Mechanical Weathering

From Rocks → To Mud

By Clare Maher

Weathering simulated using a: Rock Tumbler

(Photos of the rocks were taken after they went through a timed cycle)

What is Mechanical Weathering?

Weathering is when rocks break into smaller and smaller bits without changing their chemical structure–they are still the “same” rocks just smaller.

Mechanical weathering happens when a two substances (a rock and another thing) interact. Those “other” things can be heat from the sun, running water, other rocks, ice, or plant roots.

Mechanical weathering happens before erosion. Later, after rocks have been broken into smaller pieces, when the wind or rain moves them, that process is erosion.

Caution- you must read the instructions carefully, before using or opening the bags

How does the tumbler work?

There is a box that has a computer that allows you to set time and speed.

Tumble Barrel:

- First you put the rocks into the barrel
- then you pour whichever grit you are using.
- after that you pour room temperature water until the water covers the rocks completely.
- After that there are two lids, you put the water proof lid on first which is the rubber lid, after that you put on the other lid and then screw the screw.

HEAVY DUTY MOTOR

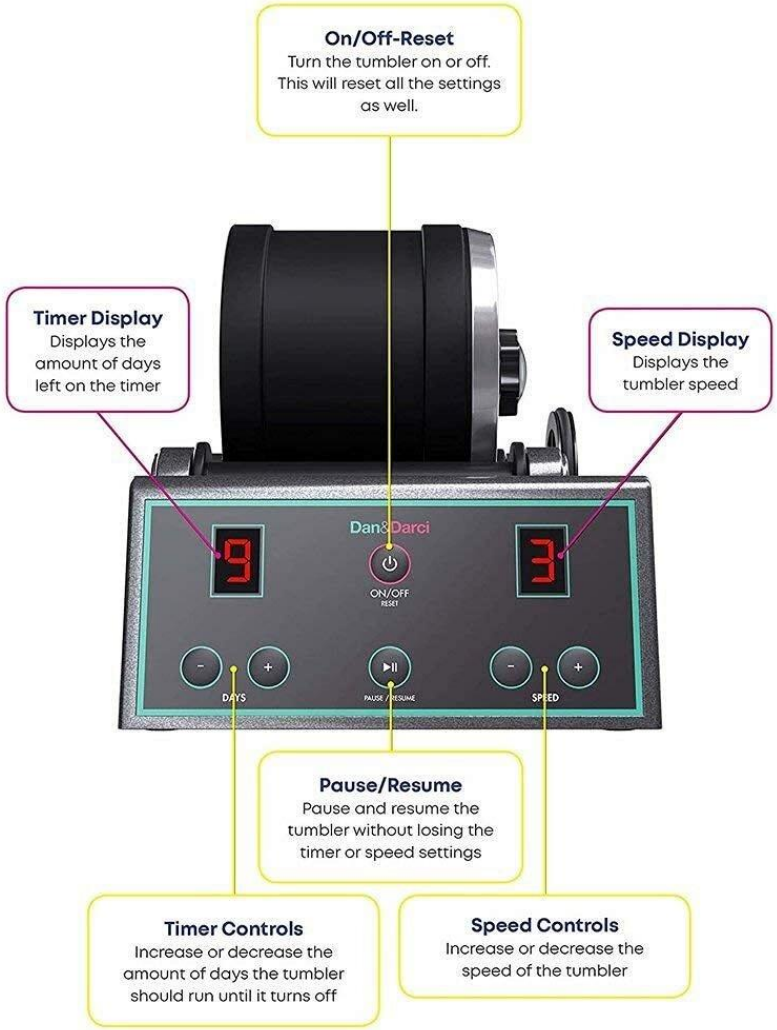
SPEED CONTROLS

SHUTOFF TIMER

LCD SCREEN

LOW NOISE PRODUCTION

LEAK-RESISTANT BARREL



Doing the TUMBLE!

- When the tumbler is filled and closed you put it on the computer box.
- For the first cycle you will put the speed at 3 and set the timer for 5 days.
- For the second cycle you will put the speed at 2 and set the timer for 6 days.
- For the third cycle you will put the speed at 1 and set the timer for 8 days.
- For the fourth cycle you will put the speed at 1 and set the timer for 8 days.

What is happening when using “grit?”

grit= silicon carbide

silicon carbide= hard and sharp strong edges, because they need to be stronger than the rock

(Grits 1-4 are just tiny hard rocks and the bigger the number the smaller the rocks in the grit bag gets.)

During the first cycle you are using grit 1 and the tough, larger particles make big adjustments (abrasions) making the edges less sharp.

In the second cycle you are doing the same thing as the first but you are using grit 2. Grit 2 is smaller sized particles so the edges on the rocks get smaller abrasions.

In the third cycle you are using the grit 3 – grit 3 has even smaller sized particles. Those smaller abrasions help to give the rocks a pre shine.

And last but not least in the fourth cycle you are using grit 4, the smallest sized particles making the smallest abrasions, and that shines the rock completely.

The Rocks to become Weathered!

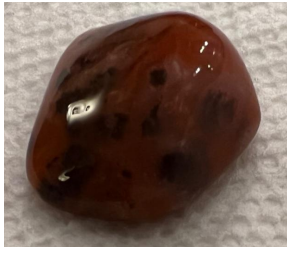
1


KEEP OUT OF REACH OF CHILDREN
Dan&Darci
ADVANCED
ROCK TUMBLER
grit
#1
COARSE

2

3

4



Congratulations!

Now you can decorate your room with pretty rocks or you can show of your rocks at school.

Conclusions and thoughts for next time…

Rock I accidentally left ou

Things I have learned.

How to work a rock tumbler, how to take good photos (last grit), that rocks get very small after the cycle, and that you can have erosion happen in your house! And last but not least the time and patience you need.

Things I should do better next time

Get a plan before you start the tumbler, and to make shor you don't leave out a rock/check two times, before you start a diffren't cycle.
Use one camera.