Strand: **8.1**	Standard: **8.1.1**	Episode 6	**Big Idea:** Matter can be broken down into smaller and smaller pieces.

Title: Scale of an Atom?	**Time:** 15 mins	CCCs: Scale, Proportion and Quantity	Practices: **Developing and using models** **Obtaining, evaluating and communicating information**

Episode Snapshot: Students **obtain information** about the scale and proportion of an atom by making predictions and watching a video. They will then watch the video and identify how close their predictions were to the actual scale **model**.

Gathering
Students will make predictions (individually or with a partner) about how big the nucleus of an atom is compared to the whole atom, what makes up the majority of the atom, and how big an atom is compared to objects the students are familiar with.
The students watch the video, "How Small is an Atom" and record the actual comparisons between the size of the atom in comparison to a grapefruit blown up to the size of the earth. They will also compare size of the nucleus of an atom if an atom were blown up to the size of a football stadium.

Reasoning
Students decide how close their predictions were to the actual answers given them in the video.

Communicating
Have a class discussion on what the models presented in the video show. Through the discussion be sure that the students have enough of an understanding to answer the conclusion.
On their student sheets students will write two final conclusion statements. (this can be done as an exit ticket)

- Explain what proportion of the atom is made up of the nucleus, electrons and empty space.
- Explain the scale of an atom in comparison with things you can see with your eyes.

Assessment:	**Materials, resources, handouts, etc:**
Student's write two final statements explaining their conclusions. Teachers should be able to use these to determine that the students understand that: 1. the nucleus takes up very little space in the atom and that it is mostly empty space. 2. That the atom is much too small to see with the naked eye or even a basic microscope. Another option for an assessment could be an exit ticket.	TED-Ed video, "How Small is an Atom" Reflection sheet - How small is an Atom.