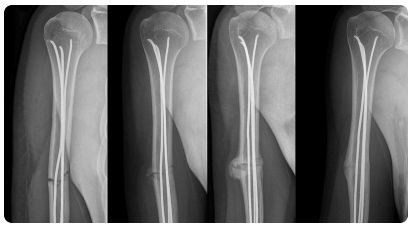
Fracture Clinic Lab

Name _____

Date _____

Period _____

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Do Now A snapped pencil stays snapped. A broken bone can grow back together. These four X-rays show one arm bone over one year. The thin white rods are metal, put in to hold it still. 2 minutes, before you open the lab

A. What does a bone have that a pencil does not?

_____

B. Where does the X-ray change most over time?

☐ At the ends of the bone ☐ Around the break ☐ Nowhere

I can classify a fracture by its shape and by whether the skin is broken. **I can** describe the four stages of bone repair in order. **I can** explain why a broken bone can heal.

Part 1. Break it Tab 1. Run all six tests.

SEP 3 · CCC 2

1. SEP 3 · Plan check. What job does each one have? Tick one in each row.

The size of the bone	☐ Changed ☐ Measured ☐ Kept the same
The kind of force	☐ Changed ☐ Measured ☐ Kept the same
Pieces, angle, still joined	☐ Changed ☐ Measured ☐ Kept the same

2. Record what the lab shows for each test. Write **none** if there is no single line.

Test	Pieces	Angle (°)	Still joined?
A. Bend, adult bone			
B. Twist, adult bone			
C. Bend and push end to end, adult bone			
D. Hard crushing blow, adult bone			
E. Push end to end, adult bone			
F. Bend, young bone			

3. Which test made a line straight across? Tick one. ☐ A ☐ B ☐ D

4. Twist angle – bend angle: the bend is 90°, the twist is _____°. Example, not yours: 80 – 30 = 50. The gap is _____°.

5. Tests A and F use the same force. What changed? ☐ The age of the bone ☐ The size of the force

6. Which test left the most pieces? Tick one. ☐ B ☐ D ☐ F

READ FIRST. In the lab, find the green Learn It box and read it. Then answer 7 to 9.

Word bank Comminuted · Greenstick · Impacted · Oblique · Spiral · Transverse · Hematoma

7. CCC 6 · Name the break from each test.

A	B	C	D	E	F

8. CCC 2 · Arm wrestling twists the upper arm hard. Which break fits? ☐ Spiral ☐ Transverse

9. CCC 6 · A young bone can bend because it has more _____ (flexible protein / hard mineral).

Part 2. Read the X-ray Tab 2. Follow the dark line.

SEP 4

10. SEP 4 · What does the break do? Fill in the middle column.

X-ray	What the line does	Name (question 12)
1. Upper arm bone		
2. A child's forearm		
3. Collarbone		
4. Ankle, thin outer bone		
5. Top of a thigh bone		

Choices for question 10 Straight across · Slanted · Curls around · Many pieces · One side only

11. Which picture needed arrows? ☐ X-ray 1 ☐ X-ray 2 ☐ X-ray 5

READ FIRST. In the lab, find the green Learn It box and read it. Then answer 12 to 13.

12. Go back to the table above. Write the name of each break.

13. SEP 6 · Give each case two labels, one for the skin and one for the shape. Word bank: Simple · Compound · Transverse · Compression · Depressed

Case	Skin	Shape
Bone came through the skin. A line straight across the shaft.		
Skin not broken. One spine bone squashed shorter.		
Skin not broken. A piece of skull pressed in.		

Part 3. Follow the repair Tab 3. Stop at all seven times.

SEP 5 · SEP 2 · CCC 4

14. Record how firmly the break holds, and write one or two words for what is in the break.

Time	Day 1	Week 1	Week 3	Week 6	Week 12	Week 26	Week 52
Holds (of 100)							
What is there							
Stage (17)							

15. SEP 5 · Points gained per week: from week 3 to week 6 _____ and from week 26 to week 52 _____. Example, not yours: (50 – 20) ÷ 6 = 5. (points gained ÷ weeks)

16. SEP 2 · Model check. The lab model leaves out: ☐ Cells at work ☐ Time ☐ The break

READ FIRST. In the lab, find the green Learn It box and read it. Then answer 17 to 20.

17. Go back to question 14. Write the stage for each time. Word bank: Hematoma · Soft callus · Bony callus · Remodeling

18. SEP 5 · Use the Perkins table in the lab. Transverse time ÷ spiral time in the same limb = _____. Lower limb time ÷ upper limb time = _____.

19. SEP 5 · A runner breaks a tibia straight across. Joined in _____ weeks. Solid in _____ weeks.

20. SEP 6 · CCC 4 · Explain it. A bone can heal because _____ bring cells and materials to the break. A pencil has none. (blood vessels / paint)