

Turning-tool stories

How Drill Bits Work

Name _____

Date _____

Show your thinking with numbers, marks, or words.

1. Little counts 24 screws in a jar. Big adds 17 more. How many screws are in the jar now?

$$24 + 17 = \underline{\hspace{2cm}}$$

Show your thinking.

2. Big has 63 screws and puts 28 into a box. How many screws stay in the jar?

$$63 - 28 = \underline{\hspace{2cm}}$$

Show your thinking.

3. Little counts 16 turns of a hand crank, then 27 more turns. How many turns does Little count altogether?

$$16 + 27 = \underline{\hspace{2cm}}$$

Show your thinking.

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4. There are 54 pencil curls on a tray. Little brushes 22 into a paper bag. How many curls remain on the tray?

$$54 - 22 = \underline{\hspace{2cm}}$$

Show your thinking.

5. Big turns an egg-beater handle 38 times, then 15 more times. How many handle turns does Big make in all?

$$38 + 15 = \underline{\hspace{2cm}}$$

Show your thinking.

6. A sand tray holds 71 small scoops of sand. A hand auger lifts out 34 scoops. How many scoops of sand remain?

$$71 - 34 = \underline{\hspace{2cm}}$$

Show your thinking.



Follow the spiral

Little found a spiral on a drill bit. As the bit turns, the cutting lips at its tip shave off tiny chips.



A thread in soap

Big turned a screw into soap. Its thread wound around like a tiny ramp, helping the screw move in with each turn.



A way out

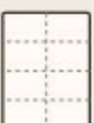
Chips need a way out of the hole. The drill bit's spiral grooves, called flutes, carry them up as it turns.



Around and up

An auger has a broad spiral. As it turns in the soil, it lifts loose dirt up and out of the hole.

Make a little book



1 Fold it into 8 boxes. Open it flat.



2 Fold short end to short end. Cut the thick line. Open it.



3 Fold the long way, pictures out. Push the ends in.



4 Fold into a book. Page 1 goes on the front!



Water takes a ride

Big turned the Archimedes screw. Pockets of water rode up the sloping tube and spilled into a cup higher than the bowl.



Keep a question

Little drew a spiral beside the turning tools. "Why does a spiral move things when it spins?" The notebook had room to wonder.



WONDER DAILY
**How Drill
Bits Work**

Give the soap test its words

How Drill Bits Work • Curiosity day

Name _____

Date _____

Say one clear command, then draw or write it.



A spiral to follow



A thread in the soap



A way out for chips

Draw the screw in the soap. Add a curl beside the thread.

turn • slowly • screw • soap • thread • curl • spiral • notice

First, ... tell how to set the soap on a tray

Then, ... tell how to turn the screw slowly

Look for, ... tell where to look for the curls

Does your command tell what to do, using a word such as Turn, Look, or Notice?