REST vs SOAP

SOAP (Simple Object Access Protocol)

1. SOAP builds an XML protocol on top of HTTP or sometimes TCP/IP.
2. SOAP describes functions, and types of data.
3. SOAP is a successor of XML-RPC and is very similar, but describes a standard way to communicate.
4. Several programming languages have native support for SOAP, you typically feed it a web service URL and you can call its web service functions without the need of specific code.
5. Binary data that is sent must be encoded first into a format such as base64 encoded.
6. Has several protocols and technologies relating to it: WSDL, XSDs, SOAP, WS-Addressing

REST (Representational state transfer)

1. REST need not be over HTTP but most of my points below will have an HTTP bias.
2. REST is very lightweight, it says wait a minute, we don't need all of this complexity that SOAP created.
3. Typically uses normal HTTP methods instead of a big XML format describing everything. For example to obtain a resource you use HTTP GET, to put a resource on the server you use HTTP PUT. To delete a resource on the server you use HTTP DELETE.
4. REST is a very simple in that it uses HTTP GET, POST and PUT methods to update resources on the server.
5. REST typically is best used with Resource Oriented Architecture (ROA). In this mode of thinking everything is a resource, and you would operate on these resources.
6. As long as your programming language has an HTTP library, and most do, you can consume a REST HTTP protocol very easily.
7. Binary data or binary resources can simply be delivered upon their request.