TEACHER'S GUIDE:

The context of this video lesson is in Malaysia. However you are welcome to make adjustments according to your own context, customs and traditions. Please note that this lesson is about helping students to understand the different types of computer networks and how they functions. In order to relate the lesson to a real-life situation, we use the concept of food delivery.

The setting is not only limited to a wedding event. It can take place for example, in a classroom. You could organize the students' chairs and tables to depict various topologies. However, please make sure that the chair and table arrangements represent various computer network topologies e.g., linear bus, ring, star, tree and hybrid.

Activity 1:
Teacher will assign students to work in small groups and distribute color cards to each group.
- 10 red cards represent waitresses
- 10 green cards represent waiters
- 10 blue cards represent tables in the hall

Students will discuss how to deliver food effectively to every table in the wedding room. They will use the color cards to structure their food delivery. The teacher will ask one or two groups to briefly explain their idea of structuring the food delivery based on the way they organize the color cards.

Activity 2:
A group of students (group 1) will have to design their own version of a linear bus topology and act it out. Teacher will post questions while group 1 acts, and the rest of the class will have to discuss the answers. If time does not permit, teacher could assign students to sketch their linear bus topology design instead of acting it out.
Questions: What will happen if the main cable breaks? What is the function of terminators in the linear bus topology?

Activity 3:
A group of students (group 2) will have to design their own version of a ring topology and act it out. Teacher will post questions while group 2 acts, and the rest of the class will have to discuss the answers. If time does not permit, teacher could assign students to sketch their ring topology design instead of acting it out.
Questions: Is it possible to simultaneously transmit with a basic ring topology? In a basic ring topology, can I have more than one token?

Activity 4:
A group of students (group 3) will have to design their own version of a star

topology and act it out. Teacher will post questions while group 3 acts, and the rest of the class will have to discuss the answers. If time does not permit, teacher could assign students to sketch their star topology design instead of acting it out.

Questions: What is one advantage to using a star topology as compared to ring topology?

Activity 5:

A group of students (group 4) will have to design their own version of a tree topology and act it out. Teacher will post questions while group 4 acts, and the rest of the class will have to discuss the answers. If time does not permit, teacher could assign students to sketch their tree topology design instead of acting it out.

Questions: If I divide the system into 5 sub-systems (5 tree branches), each branch has 5 PCs, then I will have other 5 small "Bus topology" networks each one will have a connection of 5Mbps. Will each PC also have 5Mbps ?

Activity 6:

Teacher will appoint one student in each group with the role of event manager. As an event manager, the student will discuss with his or her group members to solve the problem of data crashing or collision between waiter and waitress, meaning they will have to strategize the food delivery. Students can also move the tables and chairs around and try to figure out a better positioning of the tables to facilitate efficient serving or teacher could ask the students to use the color cards again (color cards from activity 1). Here of course students are encouraged to use what they have studied of computer networks – linear bus, star, ring, and tree - in order to solve the problem.

Activity 7:

Students will have to sketch their network design for 300 computers in a two-storey building. Teacher will provide notes on hybrid topology (see website) and students will be asked to come out with their own version of a hybrid computer network topology. If time does not permit, teacher could arrange to discuss this activity in the next class.