DoodleBeez Worksheets

Grades 6 to 8 | Science

Name: Date: Score: / 8

Digital vs Analog: Learn and Practice

How waves carry information

Read each question. Circle the best answer.

💡 Digital and Analog Signals

- Analog signals change smoothly and continuously, like a wave.
- Digital signals use pulses that stand for zeros and ones.
- Digital signals are more reliable because they can be copied and sent without losing quality.
- music saved as zeros and ones: digital

1 Which kind of signal uses only zeros and ones?

A. Sound B. Digital C. Smoke D. Analog

2 📱 Cell phones send digital data using which kind of waves?

A. Radio waves B. Earthquake waves
C. Sound waves D. Water waves

3 🕰️ A clock with sweeping hands shows time in which way?

A. Analog B. Wireless C. Digital D. Binary

4 〰️ Which kind of signal changes smoothly like a wave?

A. Analog B. Coded pulses C. Digital
D. Binary

5 💻 How does a computer store pictures?

A. As paint B. As digital data
C. As analog waves only D. As sound

6 🎵 Why does a digital copy of a song sound the same after many copies?

A. Each copy gets louder B. Speakers repair it
C. Analog parts fix it
D. Zeros and ones copy exactly

7 What is a signal?

A. A type of rock B. A way to send information
C. A unit of mass D. A kind of force

8 An old analog tape is copied many times. What happens?

A. It gets clearer B. It turns digital
C. Noise builds up and quality drops
D. It never changes

✏️ Explain it! Write two facts you learned about digital vs analog.

ANSWER KEY

Digital vs Analog: Learn and Practice (answers)

How waves carry information

Read each question. Circle the best answer.

1 Which kind of signal uses only zeros and ones?

A. Sound **B. Digital** C. Smoke D. Analog

Digital signals are made of two states, written as zeros and ones.

2 📱 Cell phones send digital data using which kind of waves?

A. Radio waves B. Earthquake waves C. Sound waves D. Water waves

Phones encode zeros and ones onto radio waves to send them.

3 🕰️ A clock with sweeping hands shows time in which way?

A. Analog B. Wireless C. Digital D. Binary

The hands move smoothly around the face, so it is analog.

4 〰️ Which kind of signal changes smoothly like a wave?

A. Analog B. Coded pulses C. Digital D. Binary

Analog signals vary continuously, with no jumps.

5 💻 How does a computer store pictures?

A. As paint **B. As digital data** C. As analog waves only D. As sound

Computers store everything as zeros and ones, which is digital data.

6 🎵 Why does a digital copy of a song sound the same after many copies?

A. Each copy gets louder B. Speakers repair it C. Analog parts fix it **D. Zeros and ones copy exactly**

Digital data is just numbers, so each copy is a perfect match.

7 What is a signal?

A. A type of rock **B. A way to send information** C. A unit of mass D. A kind of force

A signal is a pattern used to carry a message from one place to another.

8 An old analog tape is copied many times. What happens?

A. It gets clearer B. It turns digital **C. Noise builds up and quality drops** D. It never changes

Each analog copy adds a little noise, so quality slowly gets worse.