

Section 2 Part A – Drill speed graph

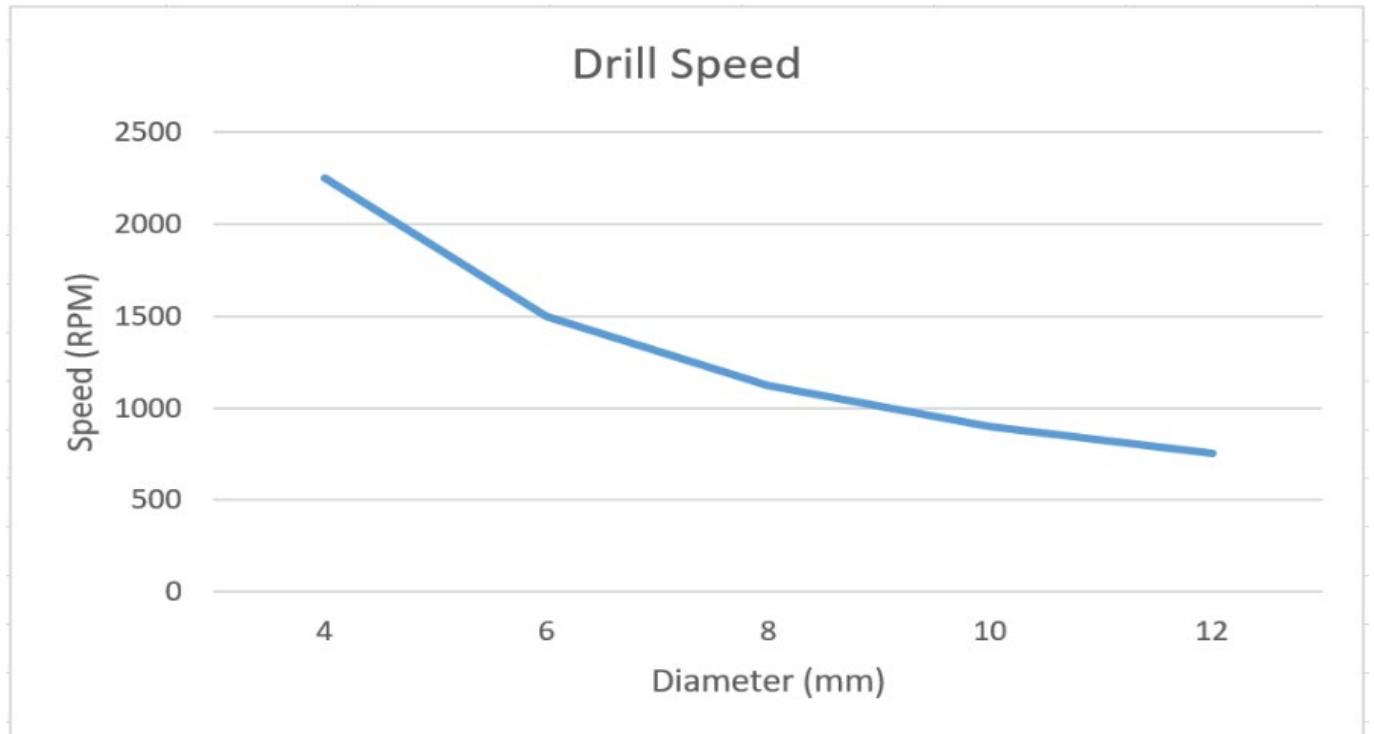
Student Instructions:

1. Enter the drill speed data into a spread-sheeting program such as Microsoft Excel
2. Generate a line graph showing Drill Diameter vs Speed
3. Take a screenshot of the graph
4. Paste your completed work below where indicated
5. Answer associated questions

Drill Speed Data

| Drill Diameter (mm) | Speed (RPM) |
|---------------------|-------------|
| 4 | 2250 |
| 6 | 1500 |
| 8 | 1125 |
| 10 | 900 |
| 12 | 750 |

Paste your line graph HERE



1. What do you notice about the speed as the diameter increases?

The speed must decrease

2. Estimate the speed used for a 20mm drill bit

Answers will differ but should be around 450

3. Calculate the Drill Speed RPM used for a 20mm drill bit using the following formula where: x = drill bit size and y = Drill Speed RPM

- $x = \underline{9000}$

y

- $20 = \underline{9000}$

y

- $20y = 9000$

- $y = \underline{9000}$

20

- $y = 450$

- Drill Speed RPM for a 20mm Drill Bit = 450

4. What was the difference between the estimate and actual speed (if there is any)?

Answers will differ