**Name**: Video on Passive Treatment in Allegheny County

**Content** **area**: Science and the Environment

**Grade**:

* 8-12

**Standards:**

* + **S11.A.2.2.2**
  + **S11.A.1.2.2**

**Resources**:

* <http://www.youtube.com/watch?v=y209cpTvflw>

**Objectives**:

* TSWBT gain a better understanding about how passive treatment systems are affective in the remediation of AMD as well as aesthetically pleasing and helpful to the environment.

**Vocabulary**:

* Passive treatment systems

**Set** **Up**:

1. Show students PowerPoint showing *Treatment Systems for Abandoned Mine Drainage.*
2. Give each student a blank copy of the question sheet. See below.

**Procedure**:

1. Go to :  
   <http://www.youtube.com/watch?v=y209cpTvflw>
2. Show students video on the Allegheny County completed project which uses landscape architecture, recreation, and Abandoned Mine Treatment.
3. Have students fill out worksheet while watching the video

**Closure**:

1. Review questions and be sure students recorded the right answers

**Extension**:

1. Have each students design a passive treatment system that contains multiple systems and is recreational.

**Allegany County Passive Treatment Video Worksheet**

1. What kind of system was completed in this video?

1. Which mine is this system moving water from

1. The water is filtered through the processing system to \_\_\_\_\_\_\_\_\_\_\_ and let the \_\_\_\_\_\_\_\_\_\_\_\_ settle.
2. What do these systems not contain  
   1.

2.

1. By the time the water is discharged from the system what color and quality is the water?

6. How many jets splash water in this system?

7. What do these jets allow the water to do?

8. When the water comes in contact with the oxygen, what happens to the iron?

9. About how many hours does it take the water to go through all 5 ponds in this system?

**Allegany County Passive Treatment Video Worksheet Answer Sheet**

1. What kind of system was completed in this video?  
   -Passive Treatment System
2. Which mine is this system moving water from   
   -Montour Run
3. The water is filtered through the processing system to \_\_\_\_\_\_ and let the \_\_\_\_\_ settle.

* Oxidize - Iron

1. What do these systems not contain  
   1. Pumps 2. Chemicals
3. By the time the water is discharged from the system what color and quality is the water?

-Crystal clear and clean

6. How many jets splash water in this system?

- 150

7. What do these jets allow the water to do?

-aerate

8. When the water comes in contact with the oxygen, what happens to the iron?

- Iron becomes a solid, and settles in bottom of the pond,

9. About how many hours does it take the water to go through all 5 ponds in this system?

- 40 hours