

Small stories around a bike

How a Bike Chain Works

Name _____

Date _____

Use numbers or a drawing to share your thinking.

1. Little joins 28 paper links, then adds 17 more. How many links are in the paper chain?

$$28 + 17 = \underline{\hspace{2cm}}$$

Show your thinking.

2. Big has 64 beads and threads 26 onto a model chain. How many beads are left?

$$64 - 26 = \underline{\hspace{2cm}}$$

Show your thinking.

3. Little records 23 slow pedal turns, then 19 more. How many pedal turns are recorded?

$$23 + 19 = \underline{\hspace{2cm}}$$

Show your thinking.

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4. A paper gear has 52 drawn teeth. Little colors 18. How many teeth still need color?

$$52 - 18 = \underline{\hspace{2cm}}$$

Show your thinking.

5. A bike has 32 teeth on its front sprocket and 16 on its back sprocket. How many teeth is that in all?

$$32 + 16 = \underline{\hspace{2cm}}$$

Show your thinking.

6. Little plans 15 gentle driveway laps and finishes 7. How many laps are left?

$$15 - 7 = \underline{\hspace{2cm}}$$

Show your thinking.



A push has a path

The pedals were far from the back wheel. A loop of small metal links joined them. Little wondered how a push could travel.



Bend at each pin

Tiny pins join the links. The chain bends at these joints without stretching like rubber. Sprocket teeth hook into the chain as it moves.



Turning, then pulling

Pedals turn the front sprocket. Its teeth pull the chain. The chain pulls the back sprocket, which turns the back wheel.



A loop on the table

Big turned a cardboard wheel. It pulled the bead loop, and the loop turned the smaller wheel. Little followed one bead around.

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!



One turn becomes two

The front had 32 teeth. The back had 16. One pedal turn carried enough chain past the back sprocket to turn it twice.



A push goes with you

Little pedaled beside Big. The chain carried each pull to the back wheel. Where else could a loop carry motion?



Give the chain a clear command

How a Bike Chain Works • Curiosity day

Name _____

Date _____

Choose a still view and tell what to count or draw.



Bend at each pin



Teeth to count



A loop on the table

Draw two sprockets joined by a chain. Add an arrow along the top of the chain.

chain • link • pin • sprocket • teeth • pedal • gear • pull • turn • wheel

Trace ... name the loop you will follow

Count ... name the teeth on a still sprocket

Draw ... show how a loop joins two wheels

Does your command begin with an action word, such as Trace, Count, or Draw?