

Clock Arithmetic Exploration Questions

Clocks can be used to explain modular arithmetic. Answer the following questions, using the activity to check your work:

1. What is the clock time for 22 hours on a 12 hour world? on a 10 hour world?
2. What is the clock time for 54 hours on a 6 hour world? on a 9 hour world? on a 17 hour world?
3. It is 8 o'clock on our 22 hour world. What time is it on a 3 hour world? on a 5 hour world?
4. It is 15 o'clock on our 31 hour world. What time is it on a 3 hour world? on a 5 hour world?
5. Now can you find two different worlds that 78 hours is 6 o'clock? 4 o'clock? Explain.
6. Now can you find two different worlds that 16 hours is 4 o'clock? Explain.
7. Our school is on a twelve hour day but the military is on a 24 hour clock. Why do you think that schools use one clock and the military uses a different one? What are the advantages and disadvantages of each?
8. How does division relate to this activity?