

FEATURE: Noah and the Ark

PROF.: A flood killed almost everyone on Earth. But eight humans survived that event because a man named Noah built a huge ark.

VOICE: A listener has read the Bible's report of that event and asks several discerning questions, including: How big was Noah's ark? And was it really big enough to hold one male and one female animal of each kind?

PROF.: Stay tuned as we learn how God kept the human race alive!

FORMAT: THEME AND ANNOUNCEMENT

VOICE: Professor, a listener wrote, "I would like to ask you a question regarding Noah's ark. The Bible says it was 300 cubits long, 50 cubits wide, 30 cubits tall. How big is that? Is there a marine ship that is so big? How many people are manufacturing arks? Can they accommodate one male and one female animal [of each] kind?"

PROF.: To understand the context, let's see what the Bible reports about this historic event that occurred several thousand years ago. It's found in the book of *Genesis*, the very first book of the Bible. Please begin reading at verse 5 of chapter 6.

VOICE: "The Lord saw how great man's wickedness on the earth had become, and that every inclination of his heart was only evil all the time. The Lord was grieved that he had made man on the earth, and his heart was filled with pain. So the Lord said, 'I will wipe mankind, whom I have created, from the face of the earth – men and animals, and creatures that move along the ground, and birds of the air – for I am grieved that I have made them.' But Noah found favor in the eyes of the Lord." (Genesis 6:5-8).

PROF.: Noah had obeyed God while everyone else on earth had disobeyed Him. The Earth had become so morally polluted that God told Noah he would drown every human except the eight people in his family. God told Noah to build an ark to preserve the lives of Noah and his wife, his three sons and their three wives. In addition, God instructed him to make the ark big enough to hold numerous animals.

With that background information, let's discuss the questions this listener has sent to us.

VOICE: His first question about the ark is: "The Bible says it is 300 cubits long, 50 cubits wide, and 30 cubits tall. How big is that?"

- PROF.: The cubit was a unit of measurement based on the distance between a man's elbow and the tip of his middle finger. In ancient times there was no meter stick or other standardized means of measuring length. Different people had different lengths of arms and hands.
The ancient Egyptians used a cubit that was 52.4 centimeters. The Roman cubit was 44.2 centimeters, and the English cubit was 45.7 centimeters.
- VOICE: The Bible book of *Genesis* says the ark was 300 cubits long. If we take any of the three numbers you mentioned, and multiply them by 300, we get figures between 132 and 157 meters long.
- PROF.: Correct. The 50-cubit width would be between 22 and 26 meters wide, and the 30-cubit height would be between 13 and 16 meters high.
So the volume of the ark would have been between 37,000 and 65,000 cubic meters. That would be equivalent to several hundred railroad stock cars.
- VOICE: This listener is quite analytical. He asks whether an ark this size could hold one male and one female of each animal kind.
- PROF.: The short answer is "Yes," but let's elaborate. God gave instructions to build the ark with three levels or floors. And we've already calculated that its total volume was the equivalent of several hundred railroad cars.
One detail the listener didn't mention is that many animal kinds had to have more than two animals. Let's read that part of the instructions God gave to Noah.
- VOICE: "The Lord then said to Noah, 'Go into the ark, you and your whole family, because I have found you righteous in this generation. Take with you *seven of every kind of clean animal*, a male and its mate, and two of every kind of unclean animal, a male and its mate, and also seven of every kind of *bird*, male and female, to keep their various kinds alive throughout the earth.'" (Gen. 7:1-3).
- PROF.: So Noah was to take *seven* of some kinds of animals, and two of other kinds.
- VOICE: Was a "kind" equivalent to a species, a genus, a phylum or what modern biological classification?
- PROF.: Bible scholars are not sure. It would include enough kinds to enable the surviving animals to repopulate the animal world. The ark would have to hold representatives of all land animals, and the passage you just read also includes birds. Fish, whales and other aquatic animals could probably remain alive outside the ark.

- VOICE: God instructed Noah to build “lower, middle and upper decks” into the ark. (6:16). But if he divided a 13- to 16-meter height into three levels, would there be room for tall animals like giraffes?
- PROF.: Yes. First, it doesn't say the three decks had to have equal height. Some levels could be built with more headroom than others.
And second, it doesn't say Noah would have to take *adult* animals. Many of them could be less than full size.
- VOICE: Next the listener asks, “Is there a marine ship that is so big?”
- PROF.: The answer is yes. Remember, depending on which cubit we use, we calculated the length of the ark was between 132 and 157 meters long. A number of modern ships are bigger than that. For example, one Scandinavian oil tanker is 485 meters long.
- VOICE: So some modern ships are more than three times as long as the ark.
- PROF.: But God really didn't intend the ark to be a ship. In the language in which this part of the Bible was written, the word that we translate as “ark” means “chest” or “storage box.”
Its purpose was not to travel like an ocean liner. The Bible doesn't mention oars or any way to make it move horizontally. It was to float above the water and preserve the eight humans who had obeyed God, along with many animals.
- VOICE: So the ark was not shaped like a canoe or other boat. The Bible's description sounds as if it was basically a box, probably with square corners.
- PROF.: Another very important detail is that the proportions of the ark made it extremely stable. Modern shipbuilders calculate that its length-to-width ratio of six to one would have made it almost impossible to tip over.
That would be of life-or-death importance in the conditions of the flood, when rain was falling from overhead and water was also erupting from underground sources. The water covered even the mountaintops. In a prolonged and violent storm like that, the ark would have to have God's engineering expertise to keep it stable and upright.
- VOICE: His next question is, “How many people are manufacturing arks?”
- PROF.: Today very few, if any. In researching the Internet and several books, we haven't found anyone who is currently manufacturing arks.
- VOICE: Arks are probably not popular, because they are not built for speed.

- PROF.: Yes, and also because the ark was built for a one-time event. God promised he would never again destroy the Earth by water.
- VOICE: The Bible says Noah and his family and the animals stayed in the ark one year. Did they have that much food?
- PROF.: With space equivalent to several hundred railroad cars, there would have been room for a plentiful supply of food for humans and animals.
- VOICE: This ark was probably built of wood. How did Noah and his workmen waterproof it?
- PROF.: God thought of that detail. He instructed Noah, “So make yourself an ark of cypress wood; make rooms in it and *coat it with pitch inside and out.*” (6:14).
- VOICE: In other words, cover it inside and out with *tar*?
- PROF.: Yes.
- VOICE: How did they build it so that the people and animals could breathe fresh air, and still keep the rain from flooding inside the ark?
- PROF.: Genesis chapter 6, verse 16 instructs, “Make a roof for it and finish the ark to within a cubit of the top.”
- VOICE: So God is instructing Noah to leave an open space about a half-meter wide at the top of each wall of the ark. But how could they keep rain from coming in?
- PROF.: Probably by making the roof overlap a significant distance beyond each wall.
- VOICE: We want to thank our listener for sending these interesting questions. As we have discussed them, we have seen that another part of the Bible passes the test of logical analysis.
- PROF.: Yes, the Bible makes sense to intelligent people. So we encourage other listeners to submit questions on any passage of the Bible that has any connection with science. Send us your question, and we might use it on a future program.
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