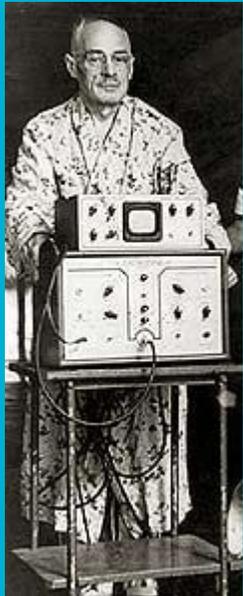
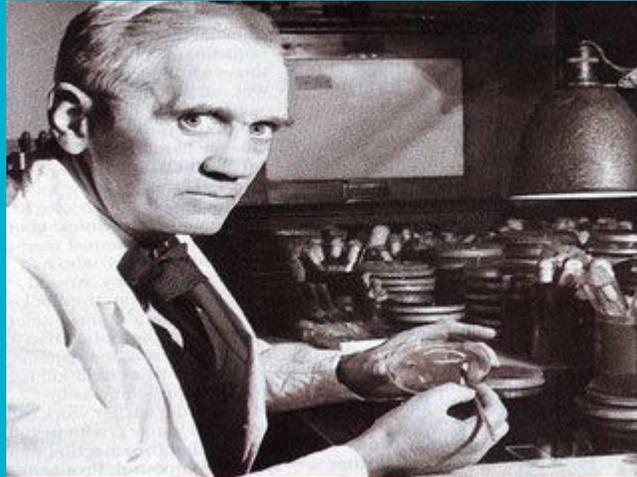


[https://www.ted.com/talks/simone\\_giertz\\_why\\_you\\_should\\_make\\_useless\\_things?utm\\_campaign=fedspread&utm\\_medium=referral&utm\\_source=tedcomshere](https://www.ted.com/talks/simone_giertz_why_you_should_make_useless_things?utm_campaign=fedspread&utm_medium=referral&utm_source=tedcomshere)



<https://www.businessinsider.com/these-10-inventions-were-made-by-mi-stake-2010-11#the-slinky-1>

"A PERSON WHO NEVER MADE A MISTAKE NEVER TRIED ANYTHING NEW." — ALBERT EINSTEIN

"YOUR BEST TEACHER IS YOUR LAST MISTAKE." — RALPH NADER

"I MEAN, THE GENERAL RULE IS IF YOU'RE NOT PREPARED TO MAKE A MISTAKE, YOU'RE NOT GOING TO MAKE MUCH PROGRESS." — MAURICE WILKINS

---

# Mistakes

"If you want to grow, you need to get over any fear you have of making mistakes." - John C. Maxwell

"Don't carry your mistakes around with you. Instead, place them under your feet and use them as stepping stones." - Unknown

"It's not how we make mistakes, but how we correct them that defines us." - Rachel Wolchin

"Mistakes are proof you are trying." - Anonymous

# The Worst Possible Mistake...

- ▶ ... Is when we view a mistake negatively and treat it as sign that we are “just not good at \_\_\_\_\_.”

# When Mistakes are Harmful: #1

- ▶ **When we get discouraged**
  - ▶ You make a mistake and interpret that mistake as a sign that you don't have potential.
  - ▶ It triggers our fixed-mindset voice, and we get frustrated or give up completely.
    - ▶ *"I'm no good at..."*

# When Mistakes are Harmful: #2

- ▶ **When we don't reflect on our mistakes**
  - ▶ We sometimes find it so unpleasant to think about our mistakes that we don't spend time reflecting on why they happened.
  - ▶ This is a huge wasted opportunity.
  - ▶ We need to realize that the mistake is a very useful signal that points us to the missing piece in our current understanding.
    - ▶ ***“I'm not going to think about...”***

# When Mistakes are Harmful: #3

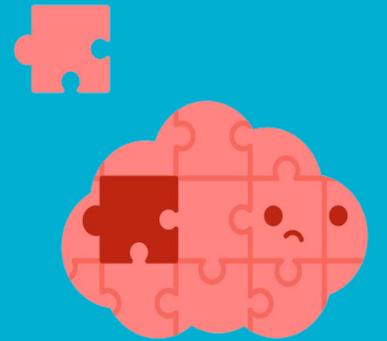
- ▶ **When we avoid taking risks or doing tasks we've made mistakes in before**
  - ▶ We avoid situations where we might make mistakes because we find the idea of making mistakes so unpleasant.
  - ▶ Unfortunately, this means that we avoid the situations where we're going to be most likely to learn the most.
    - ▶ *"I won't do that again because..."*

# Reflect

- ▶ Consider a time in a previous math class when you have made a mistake.
  - ▶ What was the mistake?
  - ▶ How did you react?
  - ▶ Did it fit one of the three categories above?
- ▶ Share with the people at your table.

# Mistakes and Puzzle Pieces

- ▶ Picture your brain like a puzzle.
  - ▶ Mistakes are the gaps where puzzle pieces are missing.
- ▶ Mistakes are clues about the missing pieces in what you know.
  - ▶ Investigating and reflecting on mistakes is one of the most effective ways to learn.
- ▶ By reflecting on and investigating your mistakes, you can complete your puzzle and continue learning.
- ▶ Don't give up on completing the puzzle.
  - ▶ If we don't pay attention to our mistakes, we're much more likely to repeat them which slows down the learning process and progress toward our goals.



# Learning from Mistakes

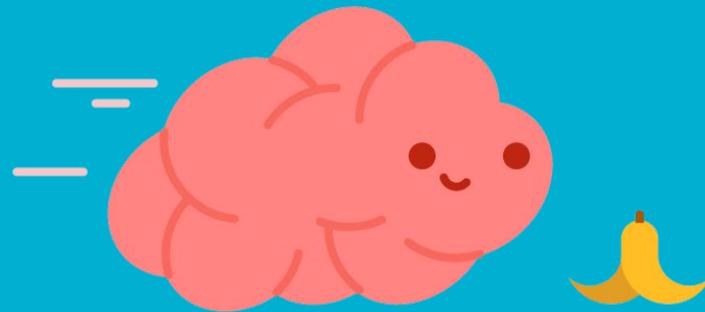
- ▶ People who are cultivating a growth mindset take a different, more positive view of mistakes.
- ▶ They view mistakes as valuable and take time to learn from them, not as something negative or something to be embarrassed by.

# Types of Mistakes

- ▶ Generally, there are three types of mistakes
  1. Rushing
    - ▶ We often call these “silly mistakes”
    - ▶ These types of mistakes you can almost always fix on your own
  2. Understanding gap
    - ▶ You understand most of the concept but there may be one or two pieces missing
    - ▶ You realize the mistake and you know where to look to complete your understanding
  3. Concept gap
    - ▶ This is a bigger mistake
    - ▶ **You can't figure it out on your own, even when you review**
- ▶ Each type of mistake is an opportunity to grow your brain

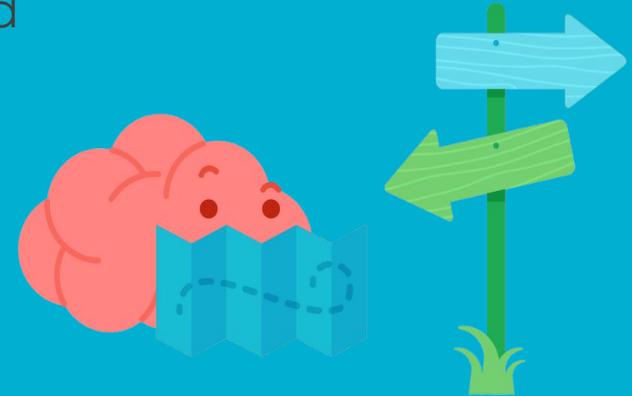
# Transformation Strategy 1 ← really fancy title

- ▶ Rushing → Slow-Down Opportunity
  - ▶ Slow down a bit, check your work a second time, take a short break.
  - ▶ Ignoring these mistakes in the short term could cause you to repeat them again and again—slowing you down much more in the long term.



# Transformation Strategy 2

- ▶ Understanding Gap → Review Opportunity
  - ▶ There are major learning gains to be made by reviewing and reflecting on a concept you missed or misunderstood.
    - ▶ Take sometime to review, re-read the chapter.
    - ▶ Look at your notes, watch a video, or take a hint.
    - ▶ Take the time to look at a sample problem.
    - ▶ Reflect on this mistake until you feel like you have mastered it and won't get tripped up again in the future.



# Transformation Strategy 3

- ▶ Concept Gap → Feedback Opportunity
  - ▶ Do not allow your fixed mindset voice to take over.
  - ▶ Taking the time to reflect on these types of mistakes is extremely valuable.
  - ▶ By reflecting on these mistakes you are completing a huge piece of the puzzle in your brain.
    - ▶ Raise your hand to ask your teacher
    - ▶ Text a friend
    - ▶ Go to academic coaching
    - ▶ Ask someone to help you!

