



# Industrial Technology Virtual Learning

**9-12 Metals :Dies**

**May 5, 2020**



Lesson: May 5, 2020

**Objective/Learning Target:**

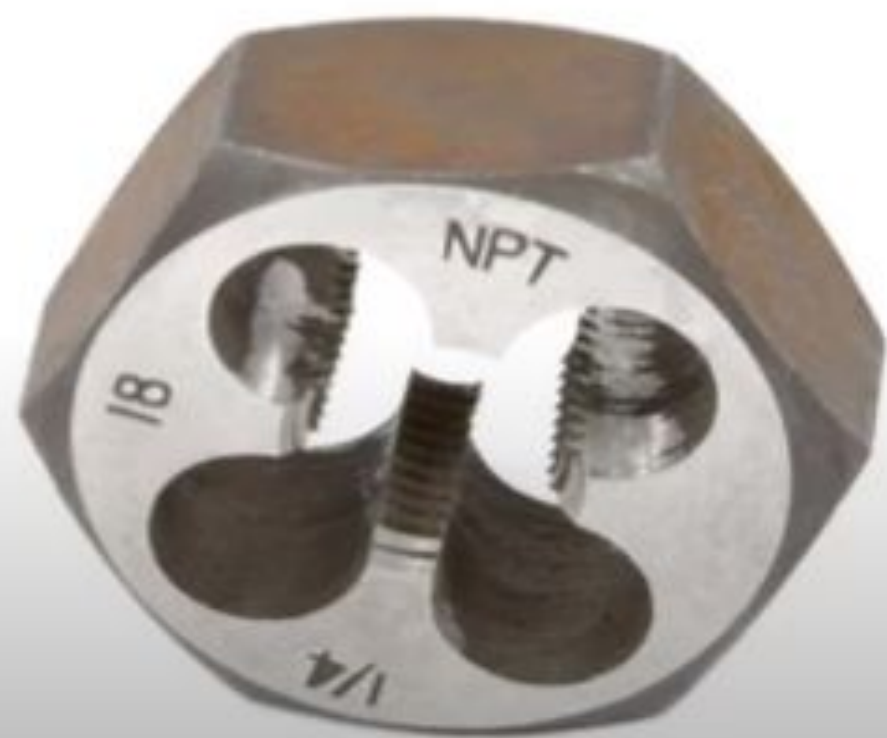
Students will explain how to use a die and be able to differentiate between types and sizes .

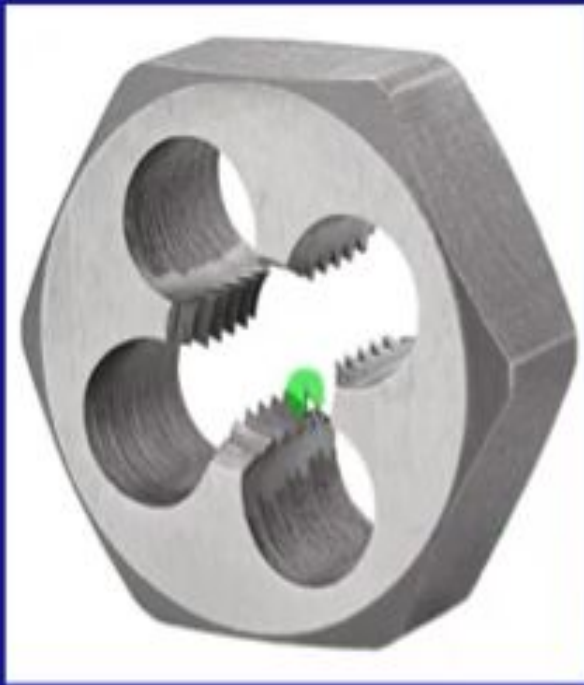
# Taps vs Dies

Tap



Die





Hex



ROUND

## DIE

- Used to make external threads on solid rod.
- Used to clean up external threads on and existing threaded rod or bolt.
- Hexagonal and Round

# SETS

## TAP and DIE



(Cut and Clean)

## RETHREADING



(Clean Only)

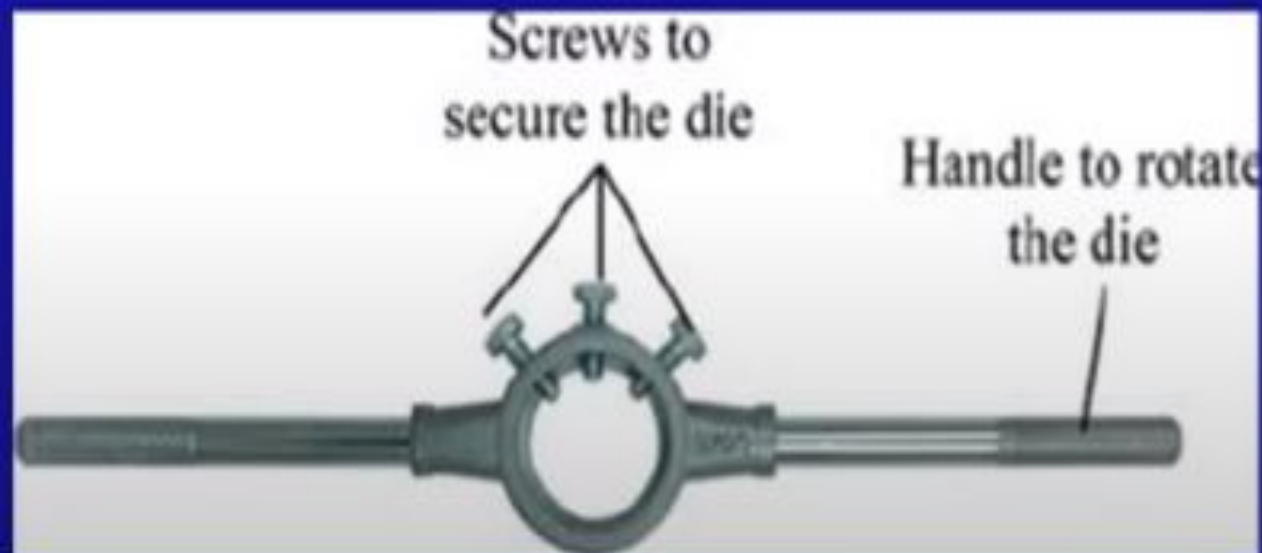
# Sizes of Dies

- Diameter x pitch



# Die Wrench

- Used to turn a Die



# Using a Die



- Use the Start this side face first.
- Thread dies onto bolt.
- Turn slowly  $\frac{1}{4}$  to a  $\frac{1}{2}$  turn at a time.
- Then reverse direction  $\frac{1}{4}$  to a  $\frac{1}{2}$  turn to clear any accumulated metal chips.
- Oil or lubricate as needed.



# Finding the Right Size

## Diameter



## Thread Pitch



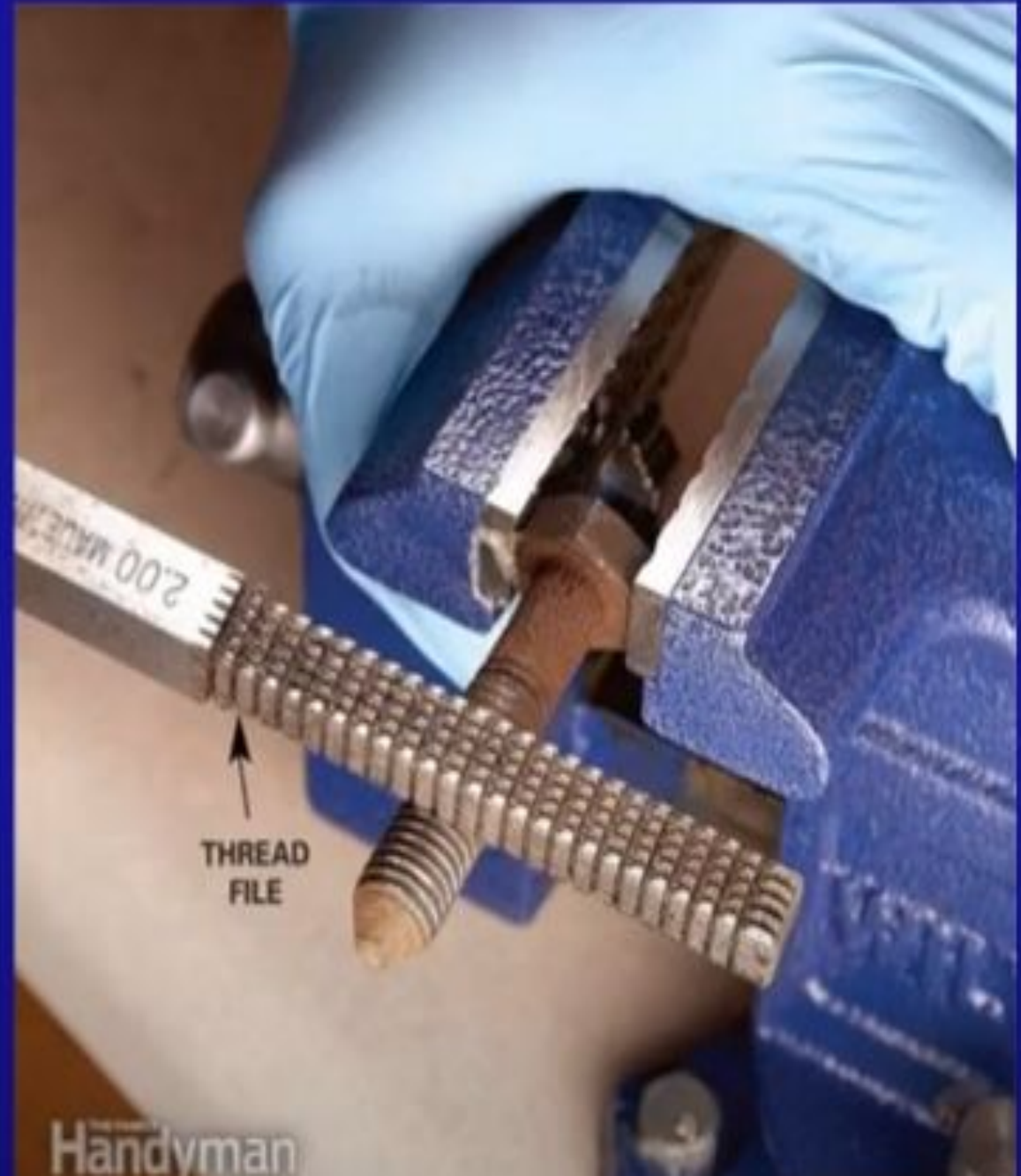
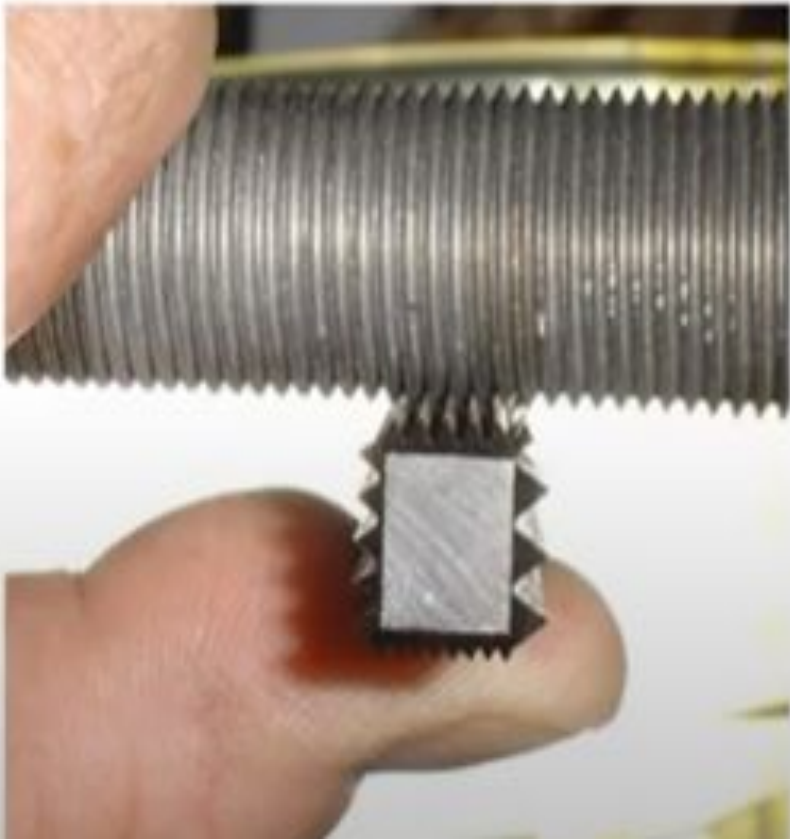
# Finding the right size

Use a Tap



# Thread File

- Used to clean and repair small nicks on threads.



# Thread Inserts

- Drill out Hole
- Tap (special tap)
- Thread insert with insert tool



# Not the Same

- Helicoil tap is Bigger!



# Review Questions

1.) What type of threads are cut with a die?

What tool is used to turn a die?

3.) when cutting threads, how far do you turn a tap at a time?

4.) should you lubricate when using a die?

5.) list 2 ways to determine the right size of die to use.