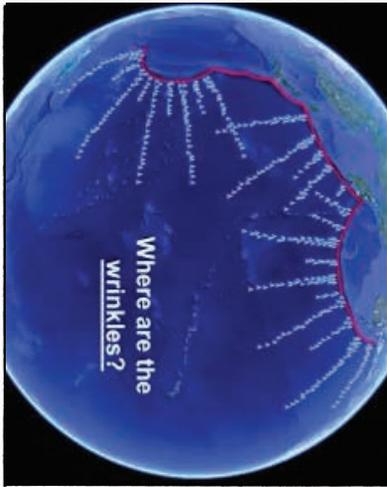


PATTERN CAN BE DOWNLOADED AT:
<https://ellenjmchenry.com/store/wp-content/uploads/2021/03/subduction-problems-model.pdf>
 No special permission needed to copy and distribute.



PROBLEM #1 Flat plates can't subduct under arc shapes without wrinkling or tearing.

↑
fold line

12 PROBLEMS WITH SUBDUCTION

Plate tectonic theory relies on subduction to explain the movement of continental plates.

For a video explanation, search YouTube for "Hydroplate Theory overview part 6 Bryan Nickel."

PROBLEM #2 There is a mass deficit over trench areas. If rock is being pushed down into trenches, we should sense more mass, not less.

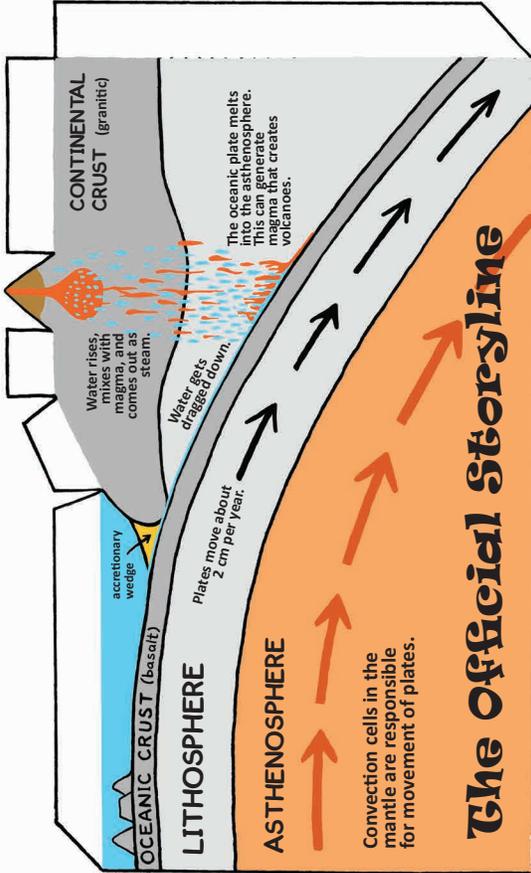
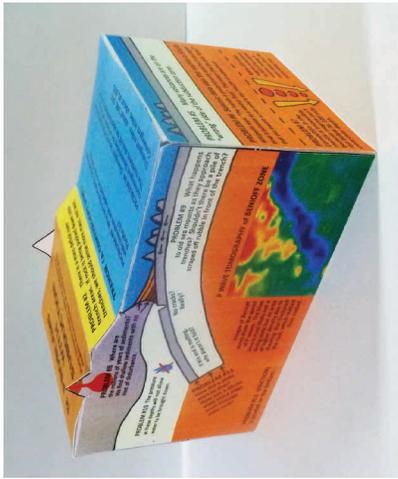
TRENCH (A CONVERGENT ZONE)

PROBLEM #3 Why isn't the Atlantic Ocean lined with trenches and subduction zones like the Pacific is?

PROBLEM #4 Divergent boundaries outnumber convergent boundaries by a factor of 5 to 1. The numbers should be approximately equal.

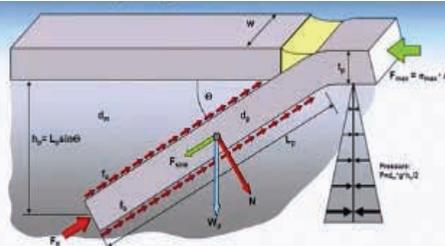
Divergent miles: about 148,000
 Convergent miles: about 30,000

↑
fold lines



The Official Storyline

PROBLEM #12 Friction is too great



Add the Subductive Forces = $F_{max} + F_{sink}$

$$= \rho_{max} \cdot Area + W_p \cdot \sin\theta$$

$$= \rho_{max} \cdot (\rho_p \cdot W) + [(d_p - d_m) \cdot g \cdot (L \cdot W) \cdot \sin\theta]$$

= 515 billion Newtons
 = 116 billion lb-force

Add the Friction Forces = $f_{above} + f_{below}$

$$\mu \cdot (P \cdot Area) + \mu \cdot (P \cdot Area + N)$$

$$\mu \cdot [(d_m \cdot g \cdot h / 2) \cdot (L_p \cdot W)] + \mu \cdot [(d_m \cdot g \cdot h / 2) \cdot (L_p \cdot W)] + [d_p \cdot g \cdot (L_p \cdot W \cdot t_p) \cdot \cos\theta]$$

= 16,500 trillion Newtons
 = 3.7 trillion lbs-force

3710E⁹ lbf

Frictional forces will prevent subduction.

PROBLEM #7 Convection in the mantle is impossible because magma can't rise below its 220 mile cross-over depth. Below 220 miles, magma compresses to half of its original volume, making it more dense than surrounding rock.

PROBLEM #6 Seismic data says the mantle is SOLID. Wikipedia says: "The mantle is predominantly solid but in geological time it behaves as a viscous fluid." This means that the only "proof" that the mantle is not solid is the THEORY of subduction!

PROBLEM #5 Many volcanoes are on the "wrong" side of the subduction zone.

PROBLEM #11 How did a plate start to die? How can a 20-mi. wide blunt edge push through solid rock?

PROBLEM #12 (FRICTION) Images of Benioff zones show the spread of P waves. The blue area is most likely not a diving plate but an area of higher density due to shearing that fractured the rock, which melted then cooled.

PROBLEM #10 The pressure at these depths will not allow water to be brought down.

PROBLEM #9 What happens to old sea mounts as they approach trenches? Shouldn't there be a pile of scraped off rubble in front of the trench?

PROBLEM #8 Where are the millions of years of sediments? We find shallow sediments with no hint of disturbance.

PROBLEM #11 If this end is melting, why doesn't it fold?

PROBLEM #10 No cracks? No cracks?

P WAVE TOMOGRAPHY of BENIOFF ZONE

ellenjmchenry.com/HPT10

PRINT ONTO 110 lb CARD STOCK

- 1) Cut around outside edges.
- 2) Consider scoring along all the fold lines before folding. This will give you very crisp, straight folds and will make assembly MUCH easier and give you a nicer finished product.
- 3) Fold all tabs and fold lines.
- 4) Use high-quality glue. (If liquid glue, try wood glue instead of white glue, and don't use too much. If glue leaks out of joint, you've used too much.)
- 5) Start by gluing the end that has 5, 6, 7.
- 6) Then glue end with blue globe.
- 7) Fold top over, and glue.