

HOW TO DRAW

ARTEMIS

NASA'S SPACE LAUNCH SYSTEM

ORION SPACECRAFT

THE ORION SPACECRAFT'S CREW MODULE CAN HOLD UP TO FOUR ASTRONAUTS.

CORE STAGE

THE CORE STAGE STORES LIQUID HYDROGEN, LIQUID OXYGEN AND THE SYSTEMS FEEDING THE STAGE'S FOUR RS-25 ENGINES.

SOLID ROCKET BOOSTERS

THE BOOSTERS HELP THE ROCKET REACH THE SPEED NECESSARY TO LEAVE THE EARTH BEHIND: 17,500 MILES PER HOUR!

WE ARE GOING!

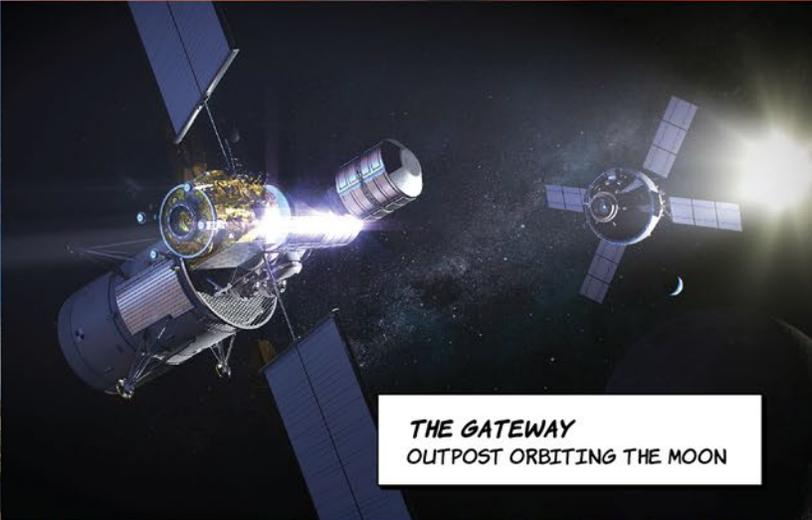


WITH THE ARTEMIS PROGRAM, NASA WILL LAND THE FIRST WOMAN AND NEXT MAN ON THE MOON BY 2024, USING INNOVATIVE TECHNOLOGIES TO EXPLORE MORE OF THE LUNAR SURFACE THAN EVER BEFORE.

LEARN MORE: [NASA.GOV/ARTEMIS](https://www.nasa.gov/artemis)



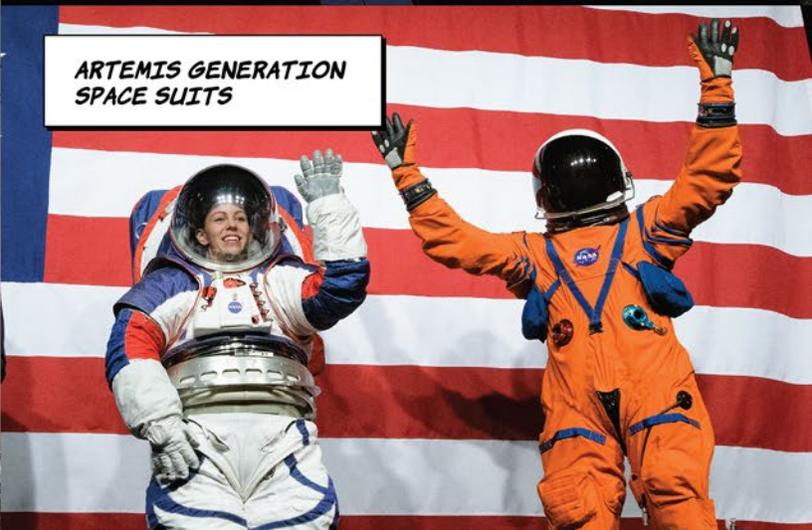
THE SPACE LAUNCH SYSTEM
WORLD'S MOST POWERFUL ROCKET



THE GATEWAY
OUTPOST ORBITING THE MOON



ORION SPACECRAFT
DESIGNED FOR DEEP SPACE

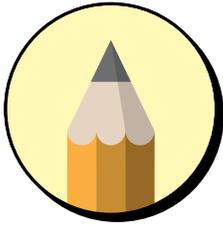


ARTEMIS GENERATION
SPACE SUITS

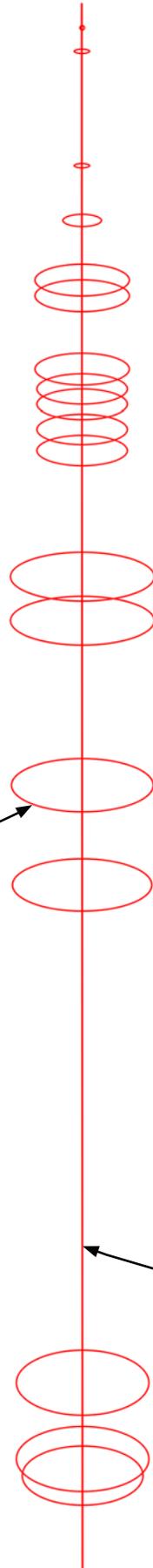
1. LET'S DRAW THE SPACE LAUNCH SYSTEM ROCKET!

THE ROCKET CAN BE DRAWN USING SIMPLE SHAPES. IT IS MADE OF SEVERAL SETS OF CONES AND CYLINDERS.

USING THE PENCIL, DRAW A VERTICAL LINE AND A SERIES OF OVALS THAT YOU WILL USE TO CREATE THE BASIC SHAPE OF THE ROCKET.



DRAW THESE SHAPES USING A PENCIL

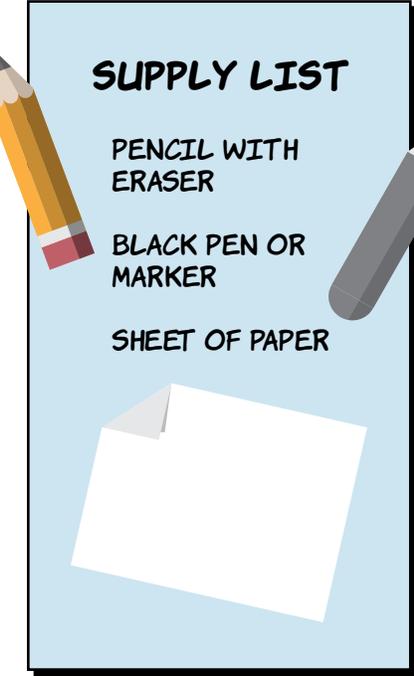


SUPPLY LIST

PENCIL WITH ERASER

BLACK PEN OR MARKER

SHEET OF PAPER

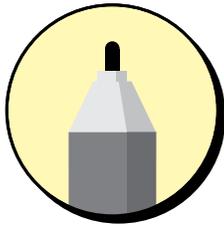


THIS ACTIVITY REQUIRES A PENCIL AND A BLACK PEN OR A MARKER.

YOU WILL USE THE PENCIL TO DRAW THE GUIDELINES AND THE MARKER TO DRAW THE FINAL SHAPES FOR EVERY STEP.

THE CURRENT SHAPES TO BE DRAWN ARE SHOWN IN RED.

2. DRAW THE OUTER BOUNDARY LINES AND ENGINE NOZZLES.



DRAW THESE SHAPES USING A **BLACK PEN**

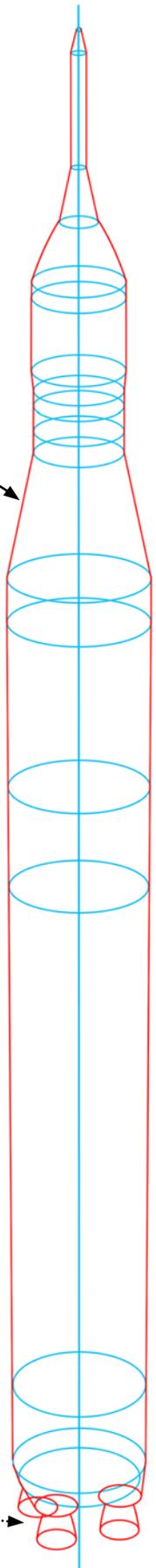
DRAW THE OUTLINE OF THE UPPER STAGE OF THE ROCKET, FOLLOWING THE SHAPE OF THE OVALS ALL THE WAY TO THE CONE-LIKE LAUNCH VEHICLE STAGE ADAPTER.

THIS CREATES THE SHAPE OF THE UPPER STAGE OF THE SLS ROCKET AND THE ORION SPACECRAFT.

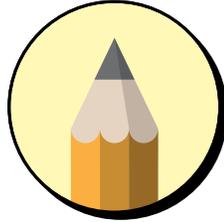
FROM THE CONE SHAPE OF THE LAUNCH VEHICLE STAGE ADAPTER, OUTLINE THE LARGEST PART OF THE ROCKET - THE CORE STAGE.

FUN FACT
WITH THE FOUR RS-25 ENGINES, SLS WILL COMPLETE MISSIONS MORE CHALLENGING THAN ANY NASA HAS EVER ATTEMPTED.

COMPLETE THE ENGINE SECTION BY ADDING THE OUTLINES OF RS-25 ENGINES AT THE BASE OF THE CORE STAGE.



3. ADD SOME DETAILS TO THE ROCKET.



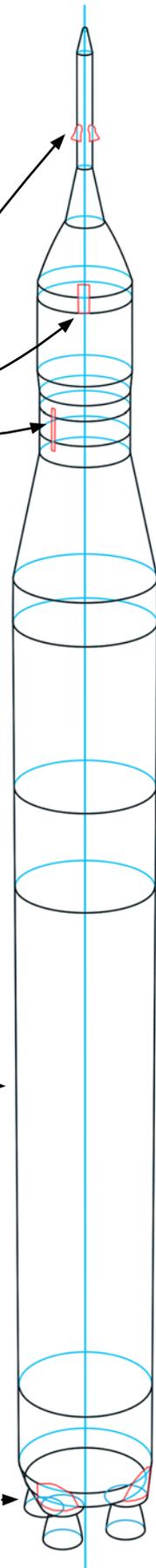
DRAW THESE SHAPES USING A PENCIL

FUN FACT

ALL 537,000 GALLONS OF THE CORE STAGE'S CHILLED LIQUID HYDROGEN COMBUST WITHIN 8.5 MINUTES OF LIFTOFF.

FUN FACT

THE RS-25 ENGINES HELPED POWER THE SPACE SHUTTLE FOR MORE THAN 3 DECADES. FOR SLS, THEY HAVE BEEN UPDATED AND IMPROVED FOR MORE POWER.



ADD DETAILS OF THE ABORT MOTOR POSITIONED NEAR THE TOP OF THE LAUNCH ABORT SYSTEM.

DRAW THE BOX-SHAPED UMBILICAL BETWEEN THE ORION SPACECRAFT AND THE SERVICE MODULE.

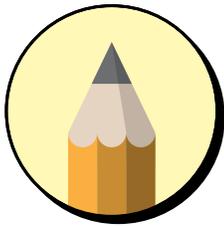
ADD IN THE FUEL RAIL VISIBLE ON THE SIDE OF THE INTERIM CRYOGENIC PROPULSION STAGE.

FUN FACT

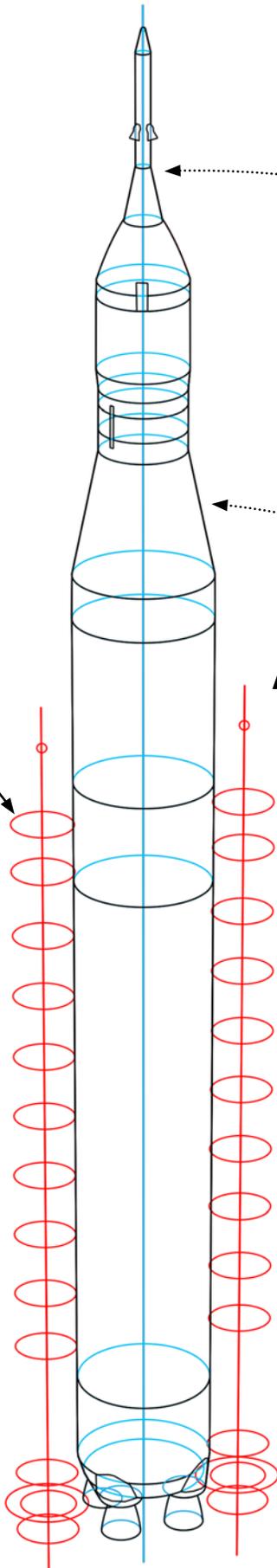
IF THE SLS CORE STAGE WERE TO BE REDUCED TO THE SIZE OF A SOFT DRINK CAN, ITS OUTER WALLS WOULD BE HALF AS THICK AS THOSE OF THE CAN.

USE THE PENCIL TO ADD SKIRT DETAIL TO THE ENGINE SECTION.

4. DRAW THE CENTER LINES AND OVALS OF THE SOLID ROCKET BOOSTERS.



DRAW THESE SHAPES USING A PENCIL



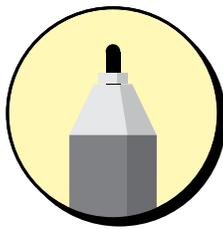
FUN FACT
THE LAUNCH ABORT SYSTEM PULLS THE CREW TO SAFETY IF THERE IS AN ISSUE DURING LAUNCH.

FUN FACT
THE LAUNCH VEHICLE STAGE ADAPTER PROTECTS DELICATE PROPULSION SYSTEMS FROM EXTREME CONDITIONS DURING LAUNCH.

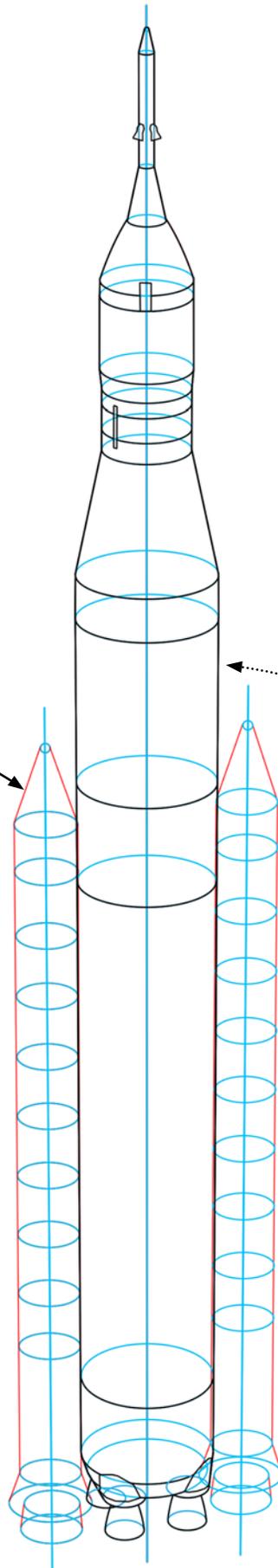
DRAW A STRAIGHT LINE AS A GUIDE ALL THE WAY DOWN BOTH SIDES OF THE ROCKET.

THEN, DRAW OVALS OF THE SAME SHAPE DOWN THE LINE AS PICTURED. THESE ARE THE SOLID ROCKET BOOSTERS.

5. DRAW LINES
TO DEFINE THE
SOLID ROCKET
BOOSTERS.



DRAW THESE SHAPES
USING A **BLACK PEN**



FUN FACT
ON ITS FIRST ARTEMIS MISSION,
SLS WILL SEND AN UNCREWED ORION
40,000 MILES BEYOND THE MOON.

THE OUTLINES OF THE
SOLID ROCKET BOOSTERS
RESEMBLE A PAIR OF
PENCILS THAT FLARE AT
THE BOTTOM.

6. DRAW DETAIL OVALS FOR THE BOOSTER PAIR.

FINALLY, ADD SOME OVALS
AT THE TOP AND BOTTOM
TO PROVIDE ADDITIONAL
DETAIL TO THE SOLID
ROCKET BOOSTERS.

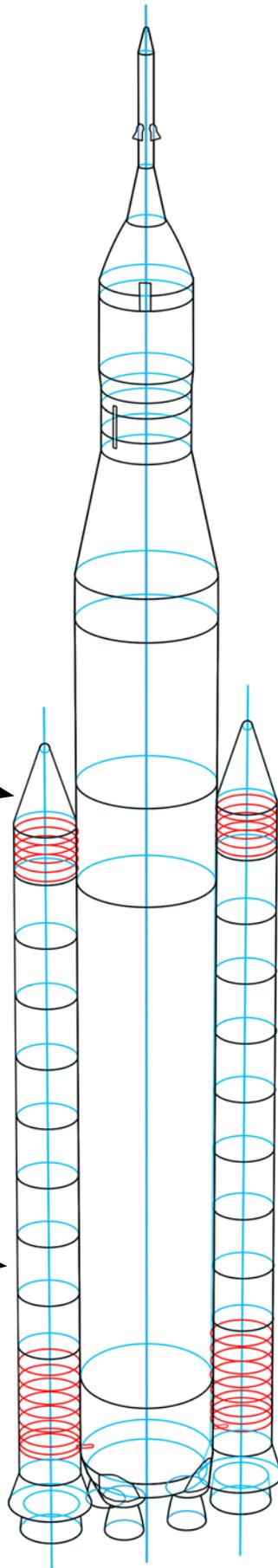
FUN FACT

THE SLS SOLID ROCKET BOOSTERS
PROVIDE MORE THAN 75% OF THE
TOTAL THRUST DURING THE FIRST
TWO MINUTES OF LAUNCH.

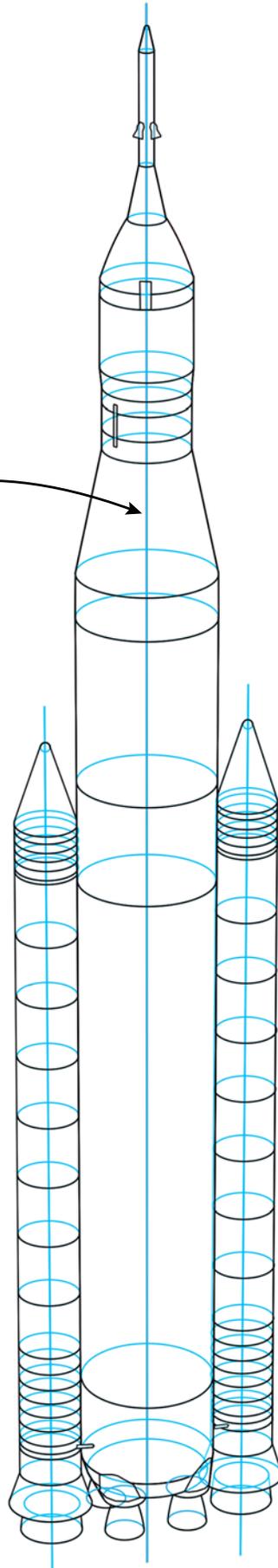
FUN FACT

THESE 5 SEGMENT SOLID ROCKET
BOOSTERS ARE NEW AND IMPROVED
VERSIONS OF THE 4 SEGMENT
SOLID ROCKET BOOSTERS USED
WITH THE SPACE SHUTTLE.

DRAW THESE SHAPES
USING A PENCIL



7 ERASE THE
GUIDE LINES.

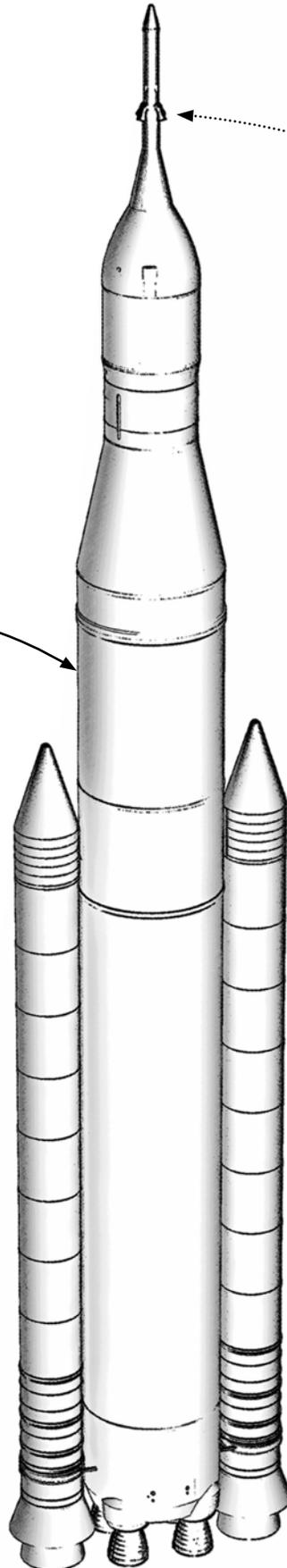


ERASE THE PENCIL
GUIDELINES. THEY ARE
SHOWN HERE IN BLUE.

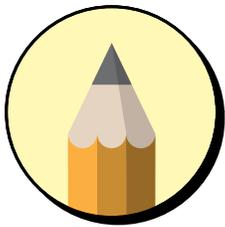
ONLY THE INK DRAWING
SHOULD REMAIN. YOU'RE NOW
READY TO ADD SHADING.

ERASE THE
PENCIL LINES

8. ADD SHADING TO YOUR DRAWING.



FUN FACT
THE LAUNCH ABORT SYSTEM
ABORT MOTORS GENERATE
ENOUGH THRUST TO LIFT 26
ELEPHANTS OFF THE GROUND.



USE THE SIDE OF THE
PENCIL LEAD TO ADD
SOFT SHADING EFFECTS.

ARTIST HINT:
SHADING YOUR DRAWING ADDS
DEPTH AND DEFINITION TO THE
ROCKET.

VARIATIONS IN THE LINE
THICKNESS MAKES YOUR
DRAWING MORE INTERESTING.

9. ADD MORE DETAILS AND COLOR TO YOUR ROCKET!

ARTIST HINT:

REFER TO THE IMAGE ON THE FRONT COVER TO ENHANCE YOUR DRAWING EVEN FURTHER WITH COLORS AND MARKINGS.

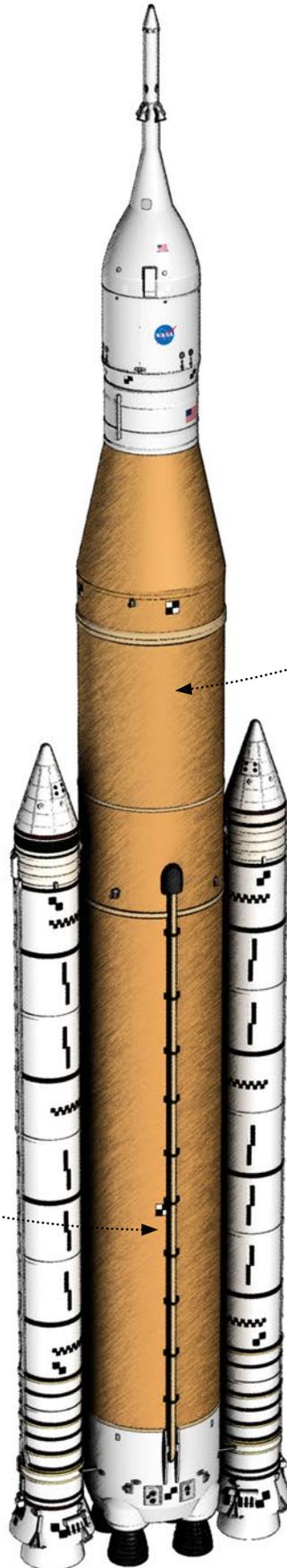
ADD SOME FLAMES AND SMOKE TO SIMULATE LAUNCHING YOUR ROCKET!

FUN FACT

A PAIR OF FUEL RAILS TRANSFER LIQUID OXYGEN TO THE FOUR RS-25 ENGINES.

FUN FACT

SLS WAS BUILT FOR DEEP SPACE MISSIONS, LIKE GOING TO THE MOON, MARS AND BEYOND.



DON'T FORGET TO SHARE YOUR MASTERPIECE ON SOCIAL MEDIA!

#DRAWARTEMIS



National Aeronautics and Space Administration

www.nasa.gov
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