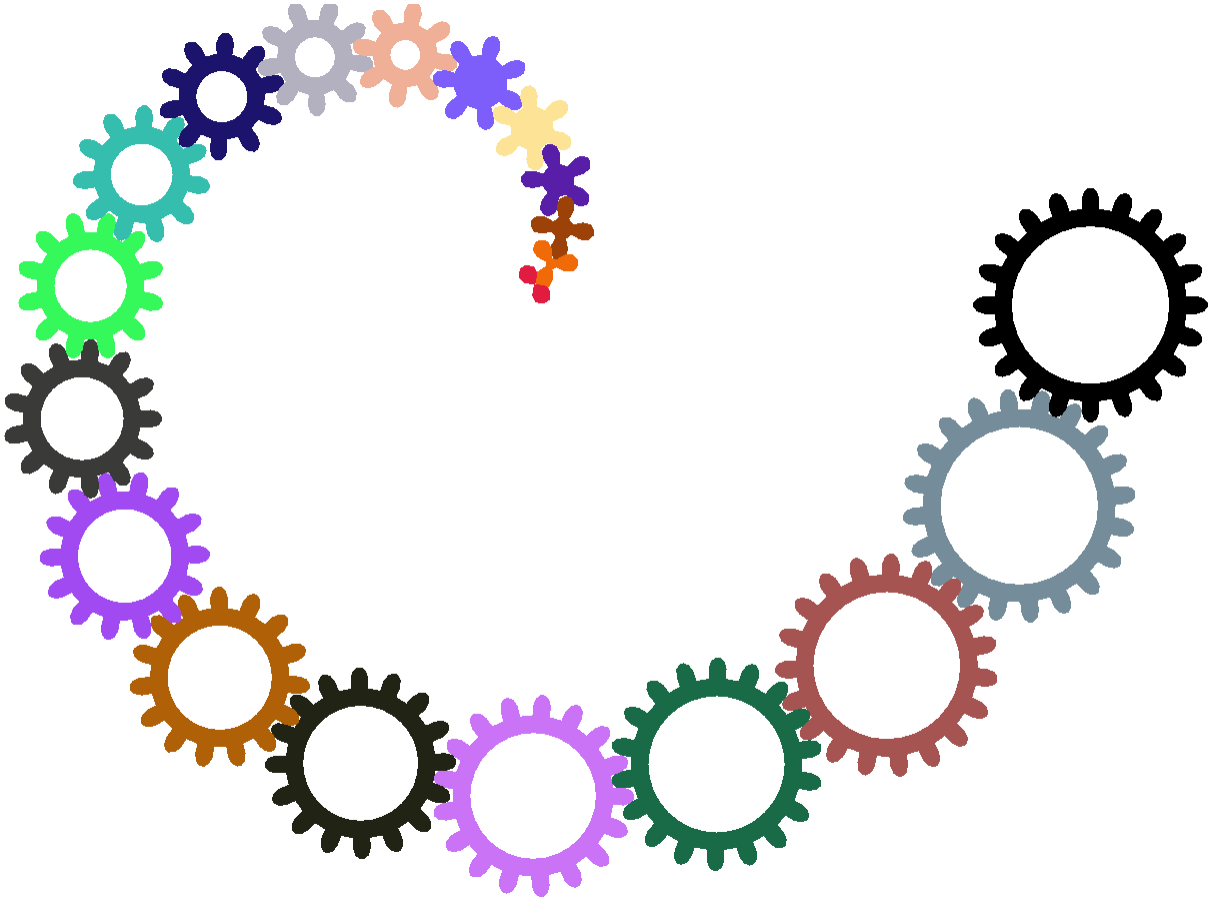
MECH 325
Gear Introduction



Objectives

By the end of this section, you should be able to:

- Identify common types of gears and describe their use
- Describe gear geometry using accepted nomenclature
- Describe the importance of the involute profile of gear teeth

Outline

- Three activities:
  - Activity 1: Identify common gears types and describe the unique features of each (15 minutes)
  - Activity 2: Gear nomenclature (10 minutes)
  - Activity 3: Involute profile discussion and animation (10 minutes)

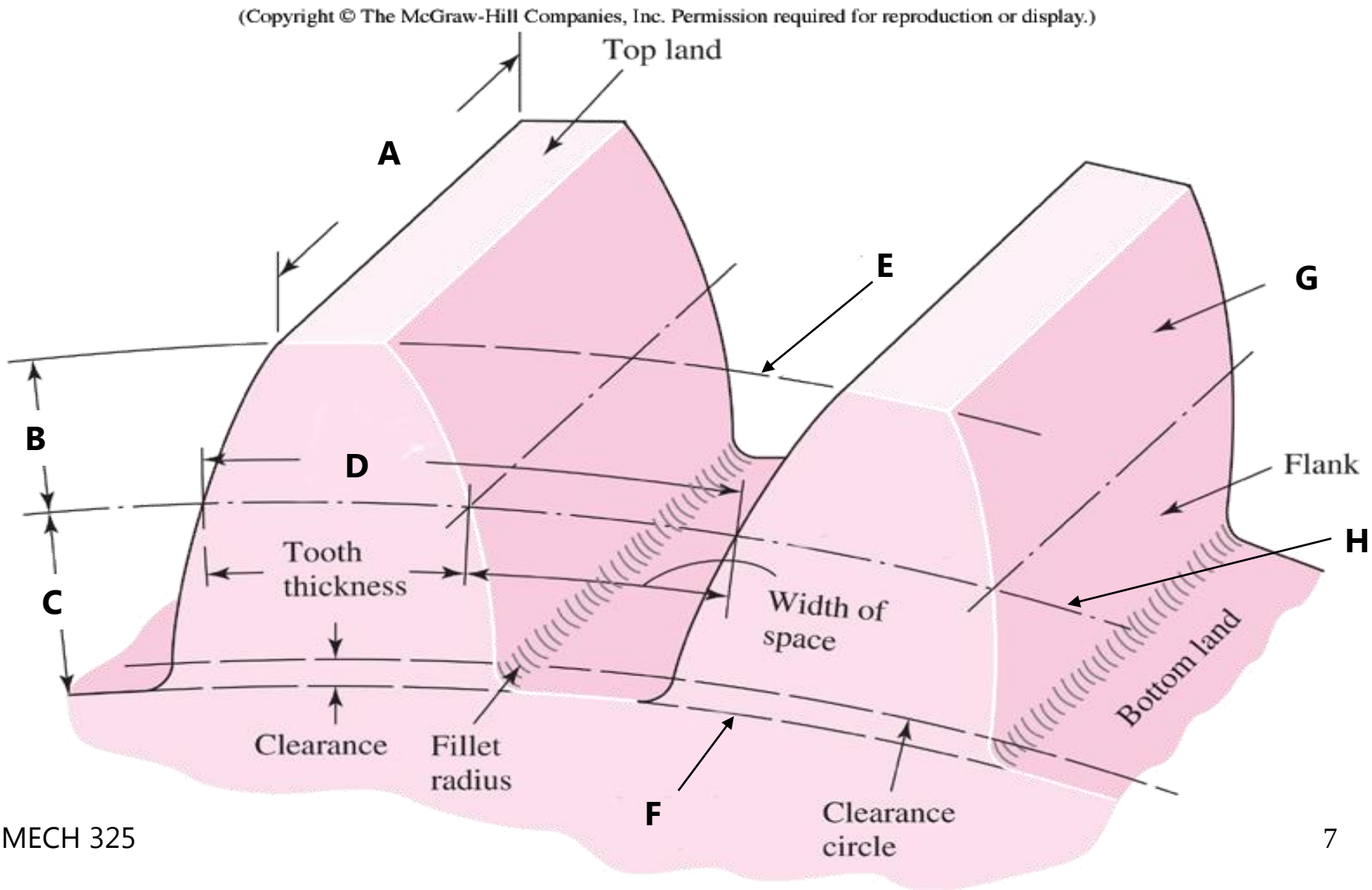
Activity 1
Identify common gear types

- In your teams, identify as many different types of gears or generic gear trains as possible
- For each one:
  - Try to use the common name (if you remember it)
  - Draw a rough sketch that highlights the key features
  - Identify any unique characteristics
- You will be sharing your findings with the class

Common Gear Types

Common Gear Trains

Activity 2: Nomenclature

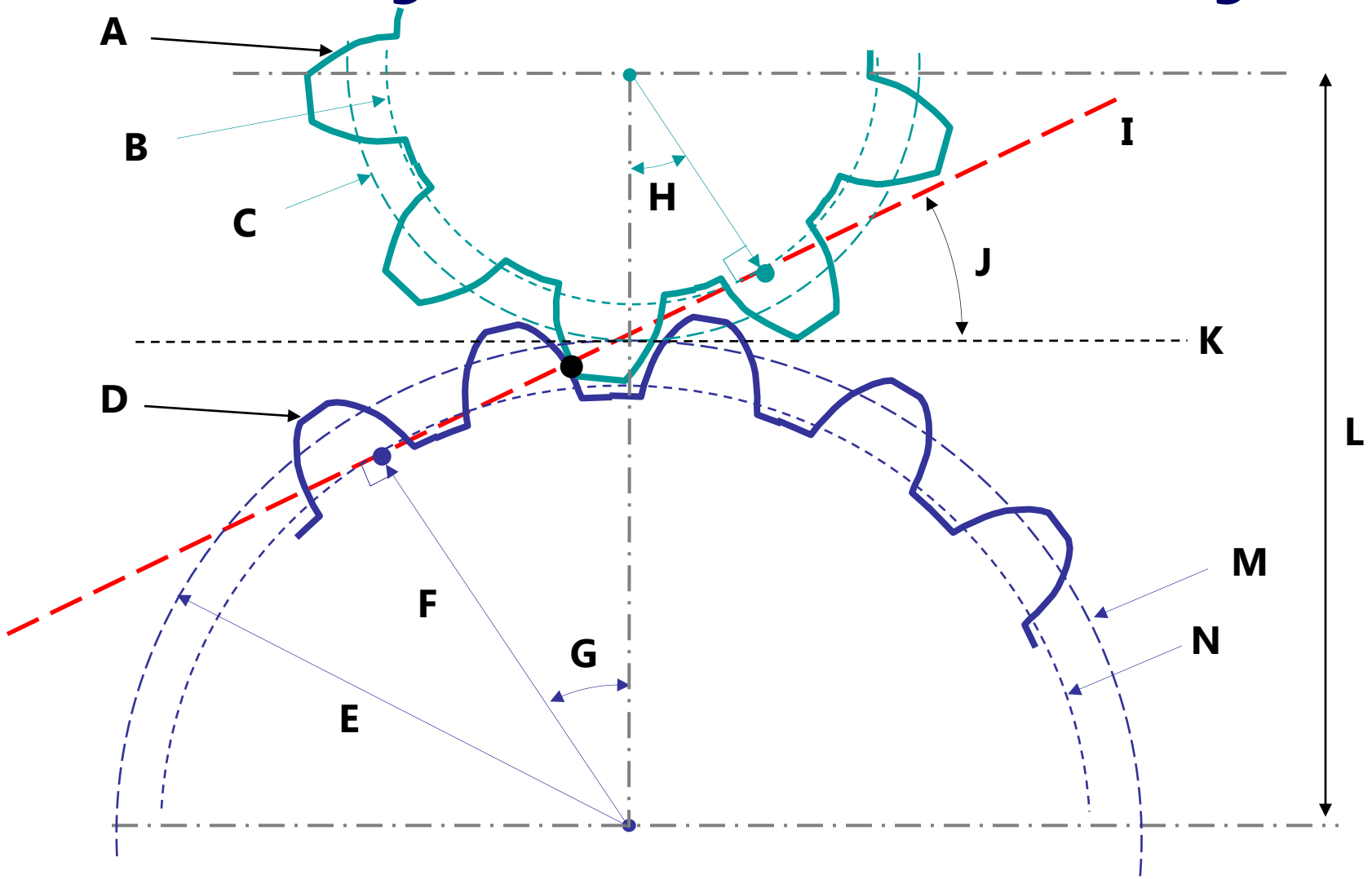


Gear Tooth Nomenclature

Identify the gear tooth geometry features

- A _____
- B _____
- C _____
- D _____
- E _____
- F _____
- G _____
- H _____

Activity 2: Gear Geometry



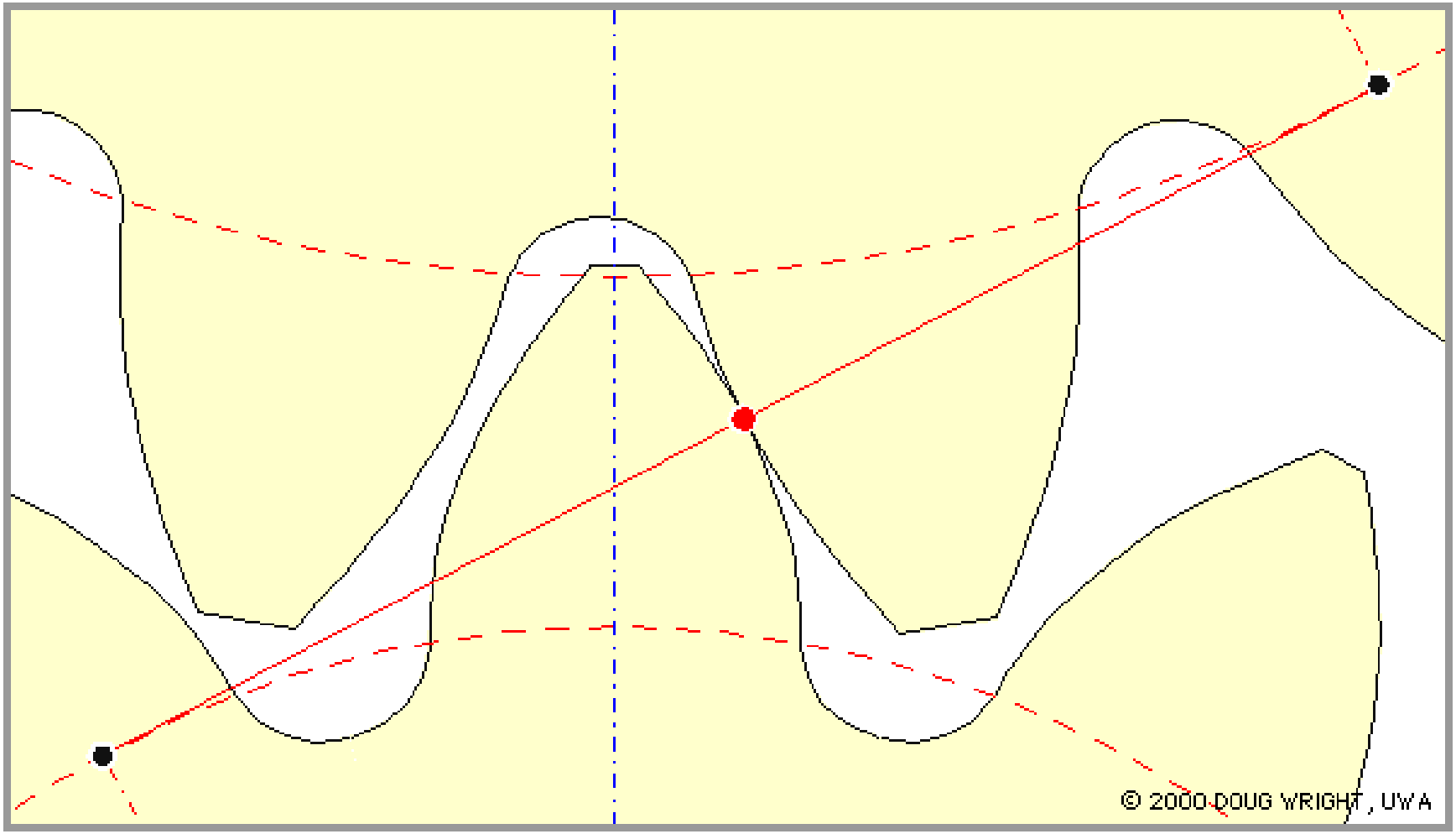
Diametral Pitch =

Gear Geometry

Give the name (and symbol if appropriate) for each feature

- A _____
- B _____
- C _____
- D _____
- E _____
- F _____
- G _____
- H _____
- I _____
- J _____
- K _____
- L _____
- M _____
- N _____

Activity 3: Involute Profile



http://www.mech.uwa.edu.au/DANotes/gears/meshing/gearAnimation.gif

Importance of Involute Profile

- What are the important features of the involute profile, and why is it important?