



# Health Sciences

*By Jobs for the Future (JFF) and Beyond School Bells (BSB)*

## Health Sciences Worksheets and Resources

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**JFF**



**Beyond School Bells**  
nebraskachildren

## Lesson 1 Gallery Walk Images

Emergency Medical Technician (EMT)



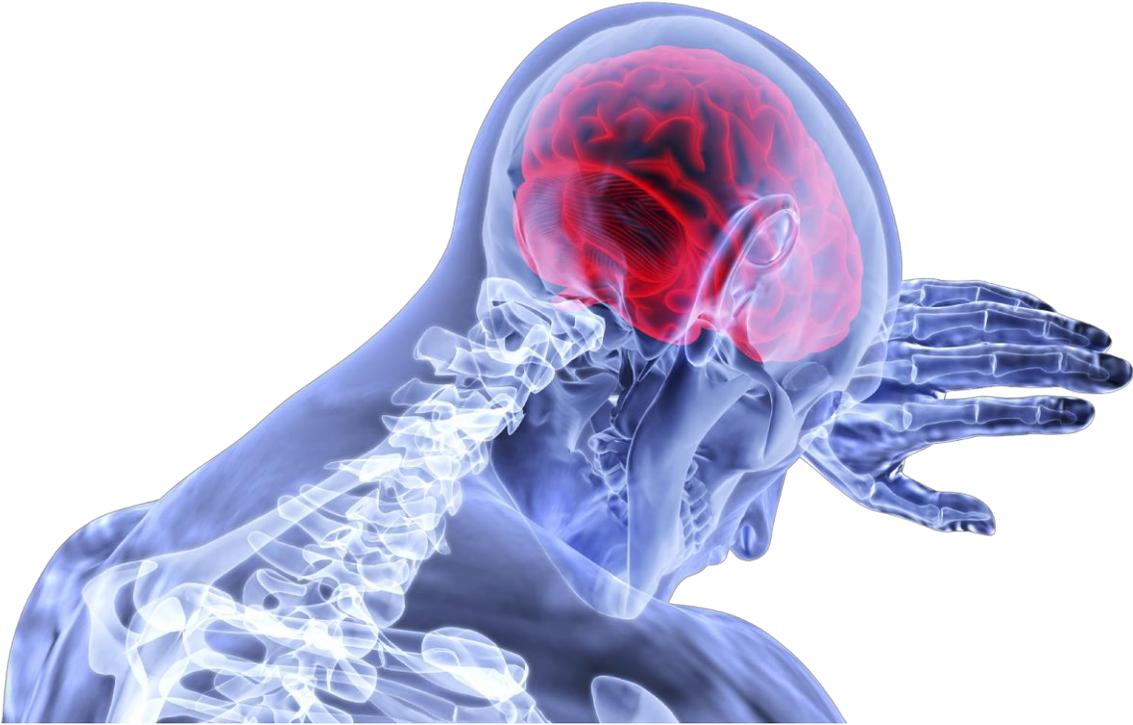
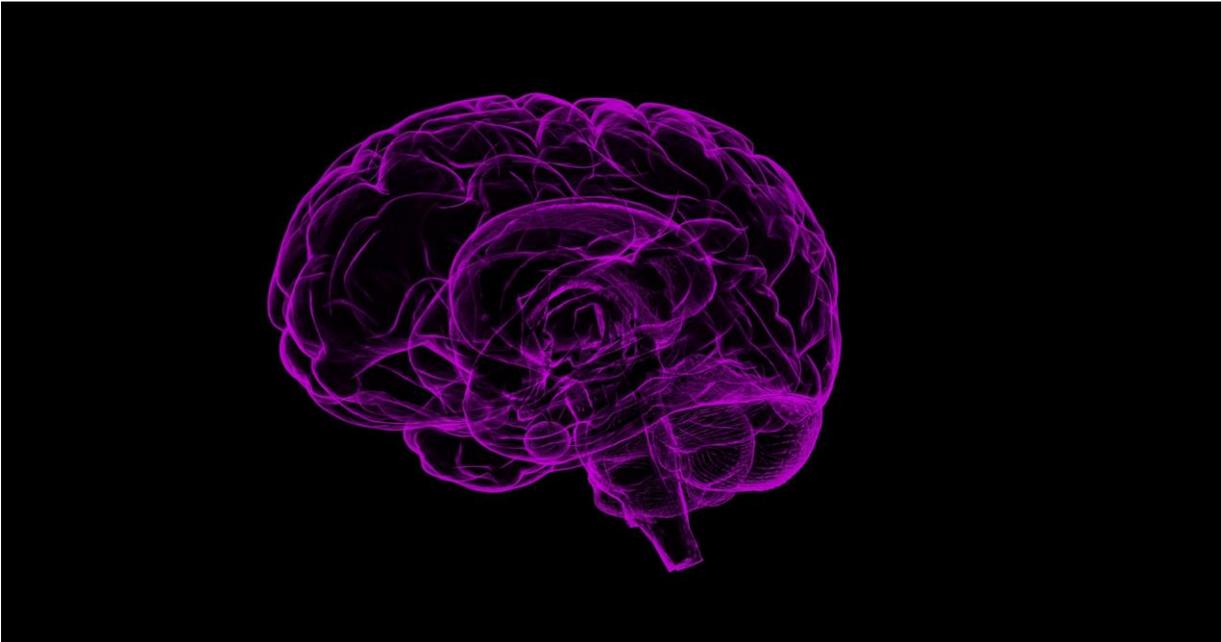
Introduction

Paramedic



Introduction

Neurology Technician



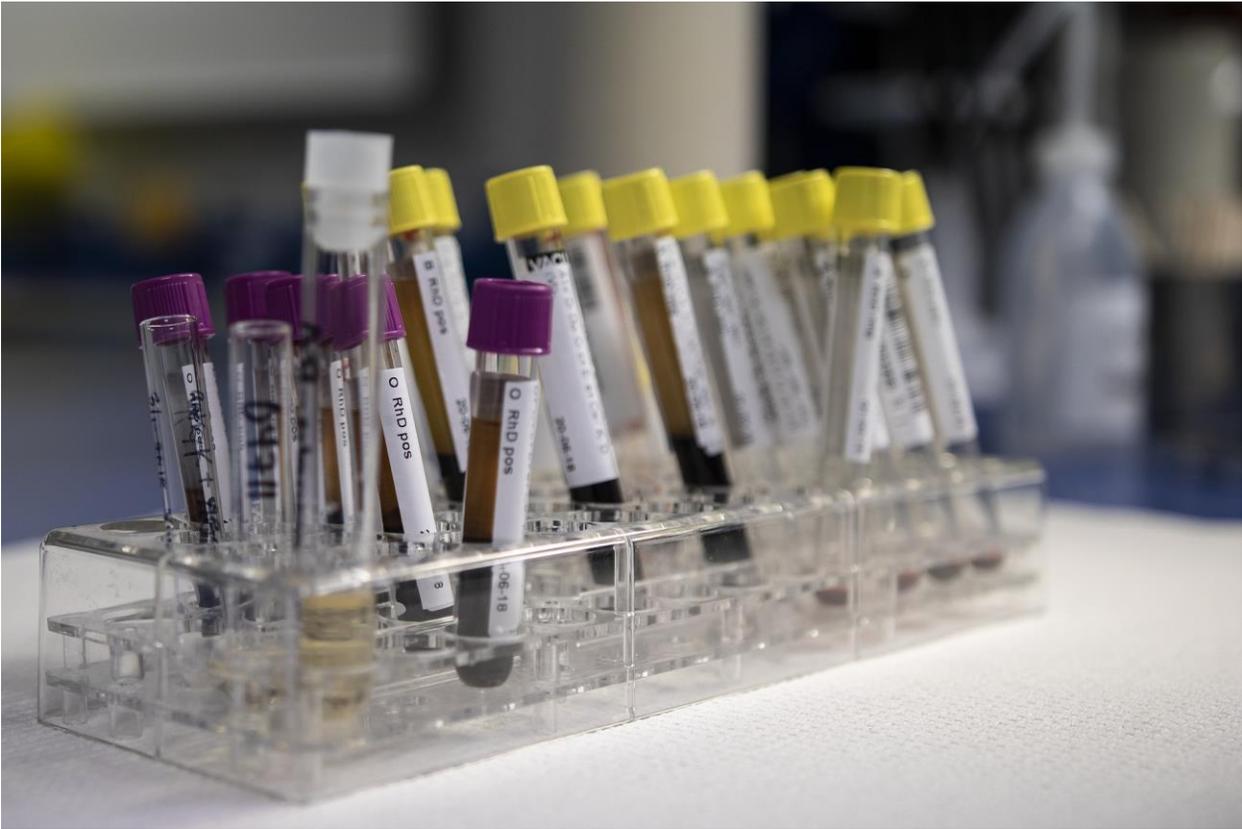
Introduction

Occupational Therapist



Introduction

Phlebotomist



Introduction

Physical Therapist



Introduction

Physician Assistant



Introduction

Radiologic Technician



Introduction

Social Worker



Introduction

## Surgical Technician



## Introduction

## Lesson 3 Respiratory Distress Lab: Procedure and Data Collection

### Control (No Straw)

1. Take the Resting Respiratory Rate of your partner.
  - a. Watch the rise and fall of their chest and count the number of breaths in 30 seconds.
  - b. Multiply that result by 2.
  - c. Record results in Table 1.
2. Take the Resting Pulse of your partner.
  - a. Count the number of beats in 15 seconds.
  - b. Multiply this number by 4.
  - c. Record results in Table 1.
3. Have the test subject complete jumping jacks for 60 seconds.
4. Take the Respiratory Rate After Exercise of your partner.
  - a. Watch the rise and fall of their chest and count the number of breaths in 30 seconds.
  - b. Multiply that result by 2.
  - c. Record results in Table 1.
5. Take the Pulse After Exercise of your test subject.
  - a. Count the number of beats in 15 seconds.
  - b. Multiply this number by 4.
  - c. Record results in Table 1.
6. Have the test subject rest at least 2 minutes before starting the next step.

### Mild Respiratory Distress (Breathing only through the large straw)

7. Repeat Steps 1 through 6.

### Moderate Respiratory Distress (Breathing only through the medium straw)

8. Repeat Steps 1 through 6.

### Severe Respiratory Distress (Breathing only through the small straw)

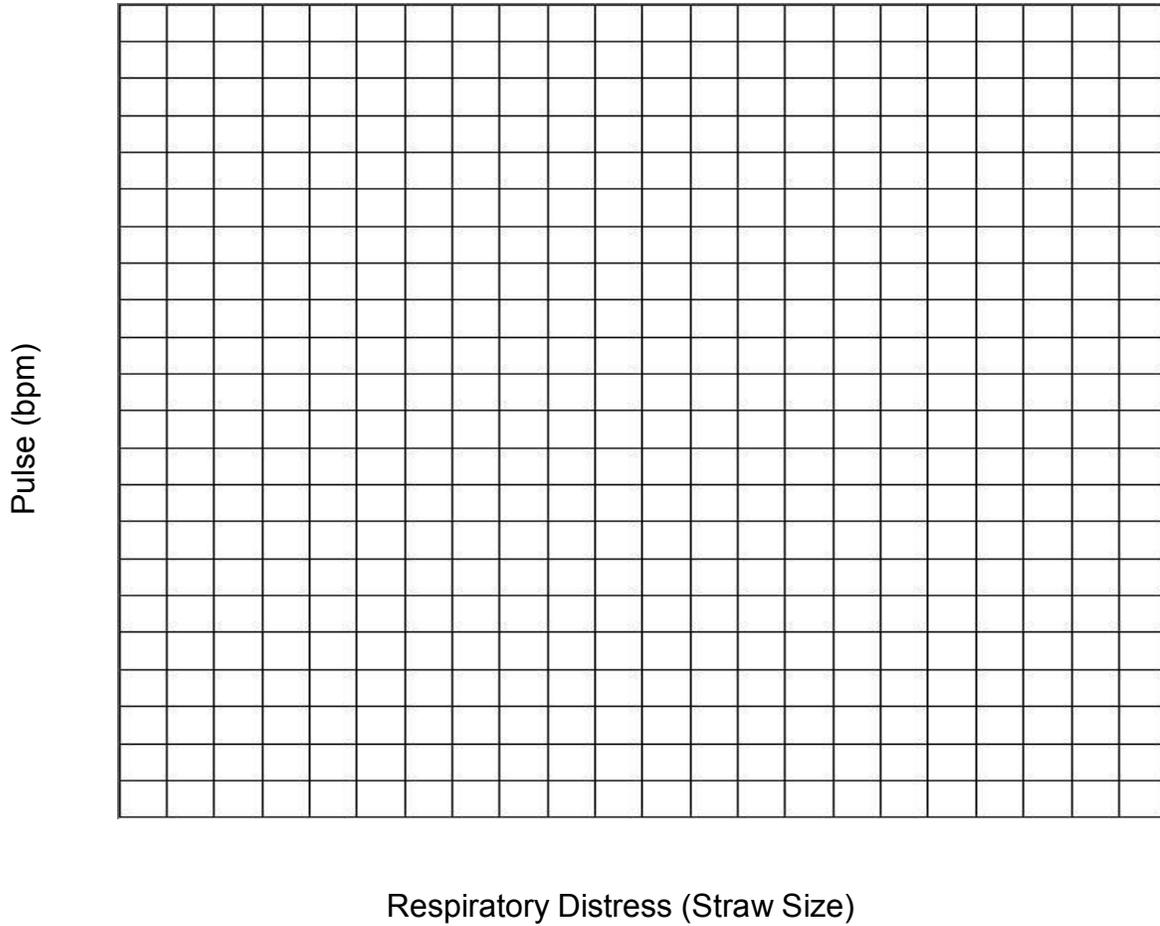
9. Repeat Steps 1 through 6.

**Table 1. Effect of Respiratory Stress on Respiratory Rate and Pulse**

<b>Control (No Straw)</b>			
<b>Resting</b>		<b>After Exercise</b>	
<b>Respiratory Rate (Breaths per minute)</b>	<b>Pulse (Beats per minute)</b>	<b>Respiratory Rate (Breaths per minute)</b>	<b>Pulse (Beats per minute)</b>
<b>Mild Respiratory Distress (Breathing only through the large straw)</b>			
<b>Resting</b>		<b>After Exercise</b>	
<b>Respiratory Rate (Breaths per minute)</b>	<b>Pulse (Beats per minute)</b>	<b>Respiratory Rate (Breaths per minute)</b>	<b>Pulse (Beats per minute)</b>
<b>Moderate Respiratory Distress (Breathing only through the medium straw)</b>			
<b>Resting</b>		<b>After Exercise</b>	
<b>Respiratory Rate (Breaths per minute)</b>	<b>Pulse (Beats per minute)</b>	<b>Respiratory Rate (Breaths per minute)</b>	<b>Pulse (Beats per minute)</b>
<b>Severe Respiratory Distress (Breathing only through the small straw)</b>			
<b>Resting</b>		<b>After Exercise</b>	
<b>Respiratory Rate (Breaths per minute)</b>	<b>Pulse (Beats per minute)</b>	<b>Respiratory Rate (Breaths per minute)</b>	<b>Pulse (Beats per minute)</b>

### Lesson 3 Respiratory Distress Lab Graph

**Directions:** Create a **bar** OR **line** graph summarizing your results from Table 1 in the grid below. Label your graph!



## Lesson 4 EMT Splinting Practicum Checklist

**Directions:** With your group, use this chart to check each step of splinting a broken limb.

<i>Long Bone Immobilization</i>	<i>Points Possible</i>	<i>Points Earned</i>
Say or show safety precautions (I am putting on gloves or act it out, etc.).	1	
Keep the extremity still and stabilized with a SAM splint or magazine (to reduce pain and further damage to site).	1	
Immobilize the joint above and below the injury (reduce pain and further damage to the site).	1	
Place something under the hand (for comfort and circulation).	1	
Wrap the forearm using an ace bandage (stabilizes injury).	1	
Access motor, sensory, and circulation before and after splinting (to ensure blood flow is not cut off to fingers and that the wrap isn't too tight).	1	
Use triangle bandage to create a sling (to support and protect injury in transport and reduce pain).	1	
<b>TOTAL</b>	<b>7</b>	

## Lesson 6 Trials Before Transfusion Lab Data Table & Lab Questions

<b>Blood Type</b>	<i>Receiver O</i>	<i>Receiver A</i>	<i>Receiver B</i>	<i>Receiver AB</i>
<i>Donor O</i>				
<i>Donor A</i>				
<i>Donor B</i>				
<i>Donor AB</i>				

**Instructions:** Record change/no change. A color change indicates a failure. Highlight successful transfusions.

## Lesson 6 KEY: Trials Before Transfusion Lab Data Table & Lab Questions

<b>Blood Type</b>	<i>Receiver O</i>	<i>Receiver A</i>	<i>Receiver B</i>	<i>Receiver AB</i>
<i>Donor O</i>	No Change	No Change	No Change	No Change
<i>Donor A</i>	Change	No Change	Change	No Change
<i>Donor B</i>	Change	Change	No Change	No Change
<i>Donor AB</i>	Change	Change	Change	No Change

**Instructions:** Record change/no change. A color change indicates a failure. Highlight successful transfusions.

## Lesson 7 Lab: Suturing a Banana

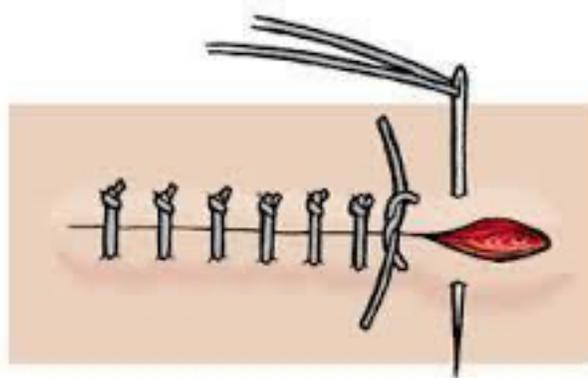
### Materials:

- Banana (1/2 per YP)
- Dental Floss (approx.: 10 inches per wound)
- Curved Needle
- Tweezers/Forceps (if needed to pull skin away from wound)

### Procedure:

1. Thread your suture material (floss) through your needle. You will need approximately 10 inches of floss per wound—modify as needed. Tie a square knot to hold the material in place.
2. Grasp the needle with the needle holder using proper holding technique.

**Non-Continuous Stitches:** Begin your sutures slightly before your wound. Tie a square knot on your first suture. Continue with interrupted stitches throughout the length of the wound. Cut off excess ends.



Proper sutures will:

- Be uniform in distance.
- Showcase knots at both ends.
- Show tightness in suture material.
- Extend the whole length of the wound.

**Continuous Stitches:** Begin your sutures slightly before your wound. Tie a square knot on your first incision. Continue with a non-interrupted stitch throughout the length of the wound. Finish with a square knot and cut off excess ends.



Proper sutures will:

- Be uniform in distance.
- Showcase knots at both ends.
- Show tightness in suture material.
- Extend the whole length of the wound.

## Lesson 8 Contamination Claims Evidence and Reasoning Note Catcher

My claim is that \_\_\_\_\_ started the epidemic. **My evidence is that...**

List the patterns you see in the data:

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**My reasoning is that...**

Who was infected:

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Who was not infected:

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## Lesson 8 Contamination Mystery

#	Student Name	Round 1	Glow?	Round 2	Glow?
1		1 shakes with 2		1 shakes with 2	
2		2 shakes with 3		2 shakes with 3	
3		3 shakes with 4		3 shakes with 4	
4		4 shakes with 5		4 shakes with 5	
5		5 shakes with 6		5 shakes with 6	
6		6 shakes with 7		6 shakes with 7	
7		7 shakes with 8		7 shakes with 8	
8		8 shakes with 9		8 shakes with 9	
9		9 shakes with 10		9 shakes with 10	
10		10 shakes with 11		10 shakes with 11	
11		11 shakes with 12		11 shakes with 12	
12		12 shakes with 13		12 shakes with 13	
13		13 shakes with 14		13 shakes with 14	
14		14 shakes with 15		14 shakes with 15	
15		15 shakes with 16		15 shakes with 16	
16		16 shakes with 17		16 shakes with 17	
17		17 shakes with 18		17 shakes with 18	
18		18 shakes with 19		18 shakes with 19	
19		19 shakes with 20		19 shakes with 20	
20		20 shakes with 1		20 shakes with 1	