Our Expanding Universe	9 L + R
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10/15/18	Changing Phases	12 L+ R
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10/25/18	Atomic Jeopardy	16 L + R
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11/9/18	Heartbeat Frequency	18 L + R

8R

Catalyst:

What are some different kinds of waves and how might they be unique?

18L

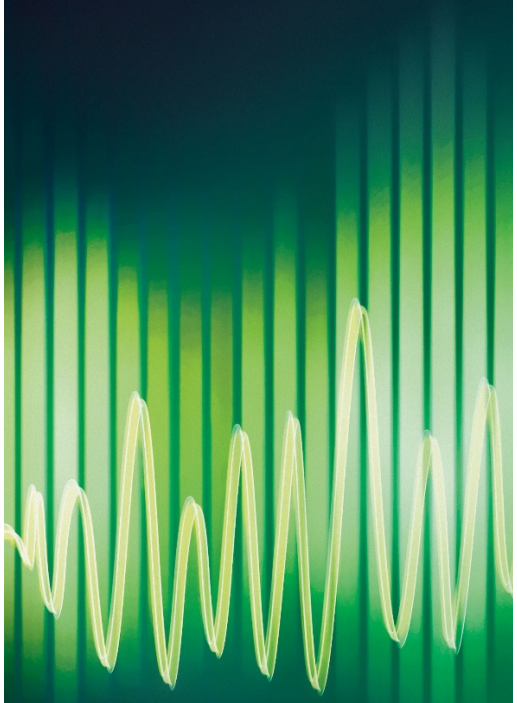
11/9/18

Heartbeat Frequency

Test situation	Beats per 15 s	Pulse rate (R) * beats/min	Pulse frequency (f) ** beats/s
Sitting			
Lying down			
After standing up and sitting down 10 times			
After 30 s of running in place or jumping jacks			

Calculations:

18R



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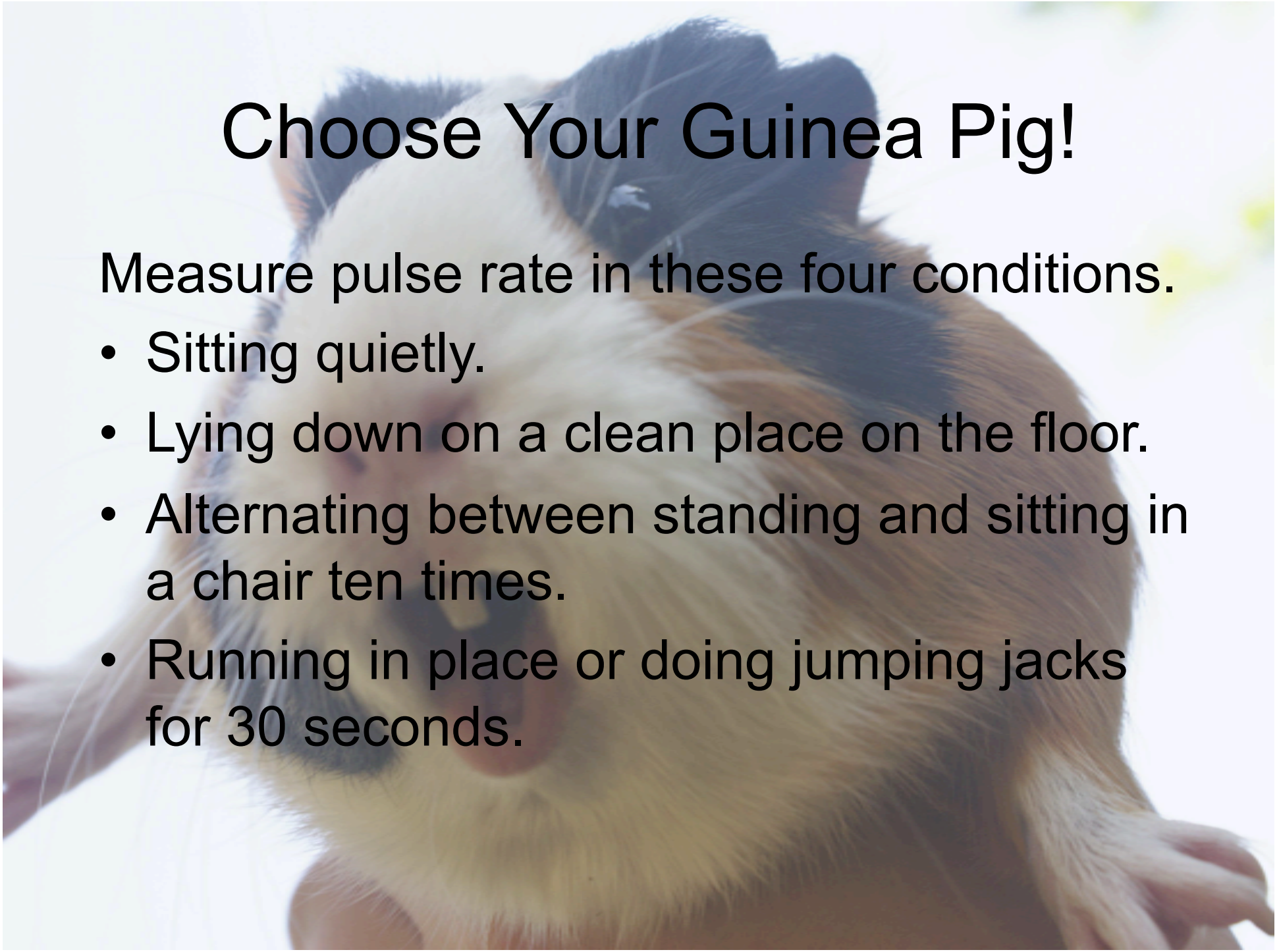
18R



Choose Your Guinea Pig!

Measure pulse rate in these four conditions.

- Sitting quietly.
- Lying down on a clean place on the floor.
- Alternating between standing and sitting in a chair ten times.
- Running in place or doing jumping jacks for 30 seconds.

Calculations

1. If the pulse rate you measured is a certain number of beats in 15 seconds, how could you find the number of beats in 1 minute?

2. How could we convert our pulse rate in beats per minute to a frequency in beats per second?

Calculations

1. ⋆ Pulse *rate* (beats/minute)

$$R = \text{number of beats per 15 seconds} \times \frac{4}{}$$

2. ⋆⋆ Pulse *frequency* (beats/second)

$$f\,(\text{beats/s}) = \frac{R\,(\text{beats/min})}{\frac{15}{}\,(\text{s/min})}$$

Or

60

Catalyst:

What are some different kinds of waves and how might they be unique?

18L

3/12/18

Heartbeat Frequency

Test situation	Beats per 15 s	Pulse rate (*R*) * beats/min	Pulse frequency (*f*) ** beats/s
Sitting			
Lying down			
After standing up and sitting down 10 times			
After 30 s of running in place or jumping jacks			

18R

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the Science Guy®
Intro

11/8/18

Catalyst:

What are some different kinds of waves and how might they be unique?

Reflection:

Create a definition for frequency, use your lab data AND the picture below as evidence.

Heartbeat Frequency

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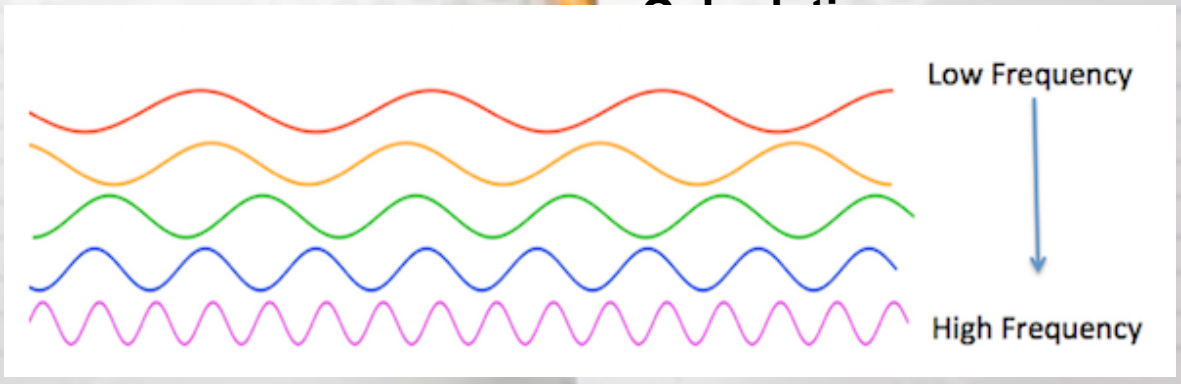

18L

18R