You are a NASA engineer and have been asked to research the history and needs (constraints) of C. elegans in space. This information will be used to help you construct a space vehicle that will be used to send C. elegans to Mars, orbit it, and then return to Earth (Mission duration is 12 months).

1. What is C. elegans’ life cycle? What happens to the dead organisms?

2. How do C. elegans reproduce? How often?

3. What is the C. elegans anatomy like? How do they move? Are there different sexes? What are they?

4. How does space flight affect C. elegans’ development? How does radiation affect C. elegans?

5. What are the feeding requirements of C. elegans? (What do they eat, how often?) How do they get rid of waste (go to the bathroom)?
6. What is their habitat? (Where do they live?)

7. How do they react to microgravity and radiation?

8. What are the required environmental conditions for C. elegans? (Temperature, oxygen, water, etc.)

9. Have they been in space? When? What are they doing with them? Why have they been used in space?

10. Have C. elegans been used in other research? What for?