

# 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!**

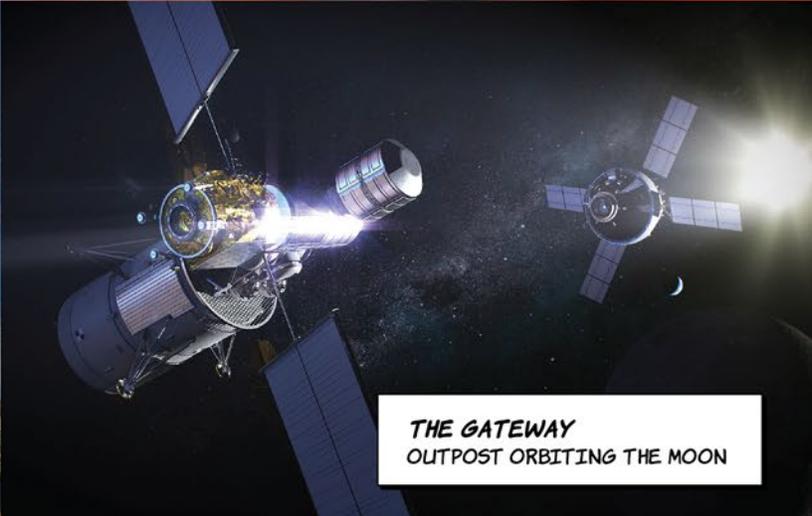
WITH THE ARTEMIS PROGRAM, NASA WILL LAND THE FIRST WOMAN AND NEXT MAN ON THE MOON BY 2024, USING INNOVATIVE TECHNOLOGIES TO EXPLORE MORE OF THE LUNAR SURFACE THAN EVER BEFORE.

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

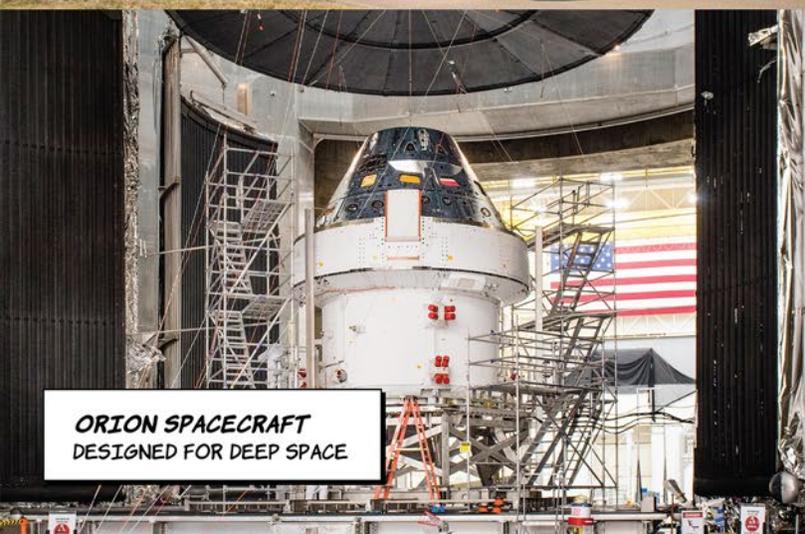
**THE SPACE LAUNCH SYSTEM**  
WORLD'S MOST POWERFUL ROCKET



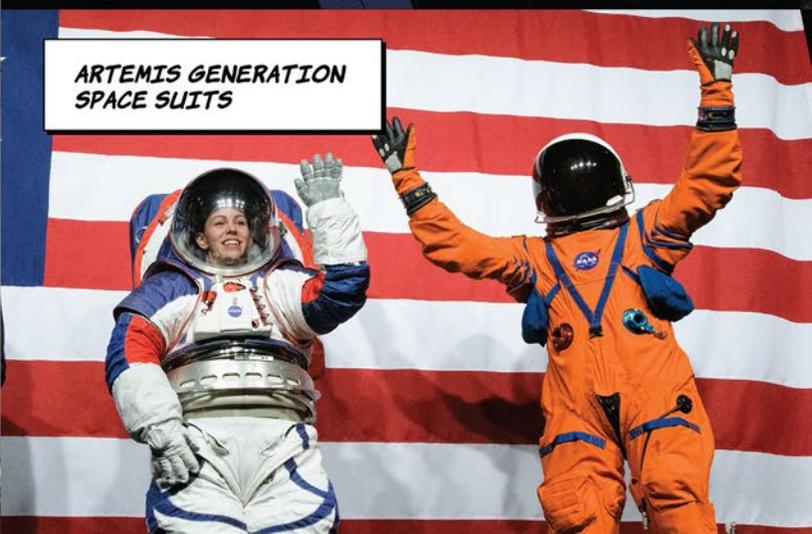
**THE GATEWAY**  
OUTPOST ORBITING THE MOON



**ORION SPACECRAFT**  
DESIGNED FOR DEEP SPACE



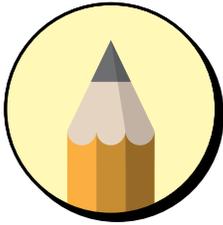
**ARTEMIS GENERATION**  
SPACE SUITS



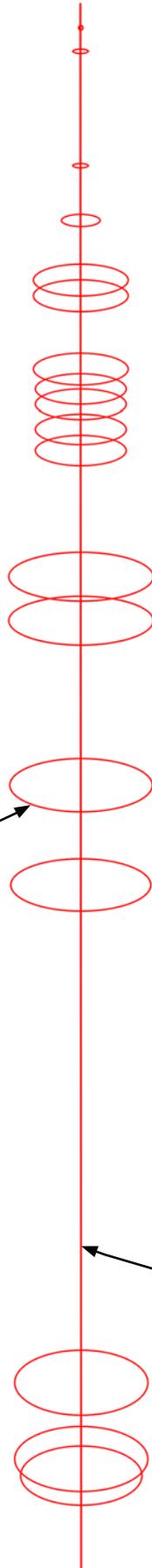
# 1. LET'S DRAW THE SPACE LAUNCH SYSTEM ROCKET!

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

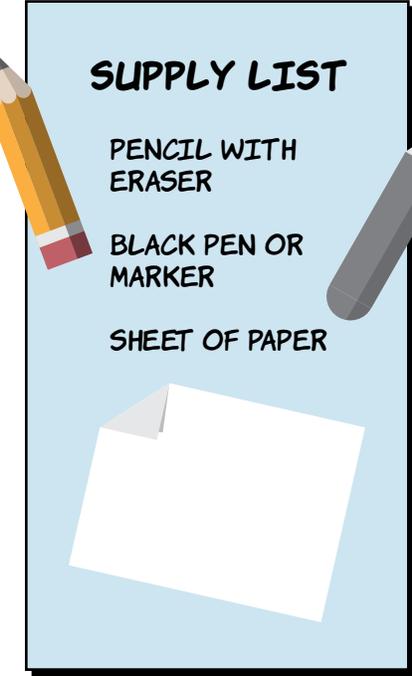


## SUPPLY LIST

PENCIL WITH ERASER

BLACK PEN OR MARKER

SHEET OF PAPER

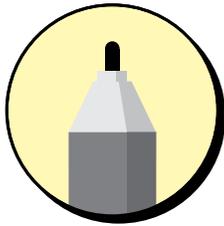


THIS ACTIVITY REQUIRES A PENCIL AND A BLACK PEN OR A MARKER.

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**

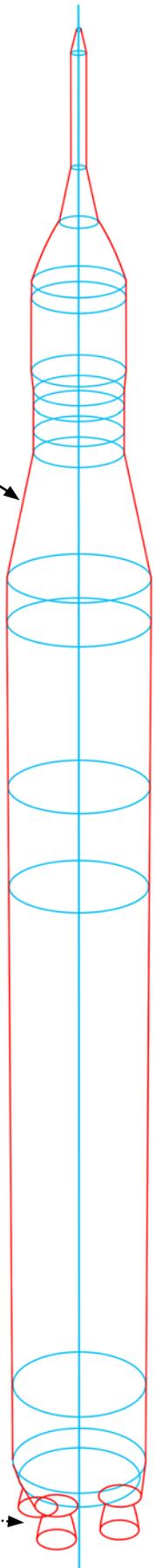
DRAW THE OUTLINE OF THE UPPER STAGE OF THE ROCKET, FOLLOWING THE SHAPE OF THE OVALS ALL THE WAY TO THE CONE-LIKE LAUNCH VEHICLE STAGE ADAPTER.

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

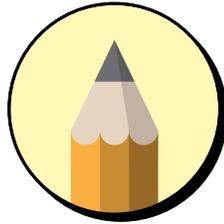
FROM THE CONE SHAPE OF THE LAUNCH VEHICLE STAGE ADAPTER, OUTLINE THE LARGEST PART OF THE ROCKET - THE CORE STAGE.

**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.



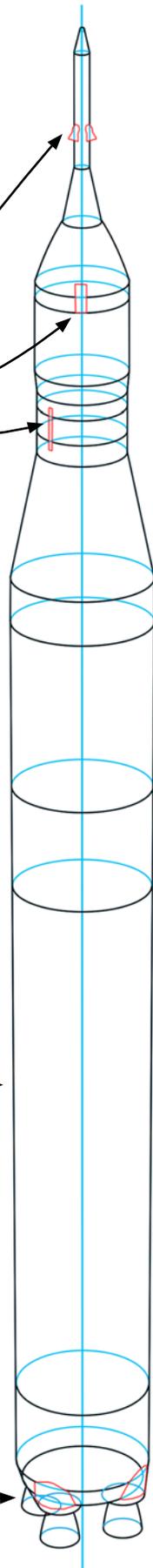
DRAW THESE SHAPES USING A PENCIL

#### 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.

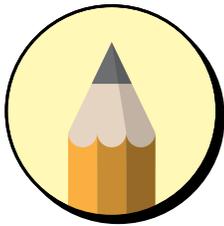
ADD IN THE FUEL RAIL VISIBLE ON THE SIDE OF THE INTERIM CRYOGENIC PROPULSION STAGE.

#### FUN FACT

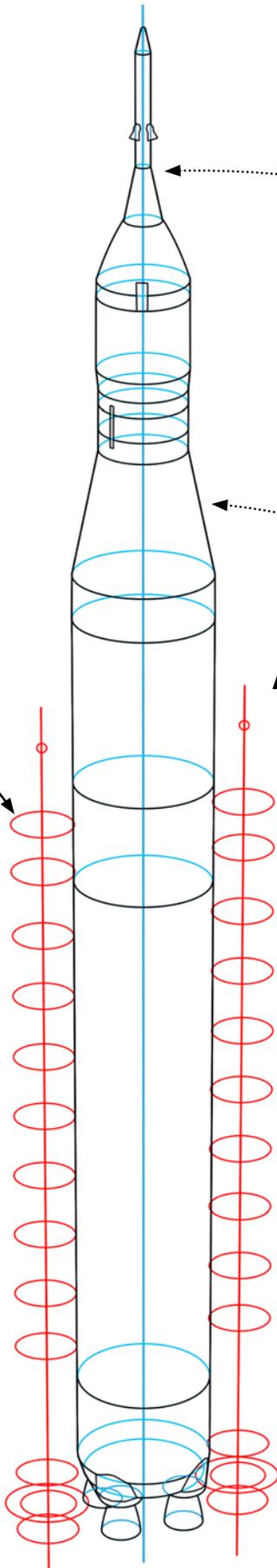
IF THE SLS CORE STAGE WERE TO BE REDUCED TO THE SIZE OF A SOFT DRINK CAN, ITS OUTER WALLS WOULD BE HALF AS THICK AS THOSE OF THE CAN.

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



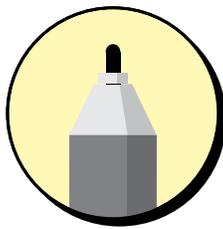
**FUN FACT**  
THE LAUNCH ABORT SYSTEM PULLS THE CREW TO SAFETY IF THERE IS AN ISSUE DURING LAUNCH.

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

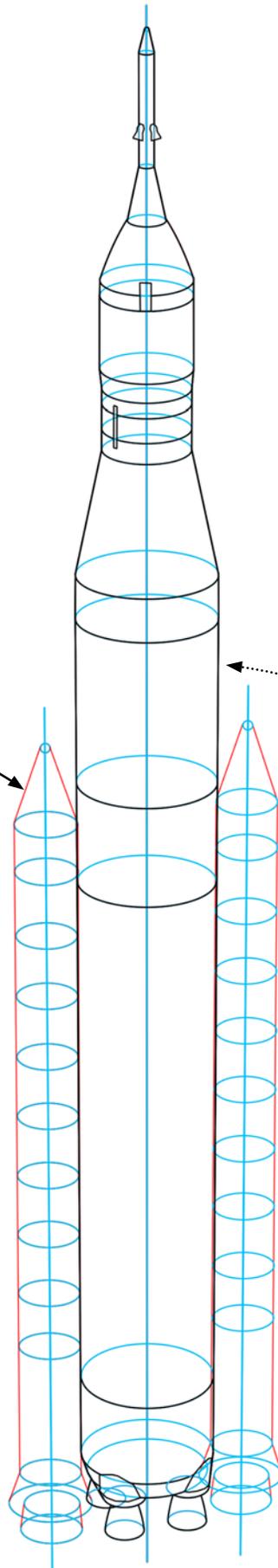
DRAW A STRAIGHT LINE AS A GUIDE ALL THE WAY DOWN BOTH SIDES OF THE ROCKET.

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.

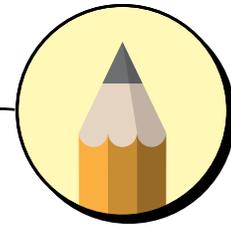
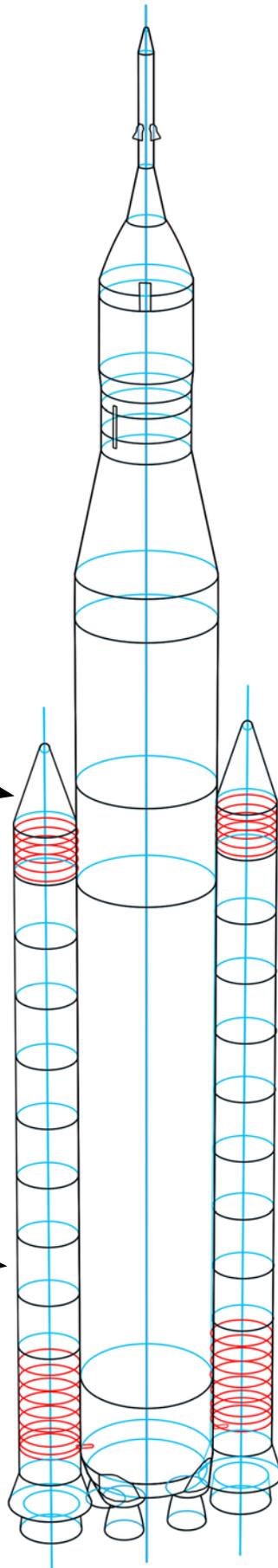
## FUN FACT

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

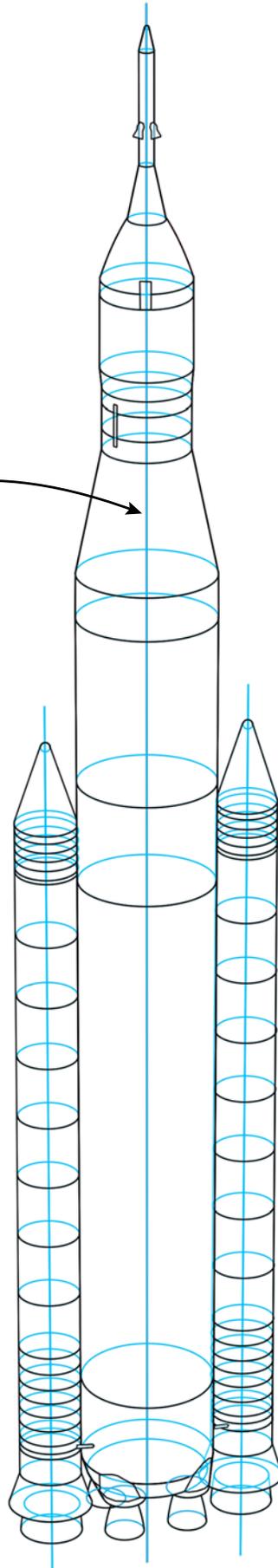
## FUN FACT

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.

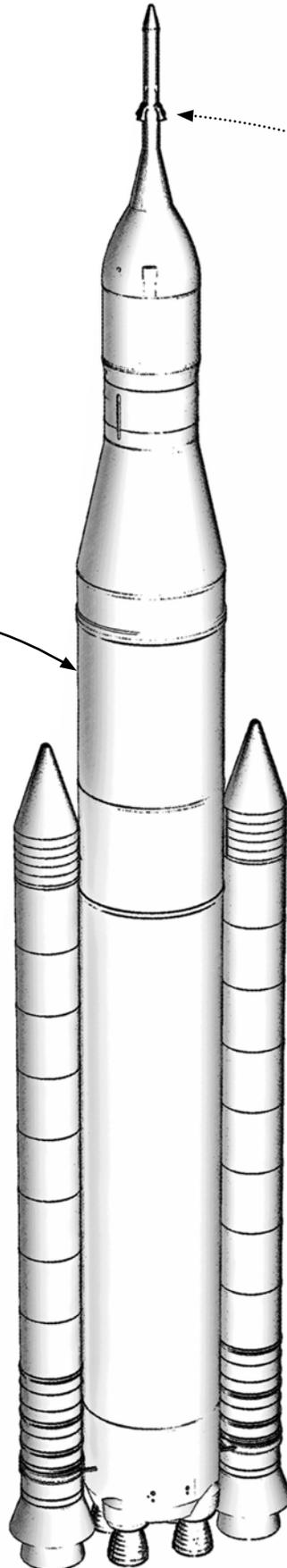


ERASE THE PENCIL  
GUIDELINES. THEY ARE  
SHOWN HERE IN BLUE.

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

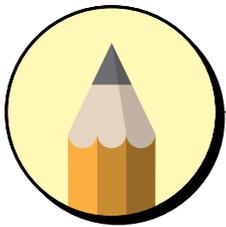
ERASE THE  
PENCIL LINES

# 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.

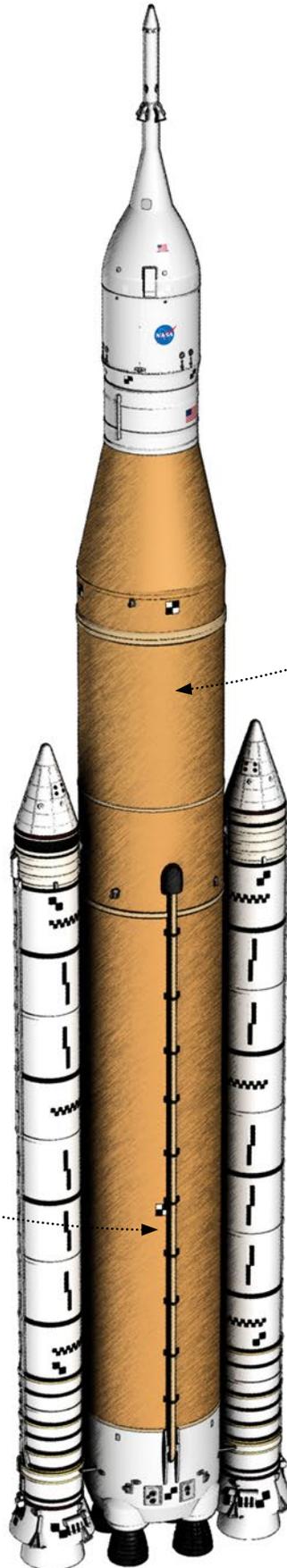
ADD SOME FLAMES AND SMOKE TO SIMULATE LAUNCHING YOUR ROCKET!

## 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](http://www.nasa.gov)  
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