

Physical Science taken in 8th grade is worth high school credit with a passing score to include the End of Course Assessment (EOCT) taken in May. Completing this packet will help prepare you to have a successful start next year! The Khan Academy websites next to each section is a suggested resource. You can also access my website for powerpoints that will help!

PART I: What is Science? For this section, you must do research to answer the questions.

1. What is your definition of science?

2. Define science.

3. What is technology?

4. Technology is often advancing. What are some examples of advances in technology?

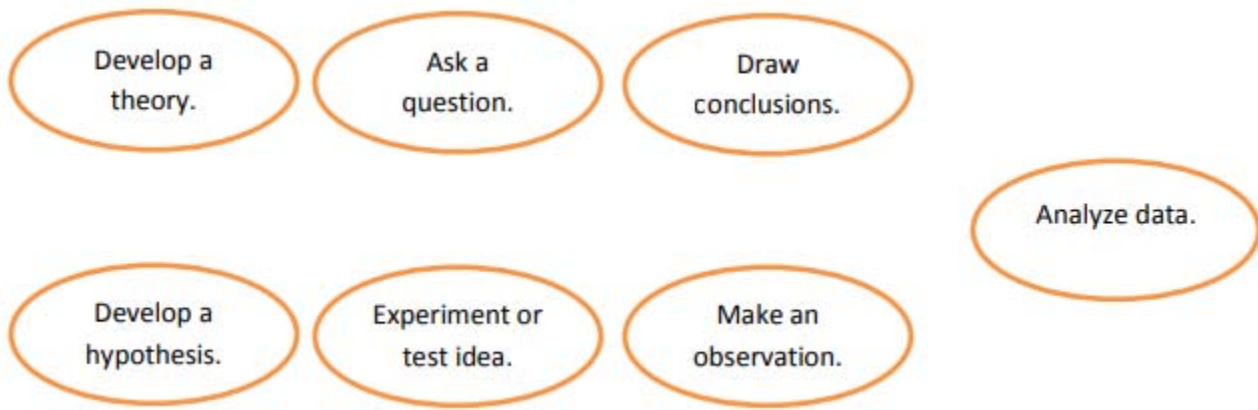
5. Science and technology are interdependent. Advances in one lead to advances in the other. Give an example of this phenomenon.

6. What is physical science?

7. Physics - is the study of

8. Chemistry - is the study of

PART II: The Scientific Approach- Put the following items in order of the scientific method AND explain what they mean in relation to the scientific approach.



1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Define the following terms used in the scientific method.

8. Independent variable:

9. Dependent variable:

10. Control group:

11. Scientific law:

Directions: Read the following experiment and identify the steps in the scientific method.

Last year, Wendy planted seeds in a garden. She noticed that not all of the seeds became plants. This year, she asked herself, "On average, how many of the seeds in a package will grow?" She thought maybe 25% of the seeds in a package would not grow.

She bought three packages containing twenty-five seeds each. She planted each package of seeds in separate boxes so she could keep careful count of the number of seeds that would grow. She drew a diagram of the boxes and indicated where each seed was planted. As the seeds sprouted, she put a green X on the place in her diagram where the seed was planted. If the seed did not grow, she put a red X on the place in her diagram where the seed was planted. At the end of her investigation, she noticed that four seeds in the first box did not grow. The second box had six seeds that did not grow. In the third box, only five of the seeds did not grow. Wendy concluded that an average of five seeds in each package did not grow. For future gardens, Wendy assumed that eighty percent of the seeds in a package would grow.

12. What is the observation?

13. State the question.

14. What was her hypothesis?

15. Explain her experiment to test the hypothesis.

16. How did she collect her data?

17. What was Wendy's conclusion?

18. State the prediction she made.

Part III- Answer the following questions.

A group of students conducted an experiment where they rolled a ball down a ramp and measured how far across the floor it traveled. Below is the data they collected.

Type of surface	Ceramic Tile	Wood	Shag Carpet	All Weather Carpet	Vinyl Flooring
Distance Ball Rolled (cm)	800	850	125	475	625

1. Using this data construct a bar graph. Don't forget to label your graph.
2. Which type of material allowed the ball to travel the farthest?
3. What materials make the ball roll between 125 and 525 cm?

Refer to the following graph to answer the questions below.

1. What pulse rate was recorded at 2 minutes?
2. At what times was the pulse rate over 90 beats per minute?
3. At what time was the pulse rate 110 beats per minute?

Part IV- Building Blocks of Matter- The Atom-<https://www.khanacademy.org/partner-content/mit-k12/mit-k12-materials/v/atoms-and-molecules>

1. What are the three main parts of the atom?
2. What is the nucleus?
3. What is the charge of a proton, neutron, electron?
4. What is atomic number?
5. What is mass number?
6. Where are the electrons located in the atom?
7. What are valence electrons?
8. What is a molecule?

9. What is an element?

Part V- States of Matter: <https://www.khanacademy.org/science/chemistry/states-of-matter-and-intermolecular-forces/states-of-matter/v/states-of-matter>

1. What are the phases of matter?

2. What is a solid?

3. What is a liquid?

4. What is a gas?

5. What is plasma?

6. What is a phase change?

7. Freezing point?

8. Melting point?

9. Vaporization?

10. Evaporation?

11. Boiling point?

12. Condensation?

13. Sublimation?

PartVI Classification of Elements: The Periodic Table:

<https://www.khanacademy.org/science/chemistry/periodic-table>

<https://www.khanacademy.org/science/chemistry/periodic-table/copy-of-periodic-table-of-elements/v/periodic-table-introduction>

1. Who is Dmitri Mendeleev?
2. Who is Henry Moseley?
3. How is the modern periodic table arranged?
4. What is a group or family?
5. What is a period?
6. What are the properties of a metal and which side of the periodic table are they located on?
7. What are the properties of a nonmetal and which side of the periodic table are they located on?
8. What are metalloids and where are they located in the periodic table?
9. What are the alkali metals?
10. What are the alkaline earth metals?
11. What are the halogens?
12. What are the noble gasses?

